This thesis has been submitted in fulfilment of the requirements for a postgraduate degree (e.g. PhD, MPhil, DClinPsychol) at the University of Edinburgh. Please note the following terms and conditions of use:

This work is protected by copyright and other intellectual property rights, which are retained by the thesis author, unless otherwise stated.
A copy can be downloaded for personal non-commercial research or study, without prior permission or charge.
This thesis cannot be reproduced or quoted extensively from without first obtaining permission in writing from the author.
The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the author.
When referring to this work, full bibliographic details including the author, title, awarding institution and date of the thesis must be given.
STRATEGIES FOR PREVENTING UNINTENDED PREGNANCY

Dr Lucy Helen Michie
MBChB, MRCOG, MFSRH

A Thesis presented for the Degree of
Doctor of Medicine
University of Edinburgh
2016
Declaration

(a) This thesis has been composed by Lucy Michie.

(b) This thesis is my work except where clearly stated in the preface.

(c) I hold the degree MBChB.

(d) The work has not been submitted for any other degree or professional qualification except as specified.

(e) I have undertaken a substantial proportion of the work (greater than 75%) contributing to the thesis, whilst in post as a clinical research fellow at the University of Edinburgh.

______________________________

Lucy Michie

Date:
Index

Abstract.........................................................................................................................................................i
Preface.............................................................................................................................................................iii
Acknowledgements........................................................................................................................................vi
Index of Tables...................................................................................................................................................vi
Index of Figures................................................................................................................................................viii
Abbreviations..................................................................................................................................................ix

CHAPTER 1: Introduction.....................................................................................................................................1
  Unintended pregnancy.................................................................................................................................1
  Contraceptive efficacy.................................................................................................................................2
  Rates of uptake of effective contraception...............................................................................................3
  Patient’s knowledge and attitudes towards LARC......................................................................................4
  Health professionals’ knowledge and attitudes towards LARC.................................................................5
  Accessibility and cost of LARC....................................................................................................................7
  Provision of contraception after emergency contraception....................................................................8
  Strategies to increase the uptake of effective contraception....................................................................10
    Improve patient knowledge by provision of accurate information.........................................................10
    Improve healthcare providers’ knowledge..............................................................................................11
    Improve access to the most effective methods.......................................................................................12
    Target vulnerable groups.........................................................................................................................14
    The use of LARC following abortion......................................................................................................15
    The use of LARC post-partum..................................................................................................................16
  In Summary..................................................................................................................................................18
  References....................................................................................................................................................18

CHAPTER 2: Myths and misconceptions about intrauterine contraception among women seeking abortion.................................................................................................................................25
  Introduction.................................................................................................................................................25
  Methods......................................................................................................................................................26
    Statistics..................................................................................................................................................27
    Ethical Approval....................................................................................................................................27
  Results..........................................................................................................................................................28
  Discussion..................................................................................................................................................31
  References..................................................................................................................................................33

CHAPTER 3: Giving information about methods of contraception using a DVD: is it acceptable and informative? A pilot randomised study................................................................................................................36
  Introduction.................................................................................................................................................36
  Methods......................................................................................................................................................37
    Recruitment.............................................................................................................................................37
    Interventions and randomisation.............................................................................................................38
    Follow-up...............................................................................................................................................38
    Qualitative methods...............................................................................................................................39
    Statistics..................................................................................................................................................39
    Ethical Approval....................................................................................................................................40
  Results..........................................................................................................................................................40
    In-depth Interviews................................................................................................................................40
  Discussion..................................................................................................................................................45
  References..................................................................................................................................................48
Discussion

References

CHAPTER 8: Conclusions and Future Research

Provision of accurate information about contraceptive methods

Pharmacy based strategies to increase contraceptive uptake after emergency contraception

Provision of LARC at time of abortion

References

Appendices

Appendix 1
Appendix 2
Appendix 3
Appendix 4
Appendix 5
Appendix 6
Appendix 7

Publications arising from this work


Michie L, Cameron ST, Glasier A, Chen ZE, Milne D, Wilson S. Provision of contraception after emergency contraception from the pharmacy: evaluating the acceptability of pharmacy for providing sexual and reproductive health services. Public Health DOI:http://dx.doi.org/10.1016/j.puhe.2015.11.017

Abstract

In the United Kingdom (UK) there is easy access to a wide range of contraceptive methods, available at no cost. In addition, oral emergency contraception (EC) (1.5 mg levonorgestrel) is now widely available from the community pharmacy. In spite of this, unintended pregnancy is common. In 2014 in England and Wales, 184,571 induced abortions were performed, and in Scotland, the corresponding figure was 11,475.

Long acting reversible methods such as contraceptive implants and intrauterine contraception, are amongst the most effective methods available and National Institute for Health and Care Excellence (NICE) recommends that increased uptake can lead to fewer unintended pregnancies. However, uptake of long acting reversible contraceptive (LARC) methods remains low. The majority of women who require to use EC do so following unprotected sex or an accident with a condom. Increasingly women in Great Britain prefer to attend a pharmacy for EC rather than a sexual and reproductive health (SRH) service or general practitioner (GP). Starting an effective on-going method of contraception after EC use is clearly important if women are to avoid unintended pregnancy. Community pharmacists in the UK and most other high income countries are usually unable to provide any on-going contraception except condoms. So we have created a situation where EC is provided almost solely from settings where other more effective methods of contraception cannot be immediately provided.

Novel strategies are therefore required to facilitate both uptake and continuation of the most effective methods of contraception, in order to prevent unintended pregnancy for more women. This thesis presents a mixture of biomedical, clinical and health services research to evaluate a series of strategies aimed at improving uptake of the most effective methods of contraception.

Two studies investigated patient knowledge and information provision relating to contraceptive methods. The first sought to determine if women held misconceptions about
intrauterine methods of contraception, and revealed that although myths persist in a small number of women, a lack of knowledge about these methods was also evident. The second study aimed to determine if the use of a digital video disc (DVD) to provide contraceptive information was acceptable and informative to women, and identified that it is, and could possibly enhance patient consultations.

Studies three, four and five investigated strategies aimed at increasing the uptake of effective on-going contraception, following emergency contraception provided from a community pharmacy, and patient and health care provider attitudes to such approaches. They showed that simple interventions such as supplying one month of a progestogen only pill (POP), or offering rapid access to a family planning clinic (FPC), hold promise as strategies to increase the uptake of effective contraception after EC and that both women and clinicians were positive about such measures. Additionally, the problems encountered in conducting these studies provided valuable feedback to inform further development of research methods in the community pharmacy setting, and larger scale studies of such interventions.

Community SRH services may be well placed to deliver more abortion care in the UK, and consequently this may result in greater uptake of contraception post abortion. Study six aimed to determine the views of health professionals working in SRH regarding their attitudes towards providing more abortion services and also the views of staff within one community SRH centre in Scotland where a service providing early medical abortion was due to commence. It showed there is clear support amongst health professionals in community SRH in the UK towards greater participation in provision of abortion care services.
Preface

The studies described in the various chapters of this thesis were conducted whilst I was a clinical research fellow at the University of Edinburgh, based at Chalmers Sexual and Reproductive Health Centre from 2012-2013. The original concept for the combination of research studies contributing towards my thesis for Degree of Doctor of Medicine, was developed between myself and my supervisor, Dr Sharon Cameron. We proposed a mixture of biomedical, clinical and health services research all aimed at evaluating various strategies to prevent unintended pregnancy, namely through increasing uptake of effective contraception. Some of the chapters in this thesis stem from articles I was first author in, which have been published in peer reviewed journals. As an author in these articles, each of the journals copyright permissions allows me to include a copy of the published article in this thesis, and they can each be found following the appendices.

The introduction chapter was written by me and based upon a review article regarding barriers to the use of long acting reversible contraception and strategies to increase use of these methods. I conducted the literature review in preparation of the article myself and wrote the manuscript, under the supervision of my supervisor, who co-authored the final published article.

In chapter two, along with my supervisor and Professor Anna Glasier, we developed the idea for the study and I designed the questionnaire we utilised, analysed the results and wrote the manuscript for the article, which was reviewed by all authors following. The results of this study are the subject of a paper published in Journal of Family Planning and Reproductive Health Care.

The concept for the study described in chapter three was originally suggested by Dr Cameron and Professor Glasier. I helped develop the design of the study and sought ethical approval to conduct it. I was responsible for; reformatting the DVD used in the study with
the help of medical illustration, recruitment of participants, conducting follow-up with participants, including-depth interviews; collating and analysing all results and writing the manuscript. Statistical support was sought in determining power calculations for study design and production of opaque envelopes for randomisation. The results of this study have been accepted for publication in Journal of Family Planning and Reproductive Healthcare, myself as the first author, and the final proof is currently being processed for online publication before paper print in the journal.

Along with Dr Cameron and Professor Glasier I was involved in the concept and design of the studies described in chapters four through six which concern the use of pharmacy based interventions to increase contraception following EC from the pharmacy. I was responsible for the design and distribution of the questionnaire utilised in chapter four which was distributed to women in pharmacies, and collated and analysed the results. The questionnaire of attendees at a scientific meeting was conducted by Elizabeth Greed in the year prior to me commencing my research post, although the results were analysed by me. The study described in chapter four is the subject of an article published in Journal of Family Planning and Reproductive Health Care, the manuscript of which was written by me, with approval by all authors.

Along with a research nurse, I was responsible for training the pharmacists involved in the study, recruiting participants and conducting participant follow-up in the study in chapter five. Due the cluster randomised nature of the design of this study, statistical support was sought to help develop the design and determine sample size, and to assist with analysis of results. I was responsible for writing the manuscript for the article which resulted from this study, with the approval of the other authors. This study is the subject of an article published in Contraception.

Chapter six describes the findings from qualitative research related to chapter five. The assistance of a qualitative researcher was sought to conduct and analyse the in-depth
interviews which are described in this chapter. This chapter has been written by me and forms the basis for a manuscript which has been accepted for publication in Public Health.

Chapter seven concerns two separate questionnaires about clinicians working in SRH views on providing abortion care services from community SRH settings. Both questionnaires were devised and distributed by me, and I collated and analysed all results. I wrote the manuscript for an article describing the findings of this study, which has been published in Journal of Family Planning and Reproductive Health Care.
Acknowledgments

My greatest thanks are to my supervisor, Dr Sharon Cameron, who inspired me throughout my post as a clinical research fellow, and continues to do so with her drive to produce excellent research in the field of sexual and reproductive health. I am also grateful for the advice and guidance provided by Professor Anna Glasier throughout each of the clinical studies conducted in the preparation of my thesis. I was very lucky to work with very supportive and experienced research nurses, in particular Anne Johnstone. The nursing and medical staff within Chalmers Sexual Health Centre, were also very supportive of me conducting research within the centre, and in assisting with recruitment of participants when required. HRA Pharma provided an independent and unrestricted research grant to the University of Edinburgh which was able to fund my salary during my post.

This work would not have been possible without the women who agreed to provide their own time to participate in each of studies, so that other patients may benefit in future. I am also grateful to both members of staff within Chalmers Sexual Health Centre, and to attendees at Faculty of Sexual and Reproductive Health Annual Scientific Meetings who completed questionnaires, the results of which were vital for chapters 4 and 7.

I am appreciative of all the support I received from many different people whilst conducting the studies forming the basis of my thesis. Rob Elton provided statistical support and advice which assisted me in the preparation of chapter 3 and analysis of both chapters 3 and 5. I am grateful to Eric Chen, qualitative researcher, University of Edinburgh, for his advice and guidance on qualitative analysis in chapter 3, and for conducting and analysing the in-depth interviews in chapter 6. I am also grateful to Dona Milne and Sheila Wilson for conducting qualitative telephone interviews with participating pharmacists in chapter 6. Mike Devlin of the Department of Medical Photography, Edinburgh Royal Infirmary and Dr Kate Weaver, Associate Specialist in Sexual and Reproductive Healthcare, Chalmers Sexual Health Centre, Edinburgh, originally produced the DVD which was the subject of chapter 3. Mike kindly
helped me re-format it for use in the study. Chapters 4 through 6 would not have been possible without all the pharmacists who agreed to participate in our research; Shazad Aziz, Caroline Barnes, Colleen Cooney, Jane Dewart, Chris Gallagher, Michele Hamilton, Linzi Jack, Izabela Kalka, Fiona McKim, Peter Tinkler, Gill Toohie, Alison Wallace, Fiona Watson.

Finally, I am thankful to my husband, Andrew, and my family who have provided immense support and encouragement to allow me to complete my thesis.
Index of Tables

Table 1 Demographics of respondents.................................................28
Table 2 Response to negative statements about intrauterine contraception......30
Table 3 Demographics of women recruited........................................41
Table 4 Responses to questions relating to recall of information given........42
Table 5 Experience of implant at 3 months follow-up.................................44
Table 6 Previous use of emergency contraception (EC)..........................55
Table 7 Relationship status and reason for EC use................................57
Table 8 Demographics of respondents at scientific meeting......................59
Table 9 Demographics of women completing telephone interview.............73
Table 10 Method of contraception used at 6-8 weeks post EC....................75
Table 11 Comparison of demographics of women completing telephone interview (in pilot study) and attending for face to face interview.......85
Table 12 Demographics of Respondents to questionnaire 1.......................99
Table 13 Views on location of and participation in abortion services.............100
Table 14 Possible advantages for women of an abortion service located in Chalmers Sexual Health Centre.........................102

Index of Figures

Figure 1 In-depth interview quotes – positive feedback from DVD group........45
Figure 2 In-depth interview quotes - possible disadvantages to DVD use........45
Figure 3 In-depth interview quotes – suggestions for further development......46
Figure 4 Flowchart of contraceptive use at EC and interest in use of regular methods..............................................................................56
Figure 5 CONSORT (modified) flow diagram showing recruitment and follow-up of participants..........................................................72
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACOG</td>
<td>American College of Obstetrics and Gynecology</td>
</tr>
<tr>
<td>CHC</td>
<td>combined hormonal contraception</td>
</tr>
<tr>
<td>CI</td>
<td>confidence interval</td>
</tr>
<tr>
<td>COC</td>
<td>combined oral contraceptive</td>
</tr>
<tr>
<td>Cu-IUD</td>
<td>copper intrauterine device</td>
</tr>
<tr>
<td>DMPA</td>
<td>depot medroxyprogesterone acetate</td>
</tr>
<tr>
<td>DVD</td>
<td>digital video disc</td>
</tr>
<tr>
<td>EC</td>
<td>emergency contraception</td>
</tr>
<tr>
<td>FPs</td>
<td>family physicians</td>
</tr>
<tr>
<td>FPC</td>
<td>family planning clinic</td>
</tr>
<tr>
<td>GP</td>
<td>General Practitioner</td>
</tr>
<tr>
<td>IUC</td>
<td>intrauterine contraception</td>
</tr>
<tr>
<td>IUD</td>
<td>intrauterine device</td>
</tr>
<tr>
<td>IUS</td>
<td>intrauterine system</td>
</tr>
<tr>
<td>LARC</td>
<td>long acting reversible contraception</td>
</tr>
<tr>
<td>LNG</td>
<td>Levonorgestrel</td>
</tr>
<tr>
<td>LNG-EC</td>
<td>Levonorgestrel emergency contraception</td>
</tr>
<tr>
<td>LNG-IUS</td>
<td>Levonorgestrel intrauterine system</td>
</tr>
<tr>
<td>NET-EN</td>
<td>Norethisterone enanthate</td>
</tr>
<tr>
<td>NICE</td>
<td>The National Institute for Health and Care Excellence</td>
</tr>
<tr>
<td>NHS</td>
<td>National Health Service</td>
</tr>
<tr>
<td>PID</td>
<td>pelvic inflammatory disease</td>
</tr>
<tr>
<td>PGD</td>
<td>patient group direction</td>
</tr>
<tr>
<td>POP</td>
<td>progestogen only pill</td>
</tr>
<tr>
<td>RA</td>
<td>rapid access</td>
</tr>
<tr>
<td>RIE</td>
<td>Royal Infirmary of Edinburgh</td>
</tr>
<tr>
<td>SD</td>
<td>standard deviation</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
</tr>
<tr>
<td>SRH</td>
<td>Sexual and Reproductive Health</td>
</tr>
<tr>
<td>STI</td>
<td>sexually transmitted infection</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
</tbody>
</table>
CHAPTER 1: Introduction

Unintended pregnancy
Worldwide, estimations of rates of unintended pregnancy are high. Approximately 85 million unintended pregnancies occur annually and 33 million of them are thought to be in women using a contraceptive method. [1] A study of women attending for abortion or for ante-natal care, at a large hospital in Edinburgh in 2005, estimated that 90% of pregnancies amongst women requesting abortion were unintended, and almost one third of the pregnancies amongst the women who were attending for antenatal care had also been unintended. [2] Most could have been prevented by effective contraception. More recently, findings from the third National Survey of Sexual Attitudes and Lifestyles (Natsal-3), identified that in women with any pregnancy with a known outcome in the year preceding the survey, one in six were unplanned, with an annual prevalence estimate for unplanned pregnancy of 1.5%. [3] In the United States (US) it is estimated that 49% of all pregnancies are unintended. [4] In addition to the personal distress that some women may experience as a consequence of this, unintended pregnancy results in substantial costs to health services. [5,6] In the US, it is estimated that there are 3.11 million unintended pregnancies annually, costing 4.6 billion dollars each year and that 53% of these costs were attributable to imperfect contraceptive adherence. [6] Whilst a large proportion of unintended pregnancies occur in those not using any method of contraception, a significant number result from incorrect or inconsistent use of a method. In almost half of all unintended pregnancies identified in a US study in 2001, a method of contraception was being used during the month that conception took place. [7]
**Contraceptive efficacy**

Although many contraceptive options are available to women, long acting reversible methods are thought to be amongst the most effective, as they require minimal patient adherence following initiation. Reported rates of failure of contraception vary with perfect use and typical use, since methods that rely on user compliance are more likely to be used incorrectly or inconsistently. The percentage chance of a woman becoming pregnant within a year using either intrauterine contraception or a contraceptive implant, is the same with both perfect and imperfect use (0.2% and 0.05% chance of pregnancy, using Levonorgestrel intrauterine system (LNG-IUS) and the contraceptive implant respectively). [8] Conversely, with use of combined hormonal methods (pill, patch or ring), the chance of an unintended pregnancy is 30 times greater with typical use compared to perfect use (0.3% and 9% chance of pregnancy, within a year with perfect and typical use respectively). [8] Furthermore, a large systematic review of studies reporting contraceptive efficacy from 1990 onwards, concluded that long-acting hormonal contraceptives (LNG- IUS and implants) were as effective as female sterilisation and were closely followed in effectiveness by copper intrauterine devices with ≥300mm$^2$ surface area. [9] The term ‘Long Acting Reversible Contraception’, commonly referred to as LARC, has been defined in a UK National Guideline as ‘contraceptive methods that require administration less than once per cycle or month’. [10] In the UK, LARC is taken to include; copper intrauterine devices (IUD), progestogen-only intrauterine systems (IUS), progestogen-only injectable contraceptives, progestogen-only subdermal implants and combined vaginal rings. [10] Another term that has been used less commonly, to describe methods of contraception that don’t require any active intervention before three years of use, is ‘forgettable contraception’. However, this additionally includes non-reversible sterilisation and excludes both progestogen-only injectables and the contraceptive vaginal ring. [11] In the United States, LARC methods are described as those with a long duration of action and no need for active adherence following initiation. This takes into account both intrauterine devices and contraceptive implants. [12]
Rates of uptake of effective contraception

Comparison of rates of use of specific contraceptive methods between countries can be difficult, as a result of differences in design, methods and implementation of the population surveys used to obtain such data. [13] Furthermore, some countries have data available that is more up to date than others. Nevertheless, uptake of LARC can be seen to vary across the world. In the UK, the most recent national data available from the Office for National Statistics sexual health survey, in 2008/2009, indicated that 75% of women aged 16-49 yrs. were currently using a method of contraception. However, in this survey the proportion of women using LARC methods were low, with 6% using an IUD or IUS, 3% using the progestogen-only injectable and only 1% using an implant. [14] Estimations from the US, from a population survey in 2006/2008, are similarly low. Whilst 78.6% of women are using contraception, just 5.3% use an IUD or IUS, 1.4% use a contraceptive injectable and only 0.7% use an implant. [13] Conversely, reported rates of use of intrauterine contraception are as high as 40.6% in China (data from a 2006 population survey), 36.1% in Egypt (data from 2008) and 22.7% in France (data from 2004/2005) of women aged 16-49 years of age, who are either married or in a union. [13] Likewise, in some countries the use of the contraceptive injectable is far higher at 28.4% in South Africa (data from 2003/2004) and 31.8% in Indonesia (data from 2007). [13] Across the world, reported use of the contraceptive implant remains low, with Norway reporting the greatest use, at 3.3% of women aged 16-49 who are married or in a union (data from 2005). [13] Although many of the most recently available population surveys reporting contraceptive use are now over 5 years old, some over 10 years, and uptake of LARC methods may have increased in these countries since their publication, it is clear that more needs to be done to increase their use further in certain parts of the world.
**Patient's knowledge and attitudes towards LARC**

There are several possible explanations for the low uptake of LARC methods in some countries. It has been shown that women lack accurate knowledge about the individual types of LARC and often hold negative attitudes towards them. [15-17] Qualitative research from the UK identified a common theme of women having little accurate knowledge about individual methods, instead relying on information relayed to them by friends and family. [15] In this study conducted in Scotland in 2007 the views of 55 women of varying ages, were sought during focus group discussions with regard to the acceptability of LARC (injectable/ IUD / IUS / Implant). In addition to limited knowledge, it was apparent that women were also concerned about the potential side effects of these methods, and in many cases these concerns were based upon the past negative experiences of friends. Even after providing women with accurate information, concerns remained and only a minority (25%) expressed any interest in using LARC in the future. [15] Similarly, in a separate qualitative study, a lack of knowledge and fear of possible side effects, were amongst the common themes identified during interviews with ten women specifically about intrauterine contraception. [16] Further concerns were anxiety about fitting of an IUD and of the risk of infection with an IUD. Additionally, this study highlighted that women felt that lack of personal control of intrauterine contraception was a drawback. [16] Whilst many doctors may perceive that a method of contraception that can be fitted and forgotten about, such as both intrauterine methods and contraceptive implants, is beneficial, some women disagree. Women described feeling a loss of control of their contraception as they required it to be both fitted and removed by a health professional, and furthermore they expressed concerns that it felt less reliable as they could not see it once fitted. [16] A survey undertaken in the US, specifically targeted adolescent and young women to determine their attitudes towards intrauterine contraception (IUC). [17] In response to advice from the American College of Obstetrics and Gynecology (ACOG) to consider IUC as first-line contraception in adolescents, the investigators sought to study the views of women aged 14-27 years to
identify how realistic this might be. Of the 252 women surveyed, 98% had previously had sex, although none of them had previously used an IUD/IUS. Less than half (45%) had heard of an IUD/IUS, and following a brief description of an IUD/IUS, only 26% expressed some degree of interest in using it in future. Similar negative perceptions were evident again, including fear of pain at insertion and the requirement for a health professional to fit and remove the device. [17] Health professionals have the opportunity to educate women, and dispel myths where they do exist, about both IUD/IUS and other LARC methods.

Health professionals’ knowledge and attitudes towards LARC

Although health professionals may well have the opportunity to educate potential users of LARC about its benefits, it is also clear that lack of accurate knowledge and the skills required to provide these methods also exists among health professionals themselves. [18-21] Following a recommendation by the National Institute of Clinical Health and Excellence (NICE) in the UK, that increased use of LARC methods could decrease unintended pregnancy rates, the views of doctors and nurses working in general practice (main providers of contraception in the UK) were sought with regard to LARC. [18] Respondents to this survey regarded LARC methods as safe, easy to use and rated them highly for efficacy compared to non-LARC methods. However, they ranked LARC lower than the combined pill, for acceptability. Misconceptions were prevalent in both doctors and nurses about side effects of these methods, with a significant proportion of respondents incorrectly believing that the contraceptive implant could cause weight gain and a delay in return to fertility. Over half of male (58%) and a third (35%) of female doctors stated they would not consider a contraceptive implant as a first line method for women in any age group, and 46% of male and female doctors would not consider the injectable as first line. This may in part be related to the high proportion of doctors in the survey (81% of male and 45% of female doctors) who felt they saw too few patients to maintain the skills to insert implants. [18] If the health professionals most commonly discussing contraception with women, possess inaccurate
knowledge, or lack the skills to counsel women about or administer LARC methods, then clearly an opportunity to increase their uptake via patient education is lost. A further survey of general practitioners in London, UK, concerning their knowledge and attitudes about the LNG-IUS, highlighted again that misconceptions about this method are prevalent. [19] In this survey, 17% of the 71 surveyed, incorrectly agreed the LNG-IUS would increase the risk of pelvic inflammatory disease (PID), whilst 23% believed it to increase the risk of an ectopic pregnancy. When asked regarding their first line choice of contraception for a young (<25yrs age) nulliparous women only 8% stated a LARC method, none opted for LNG-IUS and the majority (92%) chose the pill. [19] Amongst the Canadian counterpart to UK GPs, Family Physicians (FPs), it was also clear that many incorrectly believed misconceptions about IUDs. [20] Over 60% of respondents incorrectly felt ectopic pregnancy and PID were major risks of using an IUD. Once again, the majority (>70%) would not recommend use of an IUD to nulliparous women. [20]

There is also evidence that gynaecologists may hold misconceptions about intrauterine contraception. [21,22] A 2002 survey of Fellows of American College of Obstetricians and Gynecologists, regarding knowledge of and attitudes towards IUD, identified that nearly a third (29%) believed that the IUD increased the risk of PID by 10% or more. [21] It was also suggested that US gynaecologists feared litigation from such grossly exaggerated beliefs about risks with use of an IUD, which in turn presented a barrier to uptake of the IUD. [21] A more recent survey showed that such misconceptions about the IUD still prevailed among gynaecologists in the US from 2008. [22] Negative attitudes towards the IUD and other methods of LARC, might mean that health professionals are unlikely to promote these methods and may even perpetuate incorrect negative views of intrauterine contraception in patients. Beliefs that LARC methods such as the IUS/IUS are not suitable for young or nulliparous women are particularly worrisome, since these women are arguably at greatest risk of unintended pregnancy and would benefit from the most effective method. It is
possible therefore, that better training and knowledge about these methods among health professionals could increase uptake of LARC in women.

Accessibility and cost of LARC

There are national practice recommendations, advising health professionals to provide counselling to all women about all contraceptive methods including LARC, in the UK and the US. [10,23] Additionally, World Health Organisation (WHO) policy aims to eliminate systemic barriers to contraceptive services and increase access to modern contraception. [24] However, the uptake of LARC remains limited in some areas and in certain groups of women, as a result of difficulty accessing it and high costs. In the UK, contraception has been provided free of prescription charges as part of the National Health Service (NHS) since the 1970s. Furthermore, women do not require to pay any consultation fees to receive contraception, and have the option of attending a range of providers, including their general practitioner or community sexual health clinics. [10] In contrast, in the US and other parts of the world, women may be faced with high upfront costs for LARC methods. [23] The ability to provide these methods and the actual cost women may require to pay can depend upon the level of health insurance she has, if any, and the LARC methods available to her at the clinic she opts to attend. Some free or low-cost clinics may not be able to fund and therefore provide these methods to all women. [25,26] There is evidence in the US that women of low-income status, (implied by virtue of receiving public health insurance), are significantly more likely to undergo sterilisation following a pregnancy rather than use LARC. [27] This may not simply reflect higher upfront costs with LARC, but may also reflect other barriers to access that potentially affect low income groups, such as difficulty in travelling to a contraceptive provider, particularly for women who may live in remote or rural areas. [27,28] Difficulty with access to services or the requirement to travel a distance to attend, is a particular barrier to the use of the injectable method of contraception since it requires to be administered by a health professional every ten (norethisterone enanthate, NET-EN) or
twelve (depot medroxyprogesterone acetate, DMPA) weeks. Even for those women where access to services is not a particular problem, they may be less inclined to use it if they perceive regular 3 monthly visits to be an inconvenience. There is some evidence that the potential ability to self-administer the injectable method could increase its acceptability and possibly uptake of this method. [29] In a survey of women attending a family planning clinic in Scotland, 61% of women surveyed stated they would prefer to attend a clinic less often for contraceptive supplies. [29] Two-thirds of the women who were current users of the injectable, expressed a theoretical preference to use a preparation that they could self-inject at home. In the same survey, a significant proportion of ex-users and never users of the method stated they would consider using it again, if it were available for self-administration. [29]

Contraceptive services in remote and/or rural areas (even in developed nations) may also have difficulty in providing LARC to women, due to having fewer providers or lacking the provider training that is more easily available in urban areas. [28] In a survey of both urban and rural family planning providers at Title X clinics (those providing free contraceptive services) in Texas, US, providers in urban areas were more likely to report that they were well trained in LARC methods (75%) compared to rural providers (57%). [28]

Provision of contraception after emergency contraception

The availability of EC provides women with a second chance to prevent an unintended pregnancy. The majority of women who require to use EC do so following unprotected sex or an accident with a condom. [30,31] A smaller proportion of women may have had a mishap with a hormonal method of contraception (e.g. missed pills). [30,31] Increasingly women in Great Britain prefer to attend a pharmacy for EC rather than an SRH service or a GP. [32] Levonorgestrel emergency contraception (LNG-EC) has been available free of charge without a prescription from pharmacies since 2008 in Scotland, [33] and since 2011 in Wales. [34] In a recent trial comparing two oral emergency contraceptives fewer than 3 %
of women fell pregnant, and so the vast majority of women remain at risk of pregnancy after they have used EC. [35] A few women get pregnant in the same cycle from sexual intercourse after taking EC. In a meta-analysis which included 11 trials of just under 5000 women who had sexual intercourse after using EC but before return of menses (i.e. in the same cycle), the relative risk of pregnancy was 2.67 (2.11-3.39) when compared with women who did not have sex after using EC. [36] Starting an effective on-going method of contraception after EC use is clearly important if women are to avoid unintended pregnancy. UK guidelines recommend that women using EC should be provided with an effective contraceptive to start either with the onset of their next period, or immediately if they will not abstain from sex. [37] This may be an interim ‘bridging’ method that women can use until they can initiate their chosen contraceptive. [37] Community pharmacists in the UK and most other industrialised countries are usually unable to provide any on-going contraception except condoms which are available for purchase. Two mystery shopper studies have shown that while pharmacists are good at adhering to protocols for providing EC, only a minority of them give women advice about on-going contraception. [38,39] In an audit of almost 500 women attending a specialist family planning clinic (FPC) for EC in 2007/08, only 24% were provided with effective contraception (excluding condoms) to start immediately. [30] This figure may be even lower when EC is obtained from non-specialist services. So while in the UK EC is much easier to obtain, and by making it free of charge in pharmacies use has almost certainly increased, [39] we have created a situation where EC is provided almost solely from settings where other more effective methods of contraception cannot be immediately provided.
Strategies to increase the uptake of effective contraception

*Improve patient knowledge by provision of accurate information*

It is evident that barriers exist which may hinder efforts to increase the uptake of the most effective forms of contraception, although there are various approaches which could be taken to try to overcome them. Strategies to improve women’s knowledge of LARC methods may result in a more positive attitude towards LARC. This was demonstrated in a study conducted in the US in 2006, where a team of investigators devised a three minute educational intervention about the IUD for women attending general obstetric and gynaecology clinics. [40,41] The intervention consisted of brief oral information about intrauterine contraception, including; its effectiveness, risks, benefits, effects on fertility and menstruation, length of use and difference between the two different types and use of a plastic model IUD to explain the insertion procedure. The investigators showed that following the intervention, over half of all participants (54%) had a positive attitude towards IUDs compared to 15% before the intervention. Furthermore, even in women who had prior knowledge of the IUD, the proportion with a positive attitude towards them rose significantly from 38% to 64%. [41] The authors concluded that all sexually active young women could benefit from brief education about the IUD. [41] Previous qualitative research has identified that some of the factors that women take into account when choosing their method of contraception include; their perception of safety, efficacy, reliability, ease of use, side effects and reversibility. [15] Therefore the provision of accurate information about LARC, including reassurance of the safety, reliability, ease of use and reversibility of these methods, in addition to a clear explanation of side effects that are common and those that are not, may result in increased interest in these methods.

Unlike other medical treatments (antihypertensive drugs, antibiotics) it is the individual user who chooses the method. The choice is likely to be based on information from friends, family, or the media, just as much as from health professionals. [42] Effectiveness of a contraceptive method depends upon correct and continued use, and this depends vitally on its
acceptability to the user. It seems logical that giving people good quality information about a contraceptive and what to expect during use should improve both correct use and continuation rates, however there is little evidence for this and none from the UK. [43]

Providing detailed information about a contraceptive method takes time to do well, but for many health care providers consultation times are short. Health care providers have different levels of training and education and may place emphasis on different aspects of a contraceptive method. Furthermore, the content of the consultation may vary depending upon organisational factors such as whether the patient is the first or last to be seen that day. Consequently, the quality of information women receive about a contraceptive may be of variable quality, sometimes inaccurate and may reflect the bias of the provider. In NHS Lothian, the SRH service has used DVDs (digital video discs) in the clinic for several years to provide information about vasectomy, intrauterine contraception and abortion. This ensures that patients get accurate and standardised information in an audio-visual format. In a questionnaire survey of women requesting abortion who received information by DVD, women rated highly the content of the DVD and the acceptability of receiving information this way. [44]

**Improve healthcare providers’ knowledge**

However, improving knowledge and attitudes amongst patients will remain difficult if poor knowledge or negative attitudes prevail amongst the health professionals who provide contraception. National practice guidelines, which recommend the use of LARC in women of all ages, and provide a clear guide for health professionals to refer to when considering their use, aim to eliminate the misconceptions that exist amongst health professionals. [10,45] Furthermore, in the US, the ACOGs ‘LARC program’ works to ensure health professionals have access to the most up to date information and resources through provision of training and training materials and an E-newsletter. [46] The ‘LARC program’ is a national strategy of the ACOG, and in addition to providing information and guidance on
LARC methods to health providers via the college website, it involves various activities nationally which aim to promote and increase the uptake of LARC. [46]

**Improve access to the most effective methods**

A large prospective cohort study undertaken in St Louis in the US, known as CHOICE, which has now been the subject of several publications, involved several measures with the aim of promoting the use and increasing the uptake of LARC (which included intrauterine contraception and the contraceptive implant). [25,35,36,47-49] The Contraceptive CHOICE Project aimed to recruit a cohort of 10000 women aged 14-45 yrs., of age, and provide them with any reversible contraceptive method of contraception that the woman chose at no cost for a three year period. In addition to obtaining the method free of charge, all participants read information about the safety and effectiveness of LARC and underwent in-depth, evidence based, contraceptive counselling by trained contraceptive providers before they chose their method. In addition to removing the barrier of cost and providing education about LARC to all women at enrolment, LARC was made more accessible to many women as the CHOICE project was widely available in many outpatient facilities throughout the region. All participants were followed up by telephone at three months, six months and then six monthly intervals until three years. [47] Over a four year period from 2007-2011, over 9000 women were recruited, with a mean age of 25 yrs. One third had only high school education or less, almost half were nulliparous and almost two thirds reported a previous unintended pregnancy. [48] The authors suggested that the demographics of this cohort of women indicated they were at high risk of unintended pregnancy. The majority (75%) of participants recruited opted for an IUD/IUS or implant as their choice of contraception (46% chose LNG-IUS, 12% chose Cu-IUD, 17% chose contraceptive implant). If those choosing DMPA were included in this total (7%), then 82% of participants chose LARC as defined in this review. [48] This level of uptake for methods of LARC is significantly higher than both the most recent nationally reported US uptake rates, and reported uptake in many other parts of the
world. [13] This strongly suggests that when you remove potential barriers to these methods, uptake will increase. Of course, emulating this rise in use of LARC would obviously be more difficult in practice when it is not part of a large, regional, well organised and well-funded research study. The CHOICE study also analysed 12 months of follow-up data in over 5000 participants, to estimate continuation rates and satisfaction with intrauterine contraception and implants. It has been noted in previous research that some health professionals may have concerns about high discontinuation rates with these methods. [18] However, in this analysis, discontinuation rates were significantly higher among women not using a long acting method than in those using an IUD/IUS or implant (45% vs. 14% in IUD/IUS or implant users). Furthermore, those using LARC were significantly more likely to be satisfied with their method at 12 months (84% satisfied vs. 53% satisfied on non-LARC users). [49] This may help to alleviate the concerns some health professionals may have about user dissatisfaction or discontinuation of LARC, and thus they may be more inclined to promote LARC use.

The development of a subcutaneous form of Depo-Provera as an injectable method of contraception, lends the possibility of self-administration, so removing the barrier of access for some women to this method. [29,50-52] Three studies have investigated the feasibility of self-administration of subcutaneous DMPA. [51-53] Continuation rates at 1 year at 12 months were high (74% US and 88% UK studies) and most women found the injections to be convenient (95%), easy (87%) and would recommend them to others (94%). The third study showed that self-administration of this subcutaneous injectable was feasible even in teenagers after brief training. [53] The possibility to self-administer may not only be attractive to women but could potentially help to prevent unintended pregnancies for some women who might otherwise miss an injection because they unable to get to a scheduled clinic appointment. A further benefit of a subcutaneous form of Depo-Provera, aside from the option of self-administration, is the potential for it to be administered by a range of health professionals including community pharmacists. [54] This was shown to be feasible in a pilot study in the US, whereby 50 women were randomised following an initial dose in
clinic, to receive two subsequent doses of subcutaneous Depo-Provera at either the same clinic or at a community pharmacy. Continuation rates with the second and third injections were similar in both settings and follow-up surveys showed no significant differences in patient satisfaction with location, convenience, privacy and respect from providers. [54] For those women who are not keen to self-administer, attendance at a pharmacy in a location suitable for them would offer another option.

**Target vulnerable groups**

Although women aged 20-34yrs. account for the largest number of unplanned pregnancies, proportionally more occur in teenagers (16-19 yrs.), with just under half of all pregnancies in this age group being unplanned. [3] Specific measures to improve access to, increase awareness of and increase interest in LARC within this age group are therefore important. As already discussed, national guidelines and recommendations which reassure health professionals of the safety, benefits and acceptability of LARC in adolescents and young adults, go one step towards this. [10,23,45] Provision of youth friendly services may go one step further. The WHO defines youth friendly services as being equitable, accessible, acceptable, appropriate and effective for young people. [55] Strategies to make services youth friendly include convenient locations and opening hours, age appropriate educational materials and specific training of health professionals working within these services in adolescents and young adults. A team of investigators in the US aimed to identify youth friendly services within publicly funded facilities, and the relationship of LARC-related services in these settings versus non youth friendly services. [56] Out of just over 600 services that were surveyed, 78% were deemed as youth friendly sites. Respondents from these sites, were significantly more likely to indicate that LARC methods were typically discussed during a contraceptive visit with teens/young adults, and additionally that LARC provision had increased in their services, compared to sites that were not deemed as ‘youth friendly’. [56] This study thus highlights that it is important to take account of the specific
needs of teenagers and young adults when designing contraceptive services as increased interest in and attendance at youth friendly services, will result in greater opportunities to educate them about LARC, and consequently increased uptake of LARC.

**The use of LARC following abortion**

Provision of counselling regarding contraceptive methods and access to a wide range of contraception immediately following an abortion, is an important component of abortion care. [1] Increasing evidence has emerged in recent years that immediate uptake of LARC following an abortion, reduces the incidence of repeat abortions. [57-60] In one such study, of just under 1000 women attending for abortion in Scotland in 2008, the chance of a further abortion in the subsequent two years was 20 times less with the use of intrauterine contraception post abortion, compared to the oral contraceptive pill. The risk of further abortion was 16 times less with use of the contraceptive implant compared to the pill. [57] Therefore, strategies to increase the uptake of LARC immediately following abortion care important. Furthermore, this is a time when women may be more motivated to use such methods and may welcome the opportunity to discuss LARC. [61] For a small number of women, who may only attend health services on very few occasions, it may be the only opportunity to educate them about the benefits of LARC and dispel any misconceptions. In a survey of women requesting abortion in the US about their views on receiving contraceptive advice, two thirds of those surveyed expressed a desire to leave the abortion facility with a contraceptive method or supplies. [61] Additionally, over 60% of women expressed an interest in using a LARC (IUD/IUS/Implant) method in the future. [61] In a study from the UK, of provision of specialist contraceptive advice to women at the time of abortion compared to standard care, enhanced advice and provision was associated with an increase in the uptake of LARC at this time. [62] Similarly, in New Zealand, an intervention that involved updating medical staff about LARC, promoting these methods to women and then providing them free of charge, significantly increased the uptake of LARC post-abortion
from 44% to 61%. [63] Insertion of intrauterine contraception is feasible at the time of surgical abortion. However, it is not standard practice for insertion to occur at the time of medical abortion; particularly if the woman leaves the abortion facility after medication has been administered, going home to pass products of conception. In these circumstances, arrangements therefore require to be made for her to return for insertion of intrauterine contraception at a later date, if she opts for this. However, it has been shown that many women will not return for such appointments. [64] One review of over 200 women referred following medical abortion, over a two and a half year period, indicated only 53% attended. [64] Aiming for early insertion at one week post abortion, as opposed to delayed insertion, is one potential strategy to increase the proportion of women who will attend. Insertion of intrauterine contraception at one week post medical abortion has been shown to be as safe as delayed insertion. [65,66] Moreover, in two separate studies where women were randomised to either early (1 week) or delayed (3-4 weeks) insertion following medical abortion, significantly more women returned for insertion in the early group. [65,66] Therefore, arranging for women to return for insertion of an IUD/IUS post medical abortion, sooner rather than later, is likely to have a greater impact on increasing uptake.

**The use of LARC post-partum**

It has been estimated that around 40% of women will have resumed vaginal sex by 6 weeks post-partum, and there is some evidence that this figure may be even higher amongst teenage mothers. [67,68] The post-partum period is therefore an important time to initiate contraception and may be another opportunity within which the uptake of LARC could be increased. Guidance is available for health professionals regarding the timing of initiation of LARC postnatally, and to reassure them of their safety and benefits. [10,45] A recent survey of 800 postpartum women in North Carolina, US, showed that a high proportion of mothers (38%) were intending to use either an implant or an intrauterine device as contraception; [69] a figure that is much higher than most recent estimates of use of LARC nationally in the US.
Factors associated with intention to use LARC were if the index pregnancy had originally been unintended and if they had no desire for another baby within two years. Clearly however, there is no guarantee that intent to use these methods actually translates into increased use of them. One retrospective review of postpartum contraception in California, US, highlighted this. Although over 40% of women intended to use a highly effective method of contraception postpartum, of this group, only just over a third had actually established a LARC method by 8 weeks postpartum. Potential barriers to LARC uptake in the postpartum period include the same barriers as at other times, namely; lack of patient or provider knowledge, cost and access. In addition, significant change to a woman’s home life with the birth of a baby and possibly medical issues such as post-operative wound care, establishing breastfeeding and infant health concerns, may also supersede concerns about contraception at this time. If health professionals bear these additional problems in mind when discussing postpartum contraception with women, and service providers take these factors into account when organising their care, we may be more successful in initiating highly effective contraception in a group of women who would gain great benefit from it. Immediate insertion of contraceptive implants or intrauterine contraception postpartum may avoid the problem of women failing to return for insertion in the weeks following delivery. In a study of adolescent mothers from the US, those who chose to have a progestogen only implant inserted soon after childbirth were shown to have good continuation rates with this method, and were significantly less likely to become pregnant again within 12 months compared to counterparts using other methods. A Cochrane Database Review, of nine randomised controlled trials of immediate postpartum insertion of IUDs, found this to be safe and effective. Although expulsion rates may be slightly higher than with interval insertion, the added advantages of immediate insertion include; highly motivated women at this point in time, assurance the women is not pregnant and convenience.
In Summary

Long acting reversible methods of contraception are amongst the most effective methods available to women, yet uptake rates are low. Aside from cost issues, improving knowledge and dispelling misconceptions about LARC in women will be important to increase demand for these methods. However, improved education and training for health providers regarding LARC is also necessary to ensure this occurs. Providing women with information promoting the benefits of LARC through social marketing can empower women to choose the most effective methods for themselves. Taking measures to ensure services meet the needs of specific groups, such as the provision of LARC in a youth friendly setting, may further enhance uptake. Similarly, offering LARC methods immediately or shortly following abortion and postpartum, targets women who may be highly motivated to use LARC at that point in time. Better uptake and continuation rates of LARC could lead to fewer unintended pregnancies and the associated distress for affected women and cost to health services they bring.

In the following chapters I will address both potential barriers to the uptake of effective contraception, and possible strategies to overcome these, with the aim of preventing unintended pregnancy. In chapter two I will address patients’ knowledge and attitudes towards the use of intrauterine methods of contraception. Chapter three examines the use of DVD, as a means of providing accurate information about a contraceptive method. In chapters four through six, potential strategies to increase the uptake of effective contraception following emergency contraception will be considered. Chapter seven considers the potential increase in uptake of effective contraception following abortion through provision of abortion services in a community sexual health setting.

References


40. Whitaker AK, Johnson LM, Chiappetta L, Creinin MD, Gold MA. Adolescent and young adult women’s knowledge of and attitudes toward the intrauterine device. Contraception. 2008;78:211-217


61. Kavanaugh ML, Carlin EE, Jones RK. Patients’ attitudes and experiences related to receiving contraception during abortion care. *Contraception*. 2011;84:585-593
62. Schunmann C, Glasier A. Specialist contraceptive counselling and provision after termination of pregnancy improves uptake of long-acting methods but does not prevent repeat abortion: a randomized trial. *Hum Reprod*. 2006;21(9):2296-2303
67. McDonald E, Brown S. Does method of birth make a difference to when women resume sex after childbirth? *BJOG* 2013;120(7):823-830
CHAPTER 2: Myths and misconceptions about intrauterine contraception among women seeking abortion.

Introduction

The use of intrauterine contraception, either as an intrauterine device (IUD) or hormone-releasing intrauterine system (IUS), varies significantly across the world. Worldwide use was most recently estimated to be 14% although this rises in some countries with rates as high as 37% in Eastern Asia. [1,2] The UK however has much lower rates of use of intrauterine contraception, (6% using an IUD and 2% using an IUS in 2010). [3] Intrauterine contraception is considerably less popular in the UK than either oral contraception or condoms. [3] A systematic review of literature regarding contraceptive efficacy, found the IUS to be as effective as female sterilisation, and the IUD was rated second to the IUS for effectiveness. [4]

In 2011, the rate of abortion per 1000 women aged 15-44 yrs was 12.0 in Scotland and 17.5 in England and Wales. [5,6] National guidance from the UK recommends that increasing uptake of intrauterine contraception has the potential to reduce the number of abortions. [7] There is also global evidence that immediate initiation of intrauterine contraception at the time of abortion is associated with a significant reduction in the likelihood of subsequent abortion. [8-10] In 2011, 29% of women having an abortion in Scotland and 35% in England and Wales had at least one previous abortion. [5,6] Increased uptake of intrauterine contraception amongst women having an abortion could therefore play an important role reducing this repeat abortion rate. Unfortunately, myths and misconceptions about may account for the low uptake of this method in the UK. [11,12]

In order to determine what proportion of women seeking an abortion hold misconceptions about the IUD/IUS, we conducted a survey amongst women requesting abortion at a hospital
abortion service at the Royal Infirmary of Edinburgh, Scotland. The Royal Infirmary of Edinburgh (RIE) is the main provider (80%) of abortion services in Lothian (Edinburgh and surrounding area). In 2011, 2416 induced abortions were conducted in Lothian. [5] The purpose of the study was to provide information to help guide health professionals in developing effective educational strategies that may increase positive attitudes towards intrauterine contraception, so that more women may consider this as a method of ongoing contraception after an abortion.

Methods

In order to help to develop a short questionnaire for women to complete regarding their beliefs about intrauterine contraception, two separate sources were used to identify common misconceptions women may have. Firstly, statements about intrauterine contraceptives were taken from unpublished transcripts of interviews undertaken with young people aged 13-21 years during 2000-2004 as part of an evaluation of a national teenage pregnancy strategy. [13] Secondly, we extracted negative statements about the IUD/IUS from an online social networking and micro-blogging service (Twitter), by conducting two searches 10 days apart in December 2011. The search terms used were; ‘IUD’, ‘intrauterine device’, ‘IUS’, ‘mirena’, ‘coil’ and ‘paragard’. Statements were identified that discussed the IUD, although those that used the term in an unrelated meaning were not included. By reviewing these sources common themes were identified regarding women’s views towards, and concerns about the IUD and IUS. This allowed us to create a questionnaire (appendix 1) that consisted of a short introductory paragraph followed by 12 negative statements regarding the IUD/IUS. During January and February 2012, a sample of 125 women attending the RIE clinics requesting an abortion were given the questionnaire by one of the clinic nurses and invited to complete it and place it in an opaque sealed envelope in a collection box. The questionnaires
were completed by women prior to either ultrasound scan or consultation with medical staff in the clinic, and they therefore were not aware of what method of abortion they could have (if at all), and had not discussed contraception with any medical staff in the clinic at that point. The questionnaire was anonymous and self-completed and required a response to each statement on a 5 point Likert scale from ‘strongly agree’ to ‘strongly disagree’. Further questions sought demographic information including, age, postcode area of residence (used to obtain a Carstairs deprivation category score [14]) and previous and intended contraceptive use.

**Statistics**

All data were coded and entered onto a database using Microsoft Excel. Data were entered to the database by a research nurse and data were checked and coded by L Michie. Responses to each statement were combined such that ‘strongly agree’ and ‘somewhat agree’ were grouped as ‘agree’ whilst ‘strongly disagree’ and ‘somewhat disagree’ were grouped as ‘disagree’. The remaining group of responses were ‘neither agree nor disagree’. Data analysis was performed using IBM Statistical Package for Social Sciences (SPSS) software Version 18 (SPSS Inc. Chicago, Il, USA). Demographic data was obtained including means and standard deviations (SD). To allow statistical comparison between age groups, 4 age groups were defined; 0-19 years, 20-24 years, 25-34 years and 35 years and over. Comparisons were made using Fisher’s exact test as counts within the individual cells of the contingency table fell below 5. Statistical significance was deemed to be $p<0.05$.

**Ethical Approval**

The questionnaire was reviewed by the chair of a local research ethics committee who confirmed that ethical approval was not required.
Results

A total of 106 completed questionnaires were obtained from 125 distributed (85% response rate). Age of respondents ranged from 15-42 years. Demographics are shown in table 1.

Table 1 Demographics of respondents

<table>
<thead>
<tr>
<th>Age</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean [SD]</td>
<td>25[6.4]</td>
</tr>
<tr>
<td>Range</td>
<td>15-42</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deprivation Category Score*</th>
<th>N [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 Affluent</td>
<td>15[14.2]</td>
</tr>
<tr>
<td>3-5 Moderate</td>
<td>77[72.6]</td>
</tr>
<tr>
<td>6-7 Deprived</td>
<td>14[13.2]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parity</th>
<th>N [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nulliparous</td>
<td>57[53.8]</td>
</tr>
<tr>
<td>Parous</td>
<td>49[46.2]</td>
</tr>
<tr>
<td>Previous Abortion</td>
<td>36[34]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Previous methods of contraception ever used</th>
<th>N [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condom</td>
<td>98[92]</td>
</tr>
<tr>
<td>Oral contraceptive pill</td>
<td>74[74]</td>
</tr>
<tr>
<td>Progestogen only implant</td>
<td>16[15]</td>
</tr>
<tr>
<td>Progestogen only injectable</td>
<td>12[11]</td>
</tr>
<tr>
<td>IUD/IUS</td>
<td>8[8]</td>
</tr>
<tr>
<td>Combined hormonal patch</td>
<td>5[3]</td>
</tr>
<tr>
<td>None</td>
<td>4[4]</td>
</tr>
</tbody>
</table>

*Deprivation Category is a marker of deprivation in Scotland based upon postcode area of residence [14]
78% of women (n=83) had used more than one method of contraception previously, 8 women (8%) had previously used an IUD or IUS in the past (Table 1). Regarding future planned use of contraception, three women (3%) intended to use no contraception and two (2%) were uncertain. Of those respondents (n =101) who were intending to use contraception, the methods planned included; oral contraceptive pill (33[31%]), IUD or IUS (27[25%]), progestogen only implant (26[24%]), barrier methods (26[24%]), progestogen only injectable (13[12%]), combined hormonal contraceptive patch (3[3%]) and sterilisation (2[2%]). Parous women were significantly more likely to indicate that they planned to use an IUD/IUS for future contraception compared to nulliparous women (p=0.009). Women who had previously had an abortion were also significantly more likely to choose IUD/IUS as future method when compared to women with no history of abortion (p=0.039). Women who had used an IUD/IUS as a contraceptive method previously were significantly more likely to choose this as future contraception (p=0.003).

The 12 statements put forward to women and the responses to each are shown in table 2.
Table 2 Response to negative statements about intrauterine contraception

<table>
<thead>
<tr>
<th>Statements</th>
<th>Agree</th>
<th>Neither Agree/nor disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is painful to have inserted.</td>
<td>36[34]</td>
<td>59[56]</td>
<td>11[10]</td>
</tr>
<tr>
<td>2. It is only suitable for women who have had children.</td>
<td>8[7.5]</td>
<td>40[37.7]</td>
<td>58[54.7]</td>
</tr>
<tr>
<td>3. It is not suitable if you have had more than 3 children.</td>
<td>3[2.8]</td>
<td>53[50]</td>
<td>50[47.2]</td>
</tr>
<tr>
<td>4. Can only be used in older women.</td>
<td>4[3.8]</td>
<td>38[35.8]</td>
<td>64[60.4]</td>
</tr>
<tr>
<td>5. There is a good chance it can make you infertile.</td>
<td>3[2.8]</td>
<td>45[42.5]</td>
<td>58[54.7]</td>
</tr>
<tr>
<td>6. There is a good chance it can damage the womb.</td>
<td>17[16]</td>
<td>36[34]</td>
<td>53[50]</td>
</tr>
<tr>
<td>7. There is a good chance it can damage the ovaries.</td>
<td>6[5.7]</td>
<td>44[41.5]</td>
<td>56[52.8]</td>
</tr>
<tr>
<td>8. It can rust inside you.</td>
<td>8[7.5]</td>
<td>36[34]</td>
<td>62[58.5]</td>
</tr>
<tr>
<td>10. There is a high chance it might fall out.</td>
<td>16[15.1]</td>
<td>40[37.7]</td>
<td>50[47.2]</td>
</tr>
<tr>
<td>11. It can get stuck on the babies head if you become pregnant.</td>
<td>6[5.6]</td>
<td>36[34]</td>
<td>64[60.4]</td>
</tr>
<tr>
<td>12. It is a breeding ground for infection.</td>
<td>17[16]</td>
<td>47[44.4]</td>
<td>42[39.6]</td>
</tr>
</tbody>
</table>

Agreement with negative statements ranged from 2.8% to 34%. The range in percentage of women who neither agreed/nor disagreed with each negative statement was 26.4% to 56%. The statements that most women agreed with were that ‘it is painful to have inserted’ (34%) and that ‘it can move around inside your body’ (23.6%). Responses were compared between women who had previously used an IUD or IUS and those who had never used these methods. Women who had used previously used an intrauterine contraceptive were significantly more likely to disagree with statement 5 (‘There is a good chance it can make you infertile’) than those who had not (p=0.03). There was no significant difference in
responses between these groups for all other statements. Women aged 19 years and under (n= 24) were significantly more likely to agree with statement 1 (‘It is painful to have inserted’) compared to women in any other age group (p=0.037). There were no significant associations between any demographic factors tested (age group, deprivation category score, reproductive history) and agreement with any other statements.

**Discussion**

Our study showed that only a small percentage of women requesting an abortion agreed with the negative statements about intrauterine contraception, suggesting that only a minority of these women held major misconceptions about this method. Our study did however show that approximately one third of women ‘neither agreed nor disagreed’ with the statements, which may suggest a lack of knowledge about intrauterine contraception amongst this group. Thus the abortion consultation does offer a good opportunity to provide information about this most effective method of contraception that has been shown to reduce the risk of a subsequent abortion. [8-10] Some health professionals may worry that women requesting an abortion may not wish to discuss contraception at this time, or that they may feel under pressure to accept contraception in order to obtain agreement to have an abortion. However, there is good evidence that women value the opportunity to discuss contraception at this visit and do not feel coerced into accepting a method of contraception. [15] Although the consultations to discuss abortion may be lengthy and the time available to discuss contraception is short, there is evidence from the US that even brief (3 mins) oral educational interventions about the IUD/IUS, can improve knowledge and positivity about this method. [16-18] Furthermore, women seeking an abortion find that information about contraception imparted from viewing a digital video disk (DVD) rather than a face-to-face consultation with a health professional, to be highly acceptable at this time. [15]
In our study the most common misconceptions about intrauterine contraception that women agreed with were that the IUD/IUS is painful to have inserted and that it can move around inside your body. This may indicate that health professionals need to concentrate on providing accurate information and reassurance to women about these issues. In particular, oral analgesia or local anaesthesia for insertion can be discussed with women, as is recommended by the faculty of sexual and reproductive health guidance, UK. [19] Women can also be reassured that the likelihood of an IUD/IUS perforating the uterus is rare. [19]

The demographic characteristics of women participating in our survey were similar to that of previous studies of women attending for abortion in our region. [10] In addition, our finding of 8% of women having previously used an IUD/IUS is in keeping with rates of uptake of intrauterine contraception in the UK. [3] More surprising was the finding that 25% of respondents were considering using an IUD/IUS following the abortion. A study of ongoing contraception post abortion from our service in 2008, showed that 9.5% of women had an IUD/IUS inserted immediately following the abortion. [10] It is possible that this apparent increase in ‘interest’ in intrauterine contraception in our current study may reflect the impact of a Scottish Government sexual health strategy, using social marketing to promote awareness of the most effective long acting methods of contraception. [20] Our surveys were anonymous, so it is unlikely that women felt compelled to indicate interest in this method of contraception. It does however suggest that the consultation prior to an abortion is a good opportunity for health professionals to provide accurate information to women about the IUD/IUS, since motivation to use this method may be high and its uptake may protect women from a subsequent abortion. There are limitations to our study. The sample size was small, and the inclusion of only negative statements regarding the IUD/IUS may have introduced the possibility of bias. Respondents may have been likely to simply agree with statements, and if positive statements had also been included this may have minimised such bias. However, the findings add weight to the importance of abortion care providers being
trained and funded to be able to provide the IUD/IUS to women at the time of abortion, if they wish this and if it is appropriate to do so. [10]

References


Introduction

Unintended pregnancy is common. In Scotland in 2013 there were 11,777 therapeutic abortions [1] and around 30% of pregnancies are unplanned. [2] Most could have been prevented by effective contraception. Unlike other medical treatments (antihypertensive drugs, antibiotics) it is the individual user who chooses the method. The choice is likely to be based on information from friends, family, or the media, just as much as from health professionals. [3] Effectiveness of a contraceptive method depends upon correct and continued use, and this depends vitally on its acceptability to the user. It seems logical that giving people good quality information about a contraceptive and what to expect during use should improve both correct use and continuation rates, however there is little evidence for this and none from the UK. [4]

Providing detailed information about a contraceptive method takes time to do well, but for many health care providers consultation times are short. Health care providers have different levels of training and education and may place emphasis on different aspects of a contraceptive method. Furthermore, the content of the consultation may vary depending upon organisational factors such as whether the patient is the first or last to be seen that day. Consequently, the quality of information women receive about a contraceptive may be of variable quality, sometimes inaccurate and may reflect the bias of the provider.

In NHS Lothian, the sexual and reproductive health service (SRH) has used DVDs (digital video discs) in the clinic for several years to provide information about vasectomy, intrauterine contraception and abortion. This ensures that patients get accurate and standardised information in an audio-visual format. In a questionnaire survey of women requesting abortion who received information by DVD, women rated highly the content of
the DVD and the acceptability of receiving information this way. [5] However, the effectiveness of a DVD for information giving, nor how it compares to a traditional face-to-face consultation for providing information, has not been formally evaluated.

To provide standardised, quality information about the contraceptive implant (Nexplanon®), a DVD was developed for use at Chalmers Centre, SRH service, NHS Lothian. The information included was taken from the Faculty of Sexual and Reproductive Healthcare Clinical Effectiveness Unit Guidance on contraceptive implants, [6] and covered mode of action, insertion, removal, contra-indications, risks and side effects. The content of the DVD was agreed by clinicians working in the service and the DVD made with technical help from the Medical Photographic Department, NHS Lothian. The DVD was piloted among stakeholders and minor modifications made. The final version lasted 9 minutes. We conducted a pilot study with the primary aim of determining whether women found receiving information about Nexplanon® via a DVD acceptable and informative. We also wished to ascertain how the amount and accuracy of information recalled after watching a DVD compared to that following face-to-face consultation with a clinician, and if the information given by either modality matched women’s experience of Nexplanon® following insertion.

**Methods**

**Recruitment**

All women aged ≥16 years, attending Chalmers from January to June 2013 for medical abortion, and considering using Nexplanon®, were invited to participate. Following a routine consultation and after arrangements had been made for the abortion procedure, the clinician determined eligibility for Nexplanon®, according to UK Medical Eligibility Criteria for contraceptive use. [7] Exclusion criteria included previous use of contraceptive implant and the need for an interpreter during the consultation. A member of the research team provided further written and verbal information about the study before written consent was obtained.
from women agreeing to participate. 50 women considering starting Nexplanon® for the first time were recruited.

**Interventions and randomisation**

Participants were randomised to be given information about Nexplanon®, either by DVD (35 women) or in a traditional one to one face-to-face consultation (15 women) by either a doctor or nurse (control group). Because this was a pilot study, a randomisation scheme allocating more participants to intervention than control was chosen to improve power in the intervention group without seriously affecting the power for between-group comparisons. A clinician gave women in the control group information about Nexplanon® according to their routine practice. Women randomised to the DVD, watched it in the consultation room. When the DVD had finished, the clinician returned to the consulting room, providing an opportunity for women to ask any questions, and women wishing to have insertion of the method were scheduled for this following the abortion. Randomisation was made at time of recruitment using sequentially numbered opaque sealed envelopes produced by computer-generated randomisation sequence. Due to the nature of the intervention, it was not possible to blind either the research team or the participant, to the allocated intervention. Women were offered a £10 voucher if they were successfully contacted three months later for telephone interview.

**Follow-up**

In order to determine both acceptability of method of information provision, and knowledge recalled, immediately following the consultation all women underwent a structured interview with a single researcher. A standard proforma (appendix 2) was used to record demographic information and previous contraceptive use. Four set multiple choice questions were used to determine what information the subject had taken from the consultation and its accuracy.
Overall acceptability of the consultation was determined using a Lickert [8] scale to quantify descriptors including ‘helpful’, ‘easy to understand’ and ‘confusing’.

Three months following the initial consultation, all women were contacted for a short standardised telephone interview (appendix 3), lasting ≤5 minutes, by the same member of the research team (LM). Three attempts at contact were made to the given telephone numbers, at varying times of day. Women were asked which contraceptive method they had chosen following the consultation. Women who had Nexplanon® inserted were asked if the implant (particularly with respect to side effects and bleeding patterns) matched their expectations. All were asked about their experience of taking part in a randomised trial, and for those in the DVD group, their experience of using DVD as a means of receiving information.

**Qualitative methods**

At the time of telephone interview all women were invited to attend for a further in-depth interview with a member of the research team, designed to explore in more detail their feelings about participation in a research study and the use of a DVD for information giving compared with traditional consultations. Four women who watched the DVD and four who did not watch the DVD agreed to attend. A topic guide was used, based on the key areas described above, to structure each interview. Women were offered a £20 voucher if they attended for in-depth interview. Interviews occurred between May and August 2013 in Chalmers Sexual Health Centre, and lasted approximately 30 minutes. Interviews were audio-recorded and transcribed verbatim. Data was organised by cross sectional indexing. After all interviews were conducted the data was analysed using thematic analysis. [9]

**Statistics**

A sample size of 35 subjects was allocated to the DVD group to allow estimation of percentage rates of acceptability and knowledge recall to within a standard error of around
8%. The power for the randomised comparison to 15 controls is low, but sufficient to give a high chance of detecting a statistically significant major difference in either acceptability or knowledge recall between the two groups, of the order of 40%. The allocation of unequal numbers to the two groups was to improve the power for estimation within the DVD group without greatly decreasing the power for the between-group comparisons. All data, including demographic data recorded at recruitment and at telephone follow-up, were coded and entered onto a Microsoft Excel database. Descriptive statistics were obtained including means and standard deviations (SDs). Rates of acceptability and knowledge recall in both groups were calculated. Comparisons were made using chi-squared tests or Fisher’s exact test where appropriate counts within individual cells of the contingency table fell below 5. Statistical significance was deemed to be p<0.05.

_Ethical Approval_

The Scotland A Research Ethics Committee (12/SS/0075) approved the study in May 2012.

**Results**

Only eight of 58 women asked to participate declined, giving a recruitment rate of 86%. Seven women had no time to participate, whilst one declined as she did not wish to be randomised to watch the DVD. The mean age of participants was 24 years (SD, 5.5). 35 women were recruited to the DVD arm of the study, 15 to the control arm. There were no statistically significant demographic differences between the groups (Table 3).
Table 3 Demographics of women recruited

<table>
<thead>
<tr>
<th>Age (yrs.) mean (SD) Range</th>
<th>DVD N=35</th>
<th>Control N=15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yrs.) mean (SD) Range</td>
<td>24 (5.3) 16-36</td>
<td>23 (5.9) 17-34</td>
</tr>
<tr>
<td>Depcat* N(%)</td>
<td>1-2(Affluent) 3 (9) 25 (71) 7 (20)</td>
<td>1 (7) 13 (87) 1 (7)</td>
</tr>
<tr>
<td>Depcat* N(%)</td>
<td>3-5 (Moderate) 6-7 (Deprived)</td>
<td></td>
</tr>
<tr>
<td>Smoker N(%)</td>
<td>No 19 (54)</td>
<td>10 (67)</td>
</tr>
<tr>
<td>Current 13 (37)</td>
<td>4 (27)</td>
<td></td>
</tr>
<tr>
<td>Ex 3 (9)</td>
<td>1 (7)</td>
<td></td>
</tr>
<tr>
<td>Previous birth N (%)</td>
<td>12 (34)</td>
<td>5 (33)</td>
</tr>
<tr>
<td>Previous abortion N (%)</td>
<td>11 (31)</td>
<td>3 (20)</td>
</tr>
<tr>
<td>Previous contraception use N (%)</td>
<td>none 2 (6)</td>
<td>0</td>
</tr>
<tr>
<td>condoms 32 (91)</td>
<td>14 (93)</td>
<td></td>
</tr>
<tr>
<td>combined (pills/patch) 26 (74)</td>
<td>14 (93)</td>
<td></td>
</tr>
<tr>
<td>progestogen only pill 11 (31)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>contraceptive injection 3 (9)</td>
<td>1 (7)</td>
<td></td>
</tr>
<tr>
<td>intrauterine method 2 (6)</td>
<td>1 (7)</td>
<td></td>
</tr>
</tbody>
</table>

*DepCat Score is a marker of deprivation in Scotland based upon postcode area of residence scoring from 1 least deprived, to 7 most deprived. [15]

Immediately following either the DVD or face-to-face consultation all women were asked four multiple choice questions to test information recall. Recall was similar in both groups in response to three of the questions (Table 4), however respondents in the control group incorrectly expected mood and/or skin changes as common side effects with Nexplanon® compared to respondents in the DVD group.
Table 4 Responses to questions relating to recall of information given

<table>
<thead>
<tr>
<th>Question (correct answer in bold)</th>
<th>DVD Group N (%)</th>
<th>Control Group N (%)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1.</strong> Length of licence limit of implant?</td>
<td></td>
<td></td>
<td>1.0&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>1 year</td>
<td>0</td>
<td>0</td>
<td>1.0&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>3 years</td>
<td>33 (94)</td>
<td>15 (100)</td>
<td>1.0&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>5 years</td>
<td>2 (6)</td>
<td>0</td>
<td>1.0&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Question 2.</strong> The implant works by inhibiting ovulation?</td>
<td></td>
<td></td>
<td>0.63&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Yes</td>
<td>28 (80)</td>
<td>11 (73)</td>
<td>0.63&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>No</td>
<td>1 (3)</td>
<td>15 (100)</td>
<td>0.63&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Uncertain</td>
<td>6 (17)</td>
<td>4 (27)</td>
<td>0.63&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Question 3.</strong> Common side effects to expect with implant?&lt;sup&gt;*&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight gain</td>
<td>6 (17)</td>
<td>5 (33)</td>
<td>0.27&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Irregular bleeding</td>
<td>29 (83)</td>
<td>15 (100)</td>
<td>0.16&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Amenorrhoea</td>
<td>28 (80)</td>
<td>14 (93)</td>
<td>0.41&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Mood or skin changes</td>
<td>2 (6)</td>
<td>8 (53)</td>
<td>0.0004&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Question 4.</strong> There can be a delay in return to fertility?</td>
<td></td>
<td></td>
<td>0.17&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Yes</td>
<td>14 (40)</td>
<td>2 (13)</td>
<td>0.17&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>No</td>
<td>15 (43)</td>
<td>10 (67)</td>
<td>0.17&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Uncertain</td>
<td>6 (17)</td>
<td>3 (20)</td>
<td>0.17&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

respondents allowed multiple responses to question 3, so total number of responses for question exceed group total

<sup>a</sup>overall p values calculated from 3x3 contingency tables, comparing DVD to control for each question

<sup>b</sup>individual p values calculated from 2x2 contingency tables for each possible response, comparing DVD to control

All participants were asked if they intended to proceed to implant insertion after the abortion procedure, 43 (86%) women stated they did (30 (86%) and 13 (87%) in DVD and control groups respectively). The remainder were uncertain, no woman definitely decided not to have Nexplanon® inserted. DVD participants were asked to respond to a series of statements relating to the DVD itself. 31 (89%) women agreed it was helpful, 33 (94%) agreed it was easy to understand and 24 (69%) felt it an acceptable way to receive information compared to a face-to-face consultation. 34 (97%) women disagreed that the DVD was confusing, only one felt neutral. Asked to rate the usefulness of the information they received via the DVD
on a scale from 0 (least useful) to 10 (most useful), responses ranged from 5 to 10, with a mean of 9 out of 10.

38 (76%) women were successfully contacted and interviewed three months later, 27 (77%) from the DVD group and 11 (73%) from the control group. There were no statistically significant demographic differences, between women interviewed and those not. Of those with no completed follow-up at three months, one no longer lived in the UK, two had an incorrect number documented on their contact sheet, two answered but declined to proceed with interview and seven did not answer after three attempts at contact. The mean time to telephone interview from recruitment was 92 days (SD 3.9) (13 weeks), range 88-104. Of those women completing telephone follow-up, 34 (89%) of them had an implant inserted, 25 (93%) and 9 (82%) in the DVD and control groups respectively. A further two women in the DVD group stated they still intended to get it fitted at a later date, and two in the control group stated they had changed their mind, due to concerns about using a ‘foreign object’ (n=1) or concern about possible bleeding patterns (n=2). Of those women who had an implant fitted (n=34), 9 (26%) remained happy with their implant, 10 (29%) were uncertain about it, 8 (26%) were having some problems and 7 (21%) were unhappy (Table 5).
Table 5 Experience of implant at 3 months follow-up in those who had one fitted

<table>
<thead>
<tr>
<th></th>
<th><strong>DVD Group</strong> (N=25)</th>
<th><strong>Control Group</strong> (N=9)</th>
<th><strong>p value</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy with implant</td>
<td>N (%)</td>
<td>6 (24)</td>
<td>3 (33)</td>
</tr>
<tr>
<td>Uncertain about implant</td>
<td>N (%)</td>
<td>6 (24)</td>
<td>4 (44)</td>
</tr>
<tr>
<td>Having some problems with implant</td>
<td>N (%)</td>
<td>6 (24)</td>
<td>2 (22)</td>
</tr>
<tr>
<td>Not happy at all with implant</td>
<td>N (%)</td>
<td>7 (28)</td>
<td>0</td>
</tr>
<tr>
<td>If side effects experienced, do they meet expectations from information provided?</td>
<td>N= number indicating side effects present (N=0 in respondents happy with implant)</td>
<td>(N=19)</td>
<td>(N=6)</td>
</tr>
<tr>
<td>N (%)</td>
<td>Yes</td>
<td>7 (37)</td>
<td>5 (83)</td>
</tr>
<tr>
<td></td>
<td>Not to the extent I have experienced</td>
<td>9 (47)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>No, not at all</td>
<td>3 (16)</td>
<td>1 (17)</td>
</tr>
</tbody>
</table>

<sup>a</sup>comparison of experience of implant between DVD and control groups
<sup>b</sup>comparison of expectation of side effects between DVD and control groups

All women who stated they were not happy with their implant described side effects experienced. They were asked if the information received had led them to expect these side effects. Over 60% of those experiencing side effects in the DVD group stated they did not expect them to this extent, whilst the majority (83%) in the control group did, although this difference did not reach statistical significance (Table 5). Side effects described included; bleeding problems (15), mood changes (8), concern about amenorrhoea (1), pain/irritation (2) at site of implant, and skin changes (1). By three months follow-up, five (20%) women in the DVD group who had Nexplanon® fitted had already had it removed, whilst all nine women in the control group continued to use Nexplanon®. This difference was not statistically significant (p=0.29). Women in the DVD group were again asked about their experience, 27 (93%) agreed the DVD was informative and that that they would be happy to use a DVD for information provision again. Two (7%) women disagreed with these statements.
**In-depth interviews**

One of the four women in the control group, failed to attend. Therefore three in-depth interviews were conducted in the control group, four in the intervention group. All seven respondents still had Nexplanon® in-situ at time of interview.

The respondents in both groups generally viewed the information provided to them, either by DVD or face-to-face consultation as sufficient. All four respondents who watched the DVD thought it was useful and helpful as a means of information provision (Figure 1).

Figure 1 In-depth interview quotes – positive feedback from DVD group

| “I think it covered everything and it was good because it mentioned loads of other things.” |
| “I was happy with the DVD. I would say it covered everything so I am quite happy with it.” |

However, there also seemed to be a consensus that a DVD could not entirely replace the traditional consultation, as women also valued the opportunity to ask questions from someone face-to-face (Figure 2).

Figure 2 In-depth interview quotes - possible disadvantages to DVD use

| “I thought it was quite good. I have to say I don’t think I was taking it all in. Some information to take away would be ideal; something to think about later if you had questions because the DVD doesn’t give you the opportunity to ask questions there and then.” (DVD group) |
| “You don’t have the option to ask someone face-to-face if you have any questions.” (Control group) |
Some suggestions were made to improve the DVD; including the use of endorsements from women who have already used an implant and the use of graphics to demonstrate insertion and mechanism of action. All respondents felt that having the DVD available to watch on a website would be useful (Figure 3).

**Figure 3 In-depth interview quotes – suggestions for further development**

> “Maybe getting some other peoples comments instead of just showing the demonstration and talking about it. To get some different ages of women and girls commenting on how it’s affected them personally and how it’s benefited them.” (DVD group)

> “I think it would be a great idea. It would make it really accessible and people could go back time and time again if they had something else they wanted to know or if they wanted to double check something.” (DVD group) – regarding use of a DVD on a website

All respondents expressed positive views about participating in clinical research and all would agree to do so again if asked. Respondents appeared to have no concerns with the concept of being randomised and understood the purpose of it.

**Discussion**

This pilot study demonstrates that using a DVD to provide information about the contraceptive implant is both acceptable and informative. The majority of participants who watched it felt the DVD was both helpful and easy to understand, and rated it highly with a mean of nine out of ten points for usefulness. Although recall of information was similar between both DVD and control groups, more women in the control group incorrectly thought side effects of mood/skin changes were common. This highlights the variation in counselling
that can occur in face-to-face consultations. The majority of respondents in the DVD group, when asked at follow-up three months later, stated they would be happy to watch a DVD for information provision again. Participants from both groups who returned for in-depth interview were happy with the quality of information provided to them at their initial consultation, and those who watched the DVD felt it was useful and helpful. Previous research about the use of a DVD to provide information about abortion to women, found similarly, that women rated receiving information via DVD highly. [5] Some sexual health services have adopted the use of DVD’s routinely, and have reported that men find it preferable to attending an outpatient appointment for vasectomy pre-op counselling. [10] Whilst research relating to the use of a DVD in contraceptive counselling is limited, the use of ‘apps’ providing information about contraception, including long acting reversible contraceptives (LARC), that patients can access on a smartphone or tablet computer prior to a consultation, have proved acceptable for providing information, and may increase knowledge and interest in effective forms of contraception. [11,12] Likewise a computer based contraceptive assessment module, with the use of additional specifically tailored health materials, may positively influence contraceptive choices and potentially improve contraceptive continuation and adherence. [13,14]

Our qualitative research revealed some possible suggestions to consider in production of DVDs for patient information. The use of endorsements from women who have previously used the method may help aid decision making. The use of case studies showing other patients’ experiences was well liked by men using a DVD for vasectomy counselling. [10] The use of animated graphics demonstrating mode of action of contraceptive methods, and where relevant, insertion and removal procedures, may also be helpful (but expensive to produce). It was clear that women appreciate having the opportunity to ask questions of health professionals, and to have information provided to them to take away to read, or possibly watch later. It is not our intention that DVDs should replace face-to-face consultations completely, rather they could enhance it. A health provider will always be
required to issue the chosen method of contraception allowing questions to be asked, but after watching a DVD or similar technology the questions should be better informed and more focused. The concept of having DVDs available to watch on a relevant website, either before or after a consultation was welcomed by women in our study.

There are limitations to our pilot study, namely the select population we recruited from and the small number of participants. The results may therefore not be applicable to the general population. We chose to recruit women attending a clinic for abortion, as this is a time when counselling about contraceptive use, and particularly encouraging the use of LARC methods, is vitally important. Although the sample was small, we did achieve a high recruitment rate and our aim in this small pilot study was determine if using a DVD was feasible and acceptable, with a view to considering a larger multicentre study following this. Neither the research team, nor participants, were blinded to the intervention to which they were randomised. Women requiring an interpreter were excluded, eliminating a segment of the population. In any further larger scale studies it would be important to consider producing DVDs in other languages, although this would be expensive.

This pilot study has shown that the use of audio-visual DVDs to provide patient information on the contraceptive implant is acceptable and informative, and can be used to enhance patient consultations rather than replace them altogether. A large scale randomised controlled trial is now needed to determine if provision of quality standardised information via DVD can improve uptake or continuation rates of long acting reversible methods of contraception and save time during consultations, something which we did not evaluate.

References


CHAPTER 4: Contraceptive use among women presenting to pharmacies for emergency contraception: An opportunity for intervention.

Introduction

The majority of women who require to use emergency contraception (EC) do so following unprotected sex or an accident with a condom. [1,2] A smaller proportion of women may have had a mishap with a hormonal method of contraception (e.g. missed pills). [1,2] Increasingly women in Great Britain prefer to attend a pharmacy for EC rather than a sexual and reproductive health service or general practitioner (GP). [3] Levonorgestrel emergency contraception (LNG-EC) has been available free of charge without a prescription from pharmacies since 2008 in Scotland [4], and since 2011 in Wales [5]. In a recent trial comparing two oral emergency contraceptives fewer than 3% of women fell pregnant, and so the vast majority of women remain at risk of pregnancy after they have used EC. [6] A few women get pregnant in the same cycle from sexual intercourse after taking EC. In a meta-analysis which included 11 trials of just under 5000 women who had sexual intercourse after using EC but before return of menses (i.e. in the same cycle), the relative risk of pregnancy was 2.67 (2.11-3.39) when compared with women who did not have sex after using EC. [7] Starting an effective on-going method of contraception after EC use is clearly important if women are to avoid unintended pregnancy. Community pharmacists in the UK and most other industrialised countries are usually unable to provide any on-going contraception except condoms which are available for purchase. Two mystery shopper studies have shown that while pharmacists are good at adhering to protocols for providing EC, only a minority of them give women advice about on-going contraception. [8,9]

Little is known about the views of women who present for EC towards the use of regular effective methods of contraception. In order to determine such views, and estimate the
proportion of women using EC that may wish to start a method of effective contraception, we designed a questionnaire for women to complete when they attended a pharmacy for EC. We also sought to determine the views of both women attending for EC, and clinicians in sexual and reproductive healthcare (SRH), towards the possibility of a pharmacist being able to provide women with a limited supply of progestogen only oral contraceptives at the time of EC, allowing them time to arrange an appointment to obtain a long term method.

**Methods**

Two separate one-page, self-completed questionnaires were designed; (1) a questionnaire offered to women presenting to any of nine community pharmacies with a request for EC in January 2013 (appendix 4), and (2) a questionnaire distributed to delegates (clinicians in SRH) at the Faculty of Sexual and Reproductive Healthcare, UK scientific meeting in May 2011. A short introductory paragraph explained the purpose and anonymous nature of both questionnaires.

Chapter five describes a study designed to determine the feasibility of simple pharmacy based interventions to increase the uptake of effective contraception after EC from the pharmacy. For the purpose of this study and that described in chapter five, pharmacists who had previous experience of undertaking research [10, 11] or dispensed ten or more courses of EC monthly, were invited to participate and attend a meeting with the study team. Nine pharmacists agreed to participate in this questionnaire Pharmacists in Scotland can prescribe and dispense EC to women free of charge under a pre-approved patient group directive (PGD), although they require to complete additional training related to sexual health and contraception to enable them to do so. [12] Women were offered the questionnaire by the pharmacist at the time of EC consultation and once completed placed it in a sealed collection box before leaving the pharmacy. All questionnaires were numbered, to enable us to identify
those that were handed out and not completed or returned, therefore allowing us determine
the response rate. At the scientific meeting, questionnaires were distributed during a plenary
session and collected from delegates at the end of the session. Both questionnaires, which
included limited demographic data, required simple tick box responses, however additional
space was provided for free text comments in response to some questions. Delegates were
asked to indicate how they felt about a limited supply of a progestogen-only oral
contraceptive pill (POP) being offered to women presenting for EC. Responses included;
extremely positive, positive, neutral, negative and extremely negative. Extremely positive
and positive results were combined, and similarly for negative.

Statistics

All data were coded and entered onto two separate databases using Microsoft Excel. Data
analysis was performed using IBM Statistical Package for Social Sciences (SPSS) software
Version 18 (SPSS Inc. Chicago, Il, USA). Demographic data was obtained including means
and standard deviations (SD) where appropriate. To allow statistical comparison between
age groups in the questionnaire conducted in the pharmacy, four age groups were defined;
14-19 years, 20-24 years, 25-34 years and 35 years and over. Comparisons were made using
Chi square test or Fisher’s exact test where appropriate, if counts within the individual cells
of the contingency table fell below 5. Statistical significance was deemed to be p<0.05.

Ethical Approval

The questionnaire for women attending for EC in the pharmacy was reviewed by the
scientific officer of the local research ethics committee, who confirmed that ethical approval
was not required as the questionnaire was an opinion survey seeking views of patients on a
healthcare issue. Ethical approval was not required for the questionnaire distributed at the scientific meeting.

Results

Pharmacy questionnaire

A total of 211 completed questionnaires were obtained from 232 distributed to women attending pharmacies for EC (91% response rate). The mean age of respondents was 23 years (range 14-48yrs, SD 5.6). For 59 women (28%) this was the first time they had taken EC; 151 (72%) had used it before and one person (0.5%) did not answer the question. Significantly more women aged 14-19 years were using EC for the first time compared to women aged 35 years and over (Table 6). The mean number of episodes of ever-use of EC was 2 (range 1-7) and for use in the past 12 months was 1 (range 1-4).
The majority (n=140; 66%) of women were using condoms as their contraceptive method at time of requesting EC, whilst 45 (21%) were using a hormonal method and 26 (12%) were using no contraception. (Figure 4)
The majority of women (n=163; 77%) stated they were currently in a sexual relationship at the time of using EC. Almost a third of women (n=66; 31%) required to use EC on this occasion.
occasion because they had had unprotected sex, whilst almost half (n=99; 47%) of them reported a condom failure (Table 7).

Table 7 Relationship status and reason for EC use

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>N (%)</th>
<th>In a sexual relationship*</th>
<th>Reason for EC use</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Unsure</td>
</tr>
<tr>
<td>14-19</td>
<td>59 (28)</td>
<td>43 (73)</td>
<td>11 (19)</td>
<td>5 (8)</td>
</tr>
<tr>
<td>20-24</td>
<td>83 (39)</td>
<td>64 (77)</td>
<td>17 (20)</td>
<td>2 (2)</td>
</tr>
<tr>
<td>25-34</td>
<td>58 (27)</td>
<td>48 (83)</td>
<td>7 (12)</td>
<td>3 (5)</td>
</tr>
<tr>
<td>≥35</td>
<td>11 (5)</td>
<td>8 (73)</td>
<td>2 (18)</td>
<td>1 (9)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>211 (99)</td>
<td>163 (77)</td>
<td>37 (18)</td>
<td>11 (5)</td>
</tr>
</tbody>
</table>

*Women responded to question ‘Are you in an ongoing sexual relationship?’

There were no significant associations between women’s’ age and method of contraception used, reason for use of EC or relationship status.

All women were asked if they would like to start using a regular method of contraception other than condoms, and if so from where they would choose to obtain it. Of the 166 women who were not already using a hormonal method of contraception at time of EC, 73 (44%) women would like to do so. (Figure 7) Most commonly women would choose to obtain contraception from their general practitioner (GP, family doctor) (n=80; 48%), while 12 (7%) would attend a family planning clinic (FPC); 4 (2%) did not state a preference; 7 (4%) would attend a sexual health service for young people and 7 (4%) were unsure where they would go. A third of women (n=52; 31%) chose not to answer this question. Three women stated they would choose to obtain contraception from a pharmacy, whilst one woman stated she wished to go ‘somewhere no one knows her’ to obtain contraception.
Women were asked if it would have been helpful for the pharmacist to provide a one month supply of the progestogen-only contraceptive pill (POP), to allow them time to attend elsewhere for on-going contraception. The majority (n=135; 64%) agreed this would have been helpful, 25 (12%) women felt it would not be, 38 (18%) were unsure and 13 (6%) did not respond. Significantly more young women (age 14-19 years) felt a supply of POP would have been helpful, compared to women aged 35 years and over (80% vs. 18%, p=0.002).

There were 15 women who added free text comments to their response to this question. Five women made positive comments stating that this was a good idea and three women commented that it would be helpful as it was difficult to obtain an appointment with their GP to discuss contraception. The reasons given by the seven women who stated that it may not be helpful included: problems using the POP in the past (n=2); a wish to avoid hormones (n=1), concern about possible side effects (n=2), a preference to discuss contraceptive methods with a doctor (n=1) and concern that a medical condition they had may contraindicate the use of the POP (n=1).

**Scientific meeting questionnaire**

A total of 110 questionnaires were completed from 150 distributed at the scientific meeting (73% response rate). The majority of respondents were female (88%) and 90% were doctors (Table 8).
When asked how they felt about the concept of a pharmacist being able to provide a 28 day supply of a POP at the time of EC the majority (n=101; 92%) felt positively about this, whilst 6 (5%) were neutral and 3 (3%) were negative. There were no statistically significant differences in views towards this concept between gender, age group and work roles. Respondents were invited to provide additional free comments about this concept. Six made comments re-affirming their view that this is a good idea with benefits to women. Concerns expressed included that this may lead to a decrease in the use of long acting reversible methods of contraception (LARC) (n=2) or an increase in the use of EC (n=2), and two delegates stated that they would still prefer women to be reviewed by a medical professional to discuss all methods of contraception and have testing for sexually transmitted infections.
where appropriate. Concern was also expressed that pharmacists would require adequate training to enable them to dispense POP and advise women correctly (n=4).

**Discussion**

Our study confirmed previous findings that the majority of women presenting for EC do so either following unprotected sexual intercourse or as a result of a condom failure. [1,2] Given the small number of women using effective contraception at time of EC and the fact that over three quarters of respondents to our survey determined themselves to be in an ongoing sexual relationship, we can assume that the majority of them remained at risk of unintended pregnancy. Reassuringly however, our study did identify that almost half of women not already doing so, would wish to use an ongoing method of contraception, suggesting that there is potential to target this large group of women to increase contraceptive use after EC. Our results suggest that significantly more young women (<20 years of age) were using EC for the first time compared to older women (>35 years of age), and that significantly more welcomed the option of a supply of POP at the time of EC. Although the number aged 35 years or over was small and there is the possibility this may have resulted by chance, it suggests these that younger and potentially more vulnerable women may be receptive to simple interventions to increase contraceptive uptake.

Research has shown that pharmacists are good at supplying EC, and that women rate community pharmacy EC services highly. [9,13] However, it has also identified that pharmacists are not particularly good at providing advice about on-going contraception, and some women have expressed concerns about receiving advice in the pharmacy about future contraception. [9,13,14] A recent study in London, UK, concluded that when pharmacists were trained to provide oral contraception by an approved PGD, they were competent in doing so and women were satisfied with this additional service. [15] Simple interventions
within the pharmacy that may encourage and help women to start effective contraception after EC and have also been the subject of recent research. [16] We considered the possibility of a pharmacist providing a limited supply of a POP, allowing women time to arrange an appointment with a healthcare professional to discuss contraception further. We suggested offering a POP rather than a supply of the combined oral contraceptive pill (COC), since the list of contraindications to the POP is very small, making it more suitable for pharmacy provision. [17] The concept was welcomed by both the majority of women presenting for EC and healthcare professionals working within the field of sexual health. Women commented on the difficulty in obtaining an appointment with their GP, and this could act as interim measure in such situations.

Obviously, not all women who use EC wish to start a regular method of contraception. A proportion of women will inevitably make an informed choice to use condoms or no contraception, and interventions like this are unlikely to impact on this group of women. [1,16,18] As with other studies, some women had concerns about obtaining a limited supply of the pill from the pharmacist. [13] However, providing reassurance to women may allay some of these. Women can be reassured of the very small daily dose of progestogen in a POP compared to the dose in EC, and its safety compared with the COC. A small number of health professionals expressed concern that such interventions may decrease the use of the most effective LARC methods and preferred that women attended a clinic to discuss such methods. However, we know that a large number of women now seek EC from community pharmacies [3] and that they rate such services highly. [13] Moreover even when women attend specialist services for EC almost three quarters of them leave without effective contraception let alone a long acting method. [1] Therefore, we require to establish ways in which we can help women access on-going contraception after obtaining EC from a pharmacy.
There are limitations to our study. There is lack of demographic data available from both of our study populations. Short anonymous questionnaires were used in order to encourage a high response rate and we chose to limit the amount of demographic data sought. However, the survey was conducted in several large pharmacies across a large city, with a response rate close to 100%, so we would hope our study population is close to being representative of most women presenting for EC in Scotland. Additionally, there is the possibility of bias resulting from the method of distribution of both questionnaires. As the pharmacists distributing the questionnaires had participated in research before, or had shown an interest in doing so, the response rate in this group may be artificially higher. The delegates responding to the questionnaire distributed at the conference may not be typical of all clinicians working in this field. The vast majority were doctors, with only a minority of nurses. Furthermore, it is likely those that did respond would be more likely to do so in a positive manner.

Encouragingly, many women presenting for EC would wish to use effective on-going contraception if they do not already do so, and would welcome a simple intervention in the pharmacy to help them do so. Clinicians in SRH, who are experts in contraception, are also positive about such an intervention. By facilitating women to obtain on-going methods of effective contraception at time of using EC, we may succeed in preventing more unintended pregnancies for more women.

References


CHAPTER 5: Pharmacy based interventions for initiating effective contraception following the use of emergency contraception: a pilot study.

Introduction
Since hormonal emergency contraception (EC) became available without prescription from UK pharmacies, increasingly women prefer to attend a pharmacy for EC rather than a doctor. [1] From late 2008, levonorgestrel-EC (LNG-EC) became available from pharmacies throughout Scotland free of charge. [2] Fewer than 5% of women get pregnant after EC so the vast majority remain at risk [3] In a meta-analysis of 11 trials among almost 5000 women having sexual intercourse after using EC but in the same cycle, the relative risk of pregnancy was approaching three times that of women who abstained from sex. [4] UK guidelines recommend that women using EC should be provided with an effective contraceptive to start either with the onset of their next period, or immediately if they will not abstain from sex. [5] This may be an interim ‘bridging’ method that women can use until they can initiate their chosen contraceptive. [5] In an audit of almost 500 women attending a specialist family planning clinic (FPC) for EC in 2007/08, only 24% were provided with effective contraception (excluding condoms) to start immediately. [6] This figure may be even lower when EC is obtained from non-specialist services. Community pharmacists in the UK (as elsewhere in the industrialised world) are unable to provide any on-going contraception (except condoms, which can be purchased). Two mystery shopper studies show that while UK pharmacists provide EC appropriately, only a minority give women advice about on-going contraception which mostly comprises advising them to consult a doctor. [7,8] So while in the UK EC is much easier to obtain, and by making it free of charge in pharmacies use has almost certainly increased, [8] we have created a situation where EC is provided almost solely from settings where other more effective methods of contraception cannot be immediately provided. We need urgently to explore ways to ensure that women attending
pharmacies for EC have easy and rapid access to an on-going contraceptive method which they start as soon as possible.

Within the Edinburgh region community pharmacists dispense an average of 1300 courses of EC every month. We wished to test two interventions designed to increase the uptake of effective on-going contraception (all methods other than barrier methods) after use of EC obtained from a pharmacy. As a pilot study, the primary outcome was to determine the feasibility of a larger study, investigating whether either intervention resulted in an increased proportion of women self-reporting use of effective on-going contraception at 6-8 weeks after EC use, compared to standard care.

**Materials and Methods**

**Pharmacist and subject recruitment**

Pharmacists who had previous experience of undertaking research [9, 10] or dispensed ten or more courses of EC monthly, were invited to participate and attend a meeting with the study team. Eleven pharmacists from 11 different pharmacies, agreed to participate (appendix 5). A small incentive (£10 per subject recruited) was offered. Four pharmacies were randomised to the POP intervention arm of the study, four to the rapid access arm and three to standard care.

At the start of the study, a pharmacist randomised to the POP arm of the study was relocated out of Edinburgh, so this pharmacy was removed from the study and the remaining three pharmacies in the POP arm were each allocated a greater recruitment target. Four months into the study, a participating pharmacist in the standard care arm, retired so the pharmacy was replaced by another pharmacy. All participating pharmacists underwent pre-study training with two members of the research team. This consisted of a detailed explanation of the study and their allocated study arm, inclusion and exclusion criteria, the requirements to complete study paperwork (including demographic information from participants) and consent forms.
Between 23rd April 2012 and 21st December 2012, the 11 study pharmacies were asked to invite all women aged 16 years and over, presenting for EC, who had been using either no contraception or a barrier method, to participate. Further eligibility criteria included; woman eligible for EC according to the PGD criteria with no medical contraindications, resident in the United Kingdom and not requiring language interpreting services. Contraindications which prevent a pharmacist from dispensing LNG-EC via a PGD include; unexplained vaginal bleeding, pregnancy, severe hepatic dysfunction, severe malabsorption syndrome, previous unprotected sexual intercourse in the same menstrual cycle or unprotected sex over 72 hours earlier. Although women were excluded if they were already using a hormonal method of contraception, it became apparent later that a small number of such women were recruited and they were subsequently excluded from statistical analysis of the primary outcome.

After EC was dispensed by the pharmacist a short verbal description of the study and a written patient information leaflet were provided to eligible women, and written consent was obtained by the pharmacist. Demographic data including date of birth, postcode area of residence, and contact details (mobile/landline telephone numbers and email addresses) were also recorded. Pharmacists were asked to record to number of women declining to participate and the number of eligible women not invited to participate (e.g. when the pharmacy was particularly busy, or when the pharmacist consulting was unfamiliar with the study i.e. locum / relief staff).

**Randomisation**

A cluster randomised design was chosen since it was deemed impractical to randomise individual women in pharmacies. Each pharmacy (cluster) agreeing to participate was randomised to provide one of the interventions or standard care. Restricted randomisation was used to ensure balance between study arms with respect to EC dispensing figures and
the deprivation category [11] that is based on deprivation category scores derived from postcode area in which the pharmacy is situated.

**Interventions**

*Intervention 1:*

A packet of 35 progestogen-only pills (POP - 35 mcg levonorgestrel; Norgeston®, Bayer UK) was provided by the pharmacist (using a locally approved Patient Group Directive (PGD)) at no cost to women as a bridging method of contraception, giving them one month to attend their usual healthcare provider for on-going contraception. A PGD allows pharmacists to dispense certain approved medications without a prescription. Out with this study, pharmacists in Scotland are not currently able to dispense the POP without a prescription. Pharmacists were not specifically trained to provide information regarding where to attend for further ongoing contraception, although could provide their usual verbal / written information similar to those pharmacists in standard care groups. The very few absolute contraindications to the POP [12] make it easier to argue the case for pharmacy provision compared with the combined oral contraceptive pill. Pharmacists were trained in POP counselling and provision before the study started and given nationally available written information leaflets about the POP to issue with the supply of pills. Women were advised to start the POP immediately or within 24 hours of EC use and to abstain from sexual intercourse or use condoms for 48 hours, before relying upon the POP for contraceptive protection.

*Intervention 2:*

Participants in the ‘rapid access’ arm, were instructed by the pharmacist to take their empty packet of EC to the local specialist FPC (a single large clinic in Edinburgh city centre) to discuss contraception, as soon as possible. Women attending the FPC were seen on the day that they presented as a drop-in client, without requiring a booked appointment, and were offered all methods of contraception, including long acting reversible methods of
contraception (LARC) to start immediately. This differed from standard practice, as women not participating in the study who present as a drop-in for ongoing regular contraception may be asked to return on another day, if the clinic is already at capacity. The EC boxes were clearly labelled, alerting FPC staff to study participants. The boxes were returned to the study coordinator. Pharmacists provided written information about the location and opening hours of the FPC.

*Standard care*

Pharmacists dispensed EC in the usual manner, which included the option to provide their usual verbal and/or written information (if available) regarding the importance of establishing an effective on-going method of contraception. All pharmacies within the region have leaflets detailing the location and services available at local FPCs, should they wish to use them.

Participants were advised that they would be contacted 6-8 weeks later to complete a short telephone interview. At interview completion a £10 voucher to redeem in the pharmacy was mailed to participants.

*Telephone follow-up to determine use of contraception after EC*

Two members of the research team conducted all follow-up, which consisted of a short telephone interview lasting approximately 5 minutes at 6-8 weeks after attendance for EC when women who had received a packet of POP should have finished it. In an attempt to maximise follow-up rates at least three attempts at contact were made to both landline and mobile telephone numbers, at varying times of the day. Furthermore, if no telephone contact was possible, for those participants who had provided an e-mail address, an e-mail was sent to them to ensure the telephone contact number documented was correct, and to identify if there was a more suitable time to call the participant. Women were asked what method of contraception they were currently using, about their experience of obtaining EC from the
pharmacy and of the care that they received. All women were asked if they felt that a small supply of POP had been, or would in theory have been, ‘helpful’.

**Statistical Analysis**

No published data were available on which to base a sample size. There are no data on how many women who use EC then visit their GP or FPC for on-going contraception. Less than 50% of pharmacists providing EC around Edinburgh [8] give advice about contraception after EC use. We assumed that the proportion of women starting on-going contraception following EC from a pharmacy would be far less than that in the specialist FPC clinic (24%). [6] For this pilot study we aimed to recruit 180 women (60 to each arm of the study) from 10-12 pharmacies, as we considered this to be a reasonable number of women to recruit within our eight month timescale, whilst still providing an adequate number for follow-up. Based on previous research in sexual health, amongst reproductive age women, [10] we estimated that 50% of women attending for EC would agree to participate and we anticipated loss to follow-up of at most 50%. From these assumptions we calculated that pharmacists would need to see 360 women for EC, in order to recruit 180 and collect follow-up data on at least 90 women.

All data, including demographic data recorded at recruitment and at telephone follow-up, were coded and entered onto a Microsoft excel database and checked. Analysis was performed using IBM Statistical Package for Social Sciences (SPSS) software Version 18 (SPSS Inc. Chicago, Il, USA). Descriptive statistics were obtained including means and standard deviations (SD). To take account of the cluster randomisation, it was necessary to carry out an analysis at cluster rather than individual subject level, and the proportions in each cluster using effective contraception were compared between groups by two-sample t-tests, [13] weighted by the different number of patients in each cluster. This approach was preferred to random-effects modelling, including variation at both individual and cluster level, because of the small number of clusters, since it explicitly recognises this through the
degrees of freedom rather than requiring a normal approximation to generate P-values. Confidence limits for relative probabilities were derived from t-tests based on the logarithms of the effective proportions. Statistical significance was deemed to be $p<0.05$.

**Ethical Approval**

The South East Scotland Research Ethics Committee 03 (11/ss/0045) approved the study in September 2011.

**Results**

During the eight month recruitment period, a total of 168 subjects were recruited, with a mean age of 23 years (SD 5.2), to the POP ($n=56$), rapid access ($n=58$) and standard care ($n=54$) groups respectively. The commonest reason for requesting EC was a condom accident ($n=62$ (61%)). Of those recruited, 132 (78%) were subsequently contactable by telephone 6-8 weeks later. Of those contacted, 102 women (61% of all subjects recruited) completed the telephone interview; the remaining 30 women withdrew consent to continue in the study. (Figure 5)
Figure 5 CONSORT (modified) flow diagram showing recruitment and follow-up of participants.

Assessed for eligibility*
No data available from pharmacy of those women attending for EC that were not recruited to study.

Excluded*
No data available from pharmacy of those not eligible to participate

Randomized (n=168)

Enrolment

Progestogen only pill
Allocated to intervention (n=56)

Rapid access to FPC
Allocated to intervention (n=58)

Standard care
Allocated to intervention (n=54)

Allocation

Allocated to intervention

Telephone f/up (n=39)
Lost to f/up (n=17)
Reasons;
Declined Interview (n=9)
No answer to phone call (n=5)
No/incorrect phone number (n=3)

Did not use intervention (n=4)
Discontinued intervention (stopped (n=9))

Telephone f/up (n=28)
Lost to f/up (n=30)
Reasons;
Declined Interview (n=11)
No answer to phone call (n=5)
No/incorrect phone number (n=11)
No consent form (n=2)
Not in country (n=1)

Did not use intervention (n=19)

Follow-up (f/up)

Analysed (n=39)
Excluded from analysis; (n=0)

Analysed (n=25)
Excluded from analysis; Using same contraception at follow-up as at time of recruitment (n=3)

Analysed (n=31)
Excluded from analysis; Using same contraception at follow-up as at time of recruitment (n=4)

* Pharmacists were unable to record this data
The demographics of those women completing telephone follow-up in each of the three study arms are shown in table 9.

Table 9 Demographics of women completing telephone interview

<table>
<thead>
<tr>
<th></th>
<th>POP N=39</th>
<th>Rapid access N=28</th>
<th>Standard care N=35</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (yrs.) mean (SD)</strong></td>
<td>22 (5.2)</td>
<td>25 (5.6)</td>
<td>23 (4.5)</td>
</tr>
<tr>
<td><strong>Range</strong></td>
<td>16-44</td>
<td>18-40</td>
<td>18-36</td>
</tr>
<tr>
<td><strong>Depcat</strong></td>
<td>1-2 (Affluent) N(%)</td>
<td>33 (90%)</td>
<td>9 (32%)</td>
</tr>
<tr>
<td></td>
<td>3-5 (Moderate) N(%)</td>
<td>4 (10%)</td>
<td>18 (64%)</td>
</tr>
<tr>
<td></td>
<td>6-7 (Deprived) N(%)</td>
<td>0</td>
<td>1 (4%)</td>
</tr>
<tr>
<td><strong>Previous birth</strong></td>
<td>2 (5%)</td>
<td>1 (4%)</td>
<td>1 (3%)</td>
</tr>
<tr>
<td><strong>Previous abortion</strong></td>
<td>4 (10%)</td>
<td>3 (11%)</td>
<td>3 (9%)</td>
</tr>
<tr>
<td><strong>Contraception at time of EC</strong></td>
<td>none N(%)</td>
<td>13 (33%)</td>
<td>8 (28%)</td>
</tr>
<tr>
<td></td>
<td>condoms N(%)</td>
<td>26 (67%)</td>
<td>17 (61%)</td>
</tr>
<tr>
<td></td>
<td>other (e.g. cocp) N(%)</td>
<td>3 (11%)</td>
<td>3 (11%)</td>
</tr>
</tbody>
</table>

*DepCat Score is a marker of deprivation in Scotland based upon postcode area of residence scoring from 1 least deprived, to 7 most deprived. [11]

For subjects who were not contactable, only data on age was available, and there was no significant difference in age between women contacted and those not contacted (mean age of 23 yrs. (SD 5.2), and 22 yrs. (SD 4.9) respectively).

In the POP arm, 35/39 (90%) women reported using the pills provided. Two women chose not to use the pills as they were ‘not currently sexually active’, one woman stated ‘she did not get round to using it’ and one was concerned about side effects. Most women, 26/35 (74%), who took the pill reported completing the packet; five used between seven and 14 pills; three delayed starting and had not finished the packet at the time of interview; the information was not documented for one woman. Three of the five women who stopped taking the pills did so because of side effects and two stated they had difficulty remembering
to take it. Asked if they felt that the option of a one month supply of POP being available from the pharmacy following EC was helpful; 33 (84%) agreed that it was, three (8%) felt it was not and three (8%) were unsure.

In the rapid access arm, 9/28 (32%) women attended the FPC, three on the day they obtained EC and six, two days to one month later. Attendance at the FPC after EC use was confirmed by collection of the marked EC boxes. The commonest reason given for not attending for rapid access contraception was ‘pressure of time’ (n=10 (53%)). Additional reasons included ‘prefer to see GP’ (n=1), ‘still considering contraceptive options’ (n=1), ‘FPC too far away’ (n=1), ‘forgot’ (n=1), ‘not sexually active’ (n=2) and two women stated that ‘the option was not clearly explained to them’. A one month supply of POP being available from the pharmacy following EC would have been helpful to 15 women (54%) however 10 (36%) felt it would not help and three women (10%) were unsure.

Women in the standard care arm were asked if they had received information from the pharmacists about the range of methods of contraception available, or where they could obtain contraception. Eight (23%) women stated they received no information about methods available and six (17%) had not received any information about where they could get contraception. A one month supply of POP from the pharmacy following EC would have been helpful to 16 women (46%) but 13 (37%) felt it would not have helped and six (17%) women were unsure.

**Effective method of contraception use at 6-8 weeks post EC**

Seven women were excluded from further analysis as they were using hormonal contraception at the time of presenting for EC and continued to use it at follow-up, (three in the rapid access and four in the standard care arms of the study). Only 16% of women receiving standard care reported using an effective method of contraception 6-8 weeks after EC. When compared to standard care, the relative probability of a woman using an effective method of contraception vs. barrier method / no method, after use of EC was 3.13 (95% C.I.
1.90-5.13) in the POP group and 2.57 (95% C.I. 1.55-4.27) in the rapid access group. Compared to standard care, the use of a LARC 6-8 weeks after EC was significantly greater in the rapid access group (20% vs. 0% p=0.004). (Table 10)

Table 10 Method of contraception used at 6-8 weeks post EC

<table>
<thead>
<tr>
<th>Study Arm</th>
<th>POP (N=39)</th>
<th>Rapid access (N=25)</th>
<th>Standard care (N=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effective Contraception</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All effective methods N (%)</td>
<td>22(56%)\textsuperscript{1}</td>
<td>13(52%)\textsuperscript{2}</td>
<td>5(16%)</td>
</tr>
<tr>
<td>LARC methods N (%)</td>
<td>3(8%)\textsuperscript{3}</td>
<td>5(20%)\textsuperscript{4}</td>
<td>0</td>
</tr>
<tr>
<td><strong>No / barrier method N(%)</strong></td>
<td>17(44%)</td>
<td>12(48%)</td>
<td>26(84%)</td>
</tr>
</tbody>
</table>

**Effective** =all contraceptive methods aside barrier or natural methods  
**LARC**=long acting reversible method of contraception (Intrauterine method, contraceptive implant, contraceptive injection)

**Statistical comparisons of interventions to standard care:**
All effective methods - \textsuperscript{1}POP p=<0.001, \textsuperscript{2}Rapid access p=0.006  
LARC methods - \textsuperscript{3}POP p=0.07, \textsuperscript{4}Rapid access p=0.004

**Discussion**

This pilot study demonstrates that a simple intervention may increase the uptake of effective contraception after the use of EC obtained from pharmacies. The relative probability of using an effective method of contraception 6-8 weeks after using EC was three times (among women in the POP group) and more than twice (among women in the rapid access group) that among women in the standard care group. This was a pilot study and loss to follow-up (including lack of willingness to be interviewed after successful contact) was relatively high.
However, even if we assume that all the women who did not complete telephone follow-up in each arm of the study, were not using an effective method of contraception, there would still be a significant increase in the use of an effective method in the intervention (POP group 39% vs. 9% (p=0.005); rapid access groups 22% vs. 9% (p=0.043)).

Both interventions are simple and cheap to provide, although any rapid access arrangement would need to be agreed with local services. While this may be more difficult in places without large specialist FPC services it should not be impossible for GPs to agree that women who have used EC should be seen urgently. There is only one other study of a pharmacy based intervention after EC that we know of. [14] In this Jamaican study women were offered a voucher for a discount on the cost of oral contraceptive pills. This study did not increase the uptake of effective contraception after EC, and at follow-up six months later, most women continued to use condoms or no method.

For the endpoint of this feasibility study we chose contraceptive use after EC at a time when women receiving the POP should have finished the packet. Increasing the uptake of effective contraception after EC is not a surrogate for reducing unintended pregnancies or abortions and discontinuation rates of oral contraceptives are high. [15] Moreover both oral and injectable contraceptives have proven no better than condoms in preventing repeat abortion. [16,17] However, the rapid access intervention also resulted in a statistically significant increase in the uptake of LARC which has been shown to decrease both repeat abortion and teenage pregnancy. [18] Not all women attending for EC will want to start effective contraception. In an anonymous questionnaire of women attending for EC conducted in the same pharmacies in Edinburgh, 53% wished to continue using condoms. [19]

There are inevitably limitations to our study. Contraceptive use 6-8 weeks after EC was self-reported. It is unlikely that inaccurate reporting alone could account for the significant differences in use of effective contraception between both intervention groups and standard care. We also lack robust data on those women who were not recruited to the study and cannot rule out selective recruitment. Pharmacists said they either did not have time to
document these demographics during busy working periods, or they simply forgot. This illustrates the difficulties encountered when conducting clinical research in pharmacy settings. [20] Finally, as described in methods, we were unable to undertake power calculations to determine an accurate sample size and we fell short recruiting the intended target sample size during the eight month recruitment period. Furthermore, completed telephone follow-up occurred in only 61% of subjects and we were therefore unable to determine contraceptive use in the remaining 40%. Prior to conducting a larger scale study, further qualitative research with both pharmacists and EC users may help determine what incentives they feel might enhance both recruitment and study continuation and follow-up. These results should also be able to guide power calculations to determine sample sizes for any such larger studies.

This pilot study has shown that whilst conducting research within a pharmacy setting poses certain challenges, it is feasible. Despite the small number of participants, the results suggest that the use of simple pharmacy based interventions may increase the uptake of effective contraception after EC. More robust evidence from a larger study is required to demonstrate that the interventions really do increase use of effective contraception and that this leads to reductions in unintended pregnancies. Frequently interventions which look promising at a pilot stage are shown to be ineffective when scaled-up in a larger study or rolled out to routine care. [21, 22]

References


CHAPTER 6: Provision of contraception after emergency contraception from the pharmacy: evaluating the acceptability of pharmacy for providing sexual and reproductive health services.

Introduction

Community pharmacies in the UK are well placed to provide sexual health services, with many already providing emergency contraception (EC). Women rate these services highly, perceived benefits including anonymity and ease of access. [1,2] Although a small number of pharmacies currently provide enhanced sexual health services, such as provision of oral contraception, there is scope for more to do so and for even greater development. [3,4] Research exploring pharmacy based provision of such services is important to determine whether it really is advantageous for patients. An evaluation of community pharmacy provision of oral contraception demonstrated that pharmacists were competent to provide the service and clients were satisfied with it. [5] Several studies have sought the views of pharmacists regarding the provision of chlamydia screening in the pharmacy. While pharmacists are willing to provide screening there are difficulties, such as pharmacists feeling uneasy about offering screening to all women in all circumstances and tending to select groups for screening, such as those presenting for EC, or those under 16 years of age. [6-8] 

As sexual health services develop within the pharmacy setting, there are increased opportunities to undertake sexual health research within the setting. Studies regarding the views of community pharmacists towards participation in research are limited. One study of the views of UK pharmacists in a pharmacy research network suggested the majority were ‘interested in research’, [9] and in a questionnaire survey, two thirds of Australian pharmacists responding stated they were interested in participating in research to some extent. [10] Whilst sexual health research, including a pilot of expedited partner therapy for
chlamydia, has previously been conducted effectively from the pharmacy setting. Research undertaken in this setting is not without challenges. Some of the challenges documented by previous sexual health researchers in the pharmacy included; difficulty in calculating a response rate as no record of those declining participation in the study was kept; slow recruitment; and problems ensuring patient confidentiality. [12]

UK guidelines recommend that women using EC should be provided with an effective contraceptive to start either with the onset of their next period, or immediately if they will not abstain from sex. [13] In a meta-analysis of 11 trials among almost 5000 women having sexual intercourse after using EC but in the same cycle, the relative risk of pregnancy was more than two times that of women who abstained from sex. [14] We conducted a pilot study of pharmacy based interventions for initiating effective contraception after EC, in community pharmacies in Edinburgh, UK in 2012. [15] Pharmacies were cluster randomized to provide either standard care or one of two interventions: (a) one packet of progestogen-only pills (POPs), giving women 1 month to arrange ongoing contraception; (b) invitation to present the empty EC packet to a family planning clinic (FPC) for contraceptive advice (rapid access (RA). Pharmacists who had previous experience of undertaking research [11,16] or who dispensed at least ten courses of EC monthly, were invited to participate. Eleven pharmacists from eleven different pharmacies agreed to take part. Four pharmacies were randomised to the POP intervention arm of the study, four to the rapid access arm and three to standard care. All participating pharmacists underwent pre-study training with two members of the research team.

Between 23rd April 2012 and 21st December 2012, the 11 study pharmacies were asked to invite all women aged 16 years and over, presenting for EC, who had been using either no contraception or a barrier method, to participate. After EC was dispensed by the pharmacist a short verbal description of the study and a written patient information leaflet were provided to eligible women, and written consent obtained by the pharmacist. Demographic data and contact details (mobile/landline telephone numbers and email addresses) were recorded. [15]
Pharmacists were asked to note the number of women declining to participate and the number of eligible women who were not invited to participate (e.g. when the pharmacy was particularly busy). Women were contacted 6-8 weeks later for a telephone interview, during which they were asked what method of contraception they were using, and about their experience of obtaining EC from the pharmacy. The aim of the study was to determine the feasibility of a larger study to ascertain if pharmacy based interventions can increase the uptake of effective contraception after EC.[15] Recruitment to and follow-up of participants in that study, and the methodology of this study is described fully in chapter five. In this chapter the views of both the women and the pharmacists regarding the provision of these interventions from the pharmacy setting are described. Using these findings our primary aim was to identify possible barriers and facilitators to providing such interventions from the pharmacy in practice. In addition, during the study we documented any operational problems that arose with research in the pharmacies, to help inform the development of larger scale studies of such interventions from the pharmacy.

**Methods**

**Semi-structured interviews with women**

In the pilot study, women were contacted for a telephone interview at 6-8 weeks post EC, to determine contraceptive use at that time. A purposive sample of 12 women (4 from each study arm), were recruited at time of telephone follow-up to undergo a face to face interview to allow further evaluation of the intervention (or lack of it in standard care arm). The face-to-face interviews were semi-structured and conducted by a qualitative researcher at a time/venue chosen by the women. The interviews were carried out between August and November 2012.

Given that this is a novel intervention, a semi-structured interview using a standardised topic guide was chosen as a flexible research method. This was to facilitate the generation of data that could be easily compared and thematically analysed, whilst also enabling women to
raise issues that are important to them and could inform future development of the research and clinical implementation of interventions. Women were asked to briefly recount their contraceptive history and describe the circumstances leading to the index episode of obtaining EC from the pharmacy. They were also asked to share their experience of obtaining EC from the pharmacist and being invited to participate in the study. Women were asked to reflect on their experience of the intervention (if assigned POP or RA appointments) and also their thoughts about these interventions being offered as routine practice. Finally, women were asked about their motivation to participate in the research and whether providing a financial incentive influenced their decision to participate. Interviews were audio-recorded and transcribed verbatim. Data was organised by cross sectional indexing and thematically analysed and presented.[17]

**Structured interviews with pharmacists**

All study pharmacists agree to participate in a telephone interview before and after the study. These interviews were conducted by telephone and were arranged at a time of day convenient for the pharmacists in order to minimise disruption to working practice. Nine pharmacists were interviewed pre-study and ten post-study (some remained unavailable). None of the pharmacists simply declined to undergo the interview. The structured telephone interviews were conducted by two public health practitioners who had prior experience with this approach and methodology. A standardised topic questionnaire was used to enable comparability of data collected. In the pre-study interviews pharmacists were asked; whether they anticipated any barriers or issues to arise, any specific training required, and their views on the provision of vouchers as incentive for the women. In the post-study interviews they were asked to highlight any problems experienced with the process of the research or the interventions. Data was organised by cross sectional indexing and thematically analysed and presented. [17]
Observations from the research team

Throughout the study, a research log was utilised by the research team to record any operational issues arising as a result of conducting a research study from this setting.

Ethical Approval

Ethical approval was sought and approved for the original pilot study, [15] which included approval to conduct the qualitative interviews reported in this article. The South East Scotland Research Ethics Committee 03 (11/ss/0045) approved the pilot study in September 2011.

Results

Semi-structured interviews with respondents

49 women were asked to participate in a further interview and 26 agreed (53%). Once the desired sample of 12 women had successfully attended for interview, no further women were asked to participate, hence only 49 women asked. 12 women were interviewed; all chose to be interviewed at the city centre SRH service, rather than their home or another venue.

The interviews each lasted about one hour and covered all the questions prepared in the topic guide. The demographics of women interviewed (n=12), compared to those of all women who were successfully contacted for telephone interview (n=102) in the pilot study, are shown in table 11.
The three key themes that were discussed during the interview include accessing effective contraception, provision of POP or Rapid Access (RA) appointments, and recruitment at the pharmacy and participation in the study.

Accessing effective contraception

Women’s description of their experience highlighted challenges they faced in accessing effective contraception which had led to their need for EC. Most women were using condoms as their regular contraceptive method with EC used as a ‘back up’ when they felt they had put themselves at risk of pregnancy. All of the women interviewed indicated that they did not view EC as a routine method of contraception and all expressed the wish to be using effective, ongoing contraception.

Difficulties getting an appointment to discuss contraception with their General Practitioner (GP) or at family planning services were noted by women. The limited availability of appointments after work coupled with having to be ‘organised and plan ahead’ weeks in advance had been suggested as reasons for putting off accessing more contraception. A
A couple of respondents said they felt contraception would not be a priority for the GP service, hence their reluctance to raise it with their GP.

“I am very busy and work irregular hours which makes it very difficult for me to get appointments with my current GP. I don’t want to trouble my GP for minor health concerns so I prefer to self-medicate or go to the pharmacy across from where I live where they operate a drop-in system to suits me better.” (standard care group)

**Provision of POP or Rapid Access (RA) appointments**

All women interviewed welcomed both interventions noting that it would be good to have different options available to support women in accessing effective contraception.

**Provision of a month supply of POP**

The women had mixed views on being offered the POP when presenting for EC at the pharmacy. Discussions centred around two themes: the amount of POP provided and the setting of the provision (at the pharmacy, when presenting for EC). While some women said that a month supply was enough for a woman to make a follow up appointment to access further supply or to discuss other methods, several women felt that one month supply could be a ‘waste of time’ or put women off using hormonal methods altogether.

“I think it will be useful for other women… but for myself and other women, it will take a while for the pill to settle, so a month supply may not be worth it as it may not be able to give a good indication of the side effects on the body. This might put some women off thinking it is not working for them.” (standard care group)

Some women felt that being offered the POP at the pharmacy was a good alternative to accessing it only at the GPs or the FPCs.

“It is quite good to do this because some people can be quite hesitant going on it and asking about it from their GP. So if they are offered, they can try it. It is
easier to ask GP for more rather than to start on it. A month supply should be enough to make an appointment with their GP.” (POP group)

However, others had reservations about starting a woman on a new hormonal method at the time of presenting for EC. A few women questioned whether it was the role of the pharmacist to undertake contraception consultations. One woman who attended her GP to discuss contraception said that her GP was shocked that she was offered the POP.

“I think for women like me who have never tried hormones before, it is not a good idea. I want to speak to someone about different options and the health implications of hormones before I take them. My GP was surprised when I mentioned that I was given the pills at the pharmacy, it was not a good method for me.” (POP group)

All four women from the POP arm of the study recalled being provided with information by the pharmacist and given the opportunity to ask questions about the POP. However three women said they felt they went away having questions about POP which they did not feel able to ask at the time.

Provision of a Rapid Access (RA) appointment
All women welcomed the idea of a woman presenting for EC to be provided with a RA appointment, as it enabled quicker access to consultations and potentially more specialist support that can help match women to suitable and effective methods of contraception.

“Getting the emergency contraception can kick start your brain to think about wanting to get on the pill or something… having an appointment to see someone quickly to discuss more will be really helpful.” (standard care group)

Moreover, a few respondents suggested that an appointment several days after presenting at the pharmacy for EC could give a woman time to reflect on her experience and seek appropriate clinical as well as emotional support during follow up.
“For women getting the morning after pill, it can be quite a stressful time for them. With the appointment, they can speak to someone about what happened especially if it had been a bad situation. The appointment will give them a little bit longer to think things through and then they have someone to confide in. If it’s within a week that is not too long to wait.” (POP group)

There was some discussion about the option of services where the RA appointment can be accessed. A few women noted that being offered a RA appointment at a FPC would be welcomed especially by younger women who may not feel comfortable using their own GP for EC and contraception. A few women said they would like the RA appointment to be available from their own GPs. These women mentioned that they would be unlikely to use a RA appointment if it were available only from the FPC as they preferred to see their own GP with whom they already have a good relationship and who knows about their medical histories.

“I have a good relationship with my GP who knows me well and my problems with finding a suitable method. I am aware that they have specialist here in the centre but I really don’t want to go through my history again with another person. I rather go back to my own GP.” (RA Group)

Recruitment at the pharmacy and participation in the study

Discussions with women about their experience at the pharmacy suggested that they felt the information given to them by the pharmacist about contraception and the study was clear. When asked whether they felt it was appropriate to recruit women when they presented for EC at the pharmacy most women replied that it was as they were able to make an informed choice and did not feel pressured into participating.
“The pharmacist was very nice, it was all very relaxed and very human. It didn’t feel like I was being sold anything… I didn’t feel any pressure to be involved. I think women just need to be assured there is not a lot involved and that they can help other women, feel like they are part of something useful.”

(standard care group)

A couple of women noted however, even though they were happy to participate, they were keen to be ‘in and out’ of the pharmacy as soon as possible and would have liked to be able to directly contact the research team to discuss being involved rather than having to decide whilst at the pharmacy.

“I’m not entirely sure I knew exactly what she was talking about although I was given the information to take away. I think the pharmacist could have asked me a bit more question. But to be honest, I didn’t ask her much because I just wanted to get out of there.” (POP group)

After prompting, one woman revealed that she had felt ‘obliged’ to agree to participate despite being assured by the pharmacist that participation was voluntary and would have no impact on the service she would receive. When asked about their motivation to participate in the study, most women said they wanted to ‘help other women’ through the study and to ‘give back’ to the excellent services they received. When asked if the incentive voucher (£10 value to spend in the pharmacy) was a motivation, most women said it helped to remunerate the time they had given to take part, although they would have participated without the voucher.

Pre and post study interviews with pharmacists

Pre-study interviews

Interviews were conducted with nine pharmacists. The majority perceived no potential problems with the study although two expressed concern that the time taken to recruit women, within a busy commercial setting, may potentially present a problem. The small
incentives offered to pharmacies to recruit women (£10 per woman recruited) and those offered to women to participate (£10 voucher to spend in pharmacy) were seen as helpful. They felt the option of rapid access to a FPC was a good idea to help build on the women’s motivation to use ongoing contraception at presentation for EC.

Post-study interviews

Post study telephone interviews were conducted with 10 pharmacists. All were positive about their involvement and felt that pharmacies could offer a wider range of sexual and reproductive health services. Concerns were expressed by some that recruitment had been slower than they expected. They felt that pressure on consultation time had not been a significant issue, although there were some occasions when the pharmacy was too busy to allow recruitment.

Methodological issues identified from research team observations

Operational issues were documented throughout the study and reviewed, with the following key themes identified:

Retention/continuity of pharmacist

There was the difficulty in retaining within the study the pharmacists who had agreed to participate and underwent pre-study training. One pharmacist randomised to the POP arm was relocated to another pharmacy out of Edinburgh, so this pharmacy was removed from the study and the remaining three pharmacies in the POP arm were each allocated a greater recruitment target. Four months into the study, a pharmacist participating in the standard care arm retired without informing the research team, and the replacement did not wish to participate. Recruitment within this pharmacy therefore stopped and was replaced by another pharmacy.

Recruitment of women

Recruitment of women to the study, within all of the pharmacies, slowed towards the end of the study. In one of the larger pharmacies, which is a branch of a large pharmacy...
conglomerate within the UK, recruitment slowed over the months of June and July, as the travel vaccination service offered by the pharmacy became the priority. The number of women recruited overall during the study fell short of intended recruitment numbers of 180 by 12.

Adherence to study protocol

There were problems related to pharmacists adhering to guidance given to them during pre-study training about inclusion and exclusion criteria for recruitment, maintaining records of the numbers of eligible women who were dispensed EC but not recruited, and documenting the reasons for this. Exclusion criteria included women who were already using a hormonal method of contraception at time of recruitment. However, seven women were recruited whilst already using a hormonal method. They were subsequently excluded from statistical analysis of the primary outcome of the study. All pharmacists failed to keep accurate records of the numbers of women to whom EC was dispensed and who would have been eligible to participate, but either declined or were not approached to by the pharmacist. Thus there was no way to determine an accurate response rate, or to ascertain the reasons the pharmacists chose not to recruit, or why women decided not to participate.

A further concern was the occasional difficulty the pharmacists had in maintaining accurate documentation. On two occasions the form documenting consent to participate was not signed by the woman, and without consent they could not be contacted for follow up. Some pharmacists did not document women’s date of birth on every occasion resulting in time spent trying to determine this information from pharmacy records. Additionally, the contact information recorded at time of recruitment was inaccurate for 14 women providing no way of conducting follow-up with them.

Discussion

Enhanced sexual health services provided in pharmacies have been shown to be effective and viewed favourably by women. [1,2,5,11] Our pilot study demonstrated that the provision of
simple interventions from the pharmacy after EC may increase the uptake of contraception. Overall, women welcomed both interventions and felt they offered solutions to the barriers they faced in obtaining regular contraception, leading to the use of EC, in terms of making appointments and being supported to find acceptable and effective contraception. Some concerns were highlighted relating to ‘easy access’ to hormonal methods at pharmacies and the preference some women have for visiting their own GP rather than a family planning clinic. Reassuring women about the safety of POPs, and provision of information to General Practitioners (GP’s) about a service providing POP after EC, may help alleviate some of the concerns we identified from women in our study. Consideration could also be given to extending the provision of rapid access to contraception to GP’s, rather than FPC’s alone.

A barrier to rolling out such findings from a pilot study into clinical practice is the ability to conduct high quality research in this setting. The difficulties we encountered in conducting the study may impinge on the quality of evidence obtained and therefore the ability to translate it to clinical practice. Although limited evidence would suggest pharmacists are interested in participating in research, [9,10] we had some problems in retention of pharmacists during the study. Whilst pharmacists felt recruitment to the study and provision of interventions did not significantly affect their consultation time, recruitment slowed in all pharmacies at points throughout the study. Community pharmacies, which are commercial businesses, may have to prioritise more lucrative services above clinical research at certain times. Reassuringly women found the notion of being recruited to clinical research within a pharmacy acceptable. However, as with recruitment to research in any setting, care should be taken (by pharmacist and research team) to ensure women do not feel obliged to participate at a time when they may be feeling anxious and vulnerable.

Although the depth of detail provided from face to face interviews, and similar responses from women across the groups, provides strength to the methodology and suggests reliability of results, there are obvious limitations in this study. This was a small study, with a small
sample of women from a single urban site, as the interviews were intended to explore possible facilitators and barriers. The results may not be applicable in other settings, such as rural pharmacies.

Conducting a pilot study and undertaking the follow-up interviews with women, provided an opportunity to gain valuable feedback. Women welcomed both participation in research and the interventions offered. Pharmacists viewed their participation in the study positively. The problems encountered provide valuable feedback to inform further development of research methods in the pharmacy setting, and larger scale studies of such interventions.

References

8. Cameron ST, Melvin L, Glasier A, Scott G, Johnstone A, Young H. Willingness of gynaecologists, doctors in family planning, GPs, practice nurses and pharmacists to adopt novel interventions for treating sexual partners of women with chlamydia. BJOG 2007;114:1516-1521


CHAPTER 7: Abortion care services delivered from a community sexual and reproductive health setting; views of healthcare professionals.

Introduction

Delivery of abortion care services throughout the UK is changing. In England and Wales in 2011, 61% of all abortions were carried out in the independent sector, funded by the NHS, whilst 35% were carried out in NHS hospitals. [1] In contrast, in Scotland 98% are provided through the NHS and most of these are delivered from hospital-based departments of obstetrics and gynaecology. [2] A key component of the care of women requesting an abortion, as directed in UK guidelines, is the provision of comprehensive counselling and immediate access following abortion to all available forms of contraception, in particular the long-acting reversible methods. [3] Indeed there is growing evidence that uptake of these effective methods of contraception, notably the intrauterine device (IUD) and system (IUS) and the progestogen-only implant, is associated with a significantly reduced risk of repeat abortion. [4-8] In some hospital settings, the care of women requesting an abortion may be delegated to the more junior members of the medical staff, who often lack knowledge about contraception and the training to insert implants or intrauterine methods. Whilst there is a lack of recent evidence regarding the attitudes of UK obstetrics and gynaecology trainees towards provision of abortion care, there are anecdotal reports that increasing numbers of them are choosing to opt out of abortion care for reasons of personal belief or because they find the work repetitive. A questionnaire of a proportion of both consultants and trainees in obstetrics and gynaecology in the UK in 1998 acknowledged similar concerns. The results identified that around a third of trainees in obstetrics and gynaecology had not had any training in abortion procedures, a similar number stated a conscientious objection to abortion and a number of consultants expressed views that some trainees also opted out of abortion for other reasons. [9]
It has been suggested that abortion services would be better placed in the community sexual and reproductive health (SRH) setting, since staff working within this area may be better placed to provide for women’s ongoing contraceptive needs and have expertise in insertion of intrauterine devices and contraceptive implants. [4] Additionally, SRH services may well be better placed for screening and testing for sexually transmitted infections and may have more robust systems for partner notification. Increasing numbers of women in Great Britain are having early abortion, 78% of abortions in England and Wales having been performed at under 10 weeks gestation and 65.5% in Scotland under 9 weeks in 2011 [1,2] and increasing numbers of this group are opting for the medical method and choosing to go home soon after treatment to pass the pregnancy at home. [10,11] There is good evidence that early medical abortion is highly amenable to delivery from a community setting and highly acceptable to women. [12]

The attitude of general practitioners, gynaecologists and medical students in the United Kingdom, towards their involvement in provision of abortion has been the subject of previous research. [13-16] However, no previous studies have focused on the views of those working within the field of SRH. In this study we aimed to determine the views of health professionals working in SRH regarding their attitudes towards a future role for specialists in SRH providing more abortion care services by surveying delegates at the annual scientific meeting of the Faculty of Sexual and Reproductive Healthcare in the UK. In addition, we wished to determine the views of staff working within a community SRH centre in Edinburgh, Scotland, about the planned provision within the following six months of early medical abortion within their integrated sexual and reproductive service.

**Methods**

To obtain the views and attitudes of a large number of healthcare workers, either working within or with an interest in SRH, we designed a questionnaire to distribute to all attendees at a large UK SRH scientific meeting (Faculty of Sexual and Reproductive Healthcare) in April
2012 (appendix 6). An introductory paragraph on the questionnaire explained its purpose and anonymity. Completed questionnaires were placed in sealed collection boxes. The questionnaire collected demographic data of the respondents including gender, age, current working role and geographical region of work, information on their current practice of and attitude to abortion, and their views on location of abortion care services. Responses in the sections relating to views on abortion and attitude and willingness to participate in, and location of, abortion care services, were recorded by the participants on 5 point Likert scales, the options ranging from strongly disagree to strongly agree. [17]

For the survey of staff within the community SRH service in Edinburgh, an anonymous internet questionnaire was distributed to all staff named on an up to date staff mailing list between January and March 2012 (appendix 7). The questionnaire sought demographics including gender and role within the service in addition to views regarding the planned introduction of the early medical abortion service and willingness to participate in it. Responses consisted mostly of drop-down list options with additional free-text responses to selected questions.

Statistics

Data from both questionnaires were coded and entered onto separate databases using Microsoft Excel. In the questionnaire of attendees at the sexual health scientific meeting, responses relating to views on abortion, willingness to participate and location of services, were combined such that ‘strongly agree’ and ‘somewhat agree’ were grouped as ‘agree’ whilst ‘strongly disagree’ and ‘somewhat disagree’ were grouped as ‘disagree’. The remaining group of responses was ‘neither agree nor disagree’. Data analysis was performed using IBM Statistical Package for Social Sciences (SPSS) software Version 18 (SPSS Inc. Chicago, Il, USA). Groups were compared by Chi squared test or Fisher’s exact test where counts within any individual cell of the contingency table fell below five. Statistical significance was deemed to be p<0.05.
**Ethical Approval**

Both questionnaires were reviewed by the chair of a local research ethics committee who confirmed that ethical approval was not required as they constituted health services research.

**Results**

165 questionnaires were returned out of 200 distributed at the UK SRH scientific meeting (82% response rate). Almost all respondents were female (88%) and over two thirds (73%) were aged between 41 and 60 years. Over half of respondents worked in England (54%) and the majority were doctors (95%). Demographics are shown in table 12.
Table 12 Demographics of Respondents to questionnaire 1

<table>
<thead>
<tr>
<th>Gender</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>146(88)</td>
</tr>
<tr>
<td>Male</td>
<td>18(11)</td>
</tr>
<tr>
<td>Missing data</td>
<td>1(1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age Range, years</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30</td>
<td>5(3)</td>
</tr>
<tr>
<td>31-40</td>
<td>29(18)</td>
</tr>
<tr>
<td>41-50</td>
<td>61(37)</td>
</tr>
<tr>
<td>51-60</td>
<td>60(36)</td>
</tr>
<tr>
<td>&gt;60</td>
<td>10(6)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region within which they work</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scotland</td>
<td>65(39)</td>
</tr>
<tr>
<td>England</td>
<td>90(54)</td>
</tr>
<tr>
<td>Wales</td>
<td>3(2)</td>
</tr>
<tr>
<td>England and Wales</td>
<td>1(1)</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>2(1)</td>
</tr>
<tr>
<td>Ireland</td>
<td>3(2)</td>
</tr>
<tr>
<td>Channel Islands</td>
<td>3(2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Working role</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant</td>
<td>35(21)</td>
</tr>
<tr>
<td>General Practitioner</td>
<td>51(31)</td>
</tr>
<tr>
<td>Staff Grade / Associate Specialist Grade Doctor</td>
<td>53(32)</td>
</tr>
<tr>
<td>Trainee Doctor</td>
<td>16(10)</td>
</tr>
<tr>
<td>Unspecified Doctor</td>
<td>2(1)</td>
</tr>
<tr>
<td>Nurse</td>
<td>6(3)</td>
</tr>
<tr>
<td>No longer working</td>
<td>1(1)</td>
</tr>
<tr>
<td>Missing data</td>
<td>1(1)</td>
</tr>
</tbody>
</table>

Regarding any current involvement in abortion, only 5 (3%) stated they had no involvement in any aspect of abortion care; 129 (78%) currently referred women for abortion; 106 (64%) counselled and assessed women for consideration for abortion and 103 (62%) signed the required legal paperwork for abortion. Only 24 (14%) respondents stated that they either performed surgical abortion or administered the medication required for medical abortion. Most respondents, 149 (90%), considered themselves to be ‘broadly pro-choice’; 6 (4%) were undecided and 10 (6%) stated they were broadly anti-abortion. There was no
statistically significant difference between gender, age groups, region of work or current working role and personal view of abortion.

Statements were put forward to respondents regarding their view on location of abortion services, their willingness to participate, and views as to whether there is a role within SRH for abortion care. The responses are shown in Table 13.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Neither Agree/Disagree</th>
<th>Disagree</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Abortion services would be best suited to community clinics as opposed to hospital setting.</td>
<td>128(78)</td>
<td>24(14)</td>
<td>12(7)</td>
<td>1(1)</td>
</tr>
<tr>
<td>2. Abortion services are best provided within a hospital based setting in gynaecology.</td>
<td>31(19)</td>
<td>44(27)</td>
<td>88(55)</td>
<td>2(1)</td>
</tr>
<tr>
<td>3. Abortion services are best provided by a separate non-NHS, private and/or charitable organisations.</td>
<td>18(11)</td>
<td>53(32)</td>
<td>93(56)</td>
<td>1(1)</td>
</tr>
<tr>
<td>4. Abortion services should be divided across these services.</td>
<td>83(50)</td>
<td>49(30)</td>
<td>29(18)</td>
<td>4(2)</td>
</tr>
<tr>
<td>5. I would be willing to participate in abortion care for women, including relevant paperwork or administering medication / undertaking procedure where appropriate.</td>
<td>115(70)</td>
<td>13(8)</td>
<td>35(21)</td>
<td>2(1)</td>
</tr>
<tr>
<td>6. I do not feel my role within sexual and reproductive health should have any involvement in abortion services.</td>
<td>11(7)</td>
<td>8(5)</td>
<td>143(87)</td>
<td>3(4)</td>
</tr>
</tbody>
</table>

The majority of respondents, 128 (78%), attending the UK SRH scientific meeting felt that abortion services were best suited to community clinics rather than hospital services. 83 (50%) felt that services should be divided across community, hospital and non-NHS charitable and private organisations. Respondents working in England were statistically more likely to agree that abortion services were best suited to non-NHS charitable and
private organisations compared to respondents working in other regions (p = 0.001). In addition, female respondents were statistically more likely to agree that abortion services were best suited to non-NHS charitable and private organisations compared to men (p = 0.017). There were no other statistically significant differences in responses to statements regarding location of services between gender, age groups, region of work or working role. 115 (70%) agreed that they would be willing in the future to participate in abortion services; 35 (21%) disagreed whilst 13 (8%) were undecided. The majority, 143 (87%), disagreed that there was no role in SRH for abortion services; 8 (5%) neither agreed nor disagreed and 11 (7%) agreed there was no role. Significantly more women disagreed with this statement than males (p = 0.006). Respondents who considered themselves to be broadly anti-abortion were statistically more likely to disagree to participate in abortion services (p = 0.001) and statistically more likely to agree that there is no role in SRH for abortion services (p = 0.004).

The questionnaire of staff working within an SRH service in Edinburgh was distributed to 90 people. 62 responded (69% response rate). The majority (56; 90%) of respondents were female. 24 (39%) responders were nursing staff, 22 (35%) doctors and 16 (26%) administrative and clerical staff.

All were asked ‘How do you feel about the plan for early medical abortion to take place in your service?’ 44 (71%) stated they felt this was a natural extension to the services already offered, 4 (6%) were neutral and 9 (15%) were uncertain. Only 5 (8%) felt it was not an appropriate setting. There was no significant difference in responses to this question with gender and different working roles. In response to the question, ‘Would you be happy to be involved in such a clinic?’ 44 (71%) stated yes, 7 (11%) stated ‘no’ due to conscientious objection to abortion and 11 (18%) were either uncertain or stated that this would not be of interest to them. Neither gender nor working role was associated with response to this question.
Respondents were asked, from a list of potential advantages, to select those which they felt would apply to women as a result of providing an early medical abortion service within the service. Responses are shown in table 14.

Table 14 Possible advantages for women of an abortion service located in Chalmers Sexual Health Centre.

<table>
<thead>
<tr>
<th>Possible Advantages</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better provision of contraception post procedure</td>
<td>44(71)</td>
</tr>
<tr>
<td>More holistic approach to patient care</td>
<td>42(68)</td>
</tr>
<tr>
<td>Opportunity to better manage STIs</td>
<td>33(53)</td>
</tr>
<tr>
<td>More readily accessible site for patients</td>
<td>32(52)</td>
</tr>
<tr>
<td>No response</td>
<td>10(16)</td>
</tr>
</tbody>
</table>

A third of responders, 21 (34%), felt all were possible advantages to women.

Respondents were asked, ‘Do you feel there will be any potential disadvantages to women seeking an abortion, in having their care delivered from the community SRH setting?’ and were invited to specify what they considered the disadvantages to be. 32 (52%) felt there would be no disadvantages, 14 (22%) thought there would and 16 (26%) were uncertain. A total of 8 possible disadvantages suggested by the responders were: possible lack of anonymity within the community setting (n=4), concern that the new abortion service would place undue additional workload on the existing services (n=2), concern that some women may not wish to attend an SRH clinic for abortion due to possible stigma associated with sexual health clinics (n=1), and that women may not wish to return to the SRH service in the future as it may remind them of having had an abortion (n=1).
Discussion

This study showed that most of the health professionals in SRH who were surveyed were generally supportive of providing abortion services from a community SRH setting. This is reassuring for future workforce provision of abortion services in the UK. Currently, those abortion services that are provided from hospital departments of obstetrics and gynaecology often compete for staffing with acute areas such as labour ward, with the result that staffing of the abortion clinic may be delegated to junior, inexperienced members of the team. There is also evidence that trainees in obstetrics and gynaecology may lack interest in abortion management since a survey of senior trainees in 2008 showed that only 2.8% had opted to undertake the advanced training module in abortion care. [18] Our study confirms that doctors working within community SRH may be more willing to participate in abortion services. Additionally, abortion care is included as a mandatory module within the new training curriculum for UK specialist trainees in community SRH, ensuring that all doctors training in this new specialty gain knowledge and exposure of this integral part of SRH. [19] Increasing numbers of women in Great Britain who request an abortion are at early gestation (≤ 9 weeks), and increasing numbers are choosing to have an early medical method that enables them to leave the abortion service soon after treatment to pass the pregnancy at home. [10,11] There is evidence that this method is highly amenable to provision in a community setting and that it is safe to do so and furthermore it is acceptable to women. [12] Our results show that the overwhelming majority of delegates at the scientific meeting in SRH agreed that abortion services would be suited to a community SRH setting. Additionally, the majority of staff working in a community SRH clinic where abortion services were about to be introduced felt that this was a natural extension to the services already offered. There are other reasons why it may be advantageous for more abortion care to be provided from community SRH clinics. First, it is possible that uptake of the most effective long
acting reversible methods of contraception (LARC) would be greater in a specialist contraceptive setting compared to a hospital setting, where hospital staff may lack specialist contraceptive knowledge or the ability to insert intrauterine contraception or progestogen-only implants. In our study, 7 out of 10 staff surveyed at the community SRH clinic agreed that better contraceptive provision would be an advantage of providing abortion care through the SRH clinic. Immediate postabortal provision of LARC is important as there is increasing evidence that insertion of an IUD/IUS or an implant is associated with a significantly reduced risk of having a further abortion. [4-8] In a Scottish study of a hospital-based abortion service, women who chose to have an IUD/IUS fitted were almost 18 times less likely, and women who chose to have a contraceptive implant inserted were 16 times less likely, to return for another abortion within the next 2 years, compared to those choosing to use an oral contraceptive pill. [4]

It would also seem only logical that an integrated community SRH service would also be better placed to manage sexually transmitted infections (STIs) in women requesting abortion. Indeed over half of respondents (53%) working within the community SRH clinic agreed that better management of STIs would be an advantage to offering abortion care within their setting. It has previously been shown that women who test positive for Chlamydia trachomatis at a hospital abortion service have poorer partner treatment rates than their counterparts who test positive at either a genitourinary medicine clinic or family planning clinics. [20] This suggests that management of STIs amongst women requesting abortion may be particularly challenging for hospital services.

Of course it is possible that there may be some disadvantages to providing abortion care services from a community setting. Only a small number of staff from the SRH clinic reported possible disadvantages and these tended to be related to perceived increasing workload for themselves, or concerns that women may have less anonymity than in a hospital clinic. Clearly any abortion service must be able to provide guarantees of privacy and anonymity for women and sexual health services are surely particularly sensitive to
users’ needs in this respect. A concern that was expressed by a minority of staff was that women might be reluctant to attend an SRH setting due to perceived stigma attached to sexual health service. However, currently many women actually choose to attend SRH clinics to request a referral for abortion. Clearly, future qualitative research on the views and experiences of women attending abortion services in both hospital and community settings will be important to determine the location of services that women would consider most convenient and acceptable.

Although more than three quarters of respondents from the scientific meeting felt that abortion services were suited to a community SRH setting, half also agreed that services should be divided across community, hospital and non-NHS organisations. Currently in England and Wales, abortion services are delivered from both the independent sector, funded by the NHS, and from NHS hospitals. This division of services has worked well for many years, although as suggested by the responses to our survey, these services could co-exist in both the independent sector and in an NHS community SRH setting. In Scotland the overwhelming majority of abortions are provided by hospitals, and whilst hospital services with surgical facilities and inpatient and daycase beds will still be required, assessment clinics and facilities for early medical or early surgical abortion could also exist in community SRH clinics.

Clearly a potential drawback to our study is that most respondents from the scientific meeting were over 40 years old, and so may not necessarily have reflected the views of younger health professionals or those still in training, who are the potential future providers of abortion services. There is currently a lack of recent qualitative research regarding attitudes towards abortion care of UK trainees in both obstetrics and gynaecology and sexual and reproductive health and a future study in this area would be valuable. Furthermore, there is the possibility of response bias, in that enthusiastic clinicians attending such a scientific meeting may be more inclined to respond more positively. Nevertheless, our study showed that UK health professionals currently working in SRH are supportive of providing more
abortion services in a community SRH setting. Clearly it will be important to evaluate service delivery from community SRH settings to determine if this model is indeed associated with the anticipated benefits for women and what, if any, the disadvantages may be.

References


CHAPTER 8: Conclusions and Future Research

Rates of unintended pregnancy throughout the UK are high. In 2014 in England and Wales, 184,571 induced abortions were performed, and in Scotland, the corresponding figure was 11,475. [1,2] However, there are several possible strategies which could be employed with the aim of reducing unintended pregnancy, as demonstrated in the preceding chapters.

Provision of accurate information about contraceptive methods

Current use of intrauterine contraception (IUC), which has been shown to be amongst the most effective methods of contraception, [3] varies throughout the world. [4] It may have previously been thought possible that women are reluctant to use such methods due to misconceptions about them. However, chapter two demonstrates that at least amongst women attending for abortion, only a minority of hold such misconceptions. Chapter 2 also identified lack of knowledge about IUC to be an issue. Therefore, healthcare professionals can use consultations, such as at time of request for abortion, as an opportunity to inform women about the potential benefits of such effective methods of long acting contraception, with the hope of increasing uptake. One such strategy to provide good quality, standardised information about contraceptive methods, is in an audio-visual format through the use of a DVD. The use of DVD’s in sexual health service settings has previously been shown to be acceptable. [5,6]

Chapter three considered the use of a DVD to inform women considering using a contraceptive implant for the first time about this method, and encouragingly, the DVD was shown to be acceptable to women as a means of imparting information. A DVD could be a useful adjunct to face to face contraceptive counselling from a clinician. A larger scale randomised study is required to determine if provision of accurate information about the
implant and other forms of LARC, including both the benefits of these methods and potential expected side effects, can result in both increased uptake and continuation of these methods.

**Pharmacy based strategies to increase contraceptive uptake after emergency contraception**

Chapter four confirmed that the majority of women who use EC do so following either unprotected sexual intercourse or an accident with a condom. More women now choose to obtain EC from a pharmacy as opposed to attending their GP or a sexual health service. [9] Therefore, there are a significant proportion of women who will remain at risk of unintended pregnancy following the use of EC from a pharmacy, if they do not commence an effective method of contraception following it. Whilst pharmacies can sell condoms, the majority in the UK are not routinely able to provide other more effective methods of on-going contraception. Chapters four through six considered the implementation of pharmacy based strategies which may lead to an increased uptake of effective methods of contraception following EC. Encouragingly women presenting for EC, clinicians in SRH and pharmacists all welcomed the idea of simple pharmacy based interventions, such as provision of a POP from the pharmacy to quickstart after EC, or rapid referral on to a sexual health service for on-going contraception. Furthermore, chapter five demonstrated that such interventions are feasible and may result in increased uptake of effective contraceptive methods. Larger scale studies are required to determine if such strategies can increase the uptake of LARC, and more importantly, as result can reduce rates of unintended pregnancy.

**Provision of LARC at time of abortion**

It is of vital importance at the time of consultation for request for abortion, and following the procedure, to consider counselling and provision of effective methods of contraception, particularly LARC methods. [10] A possible means to increase the uptake of LARC
following abortion is through provision of abortion services in a community sexual and reproductive healthcare setting. Reassuringly, chapter seven indicated that clinicians working in the field of SRH and in particular, those in a sexual health service where an abortion service was due to commence, where generally supportive of providing such services. Further research is required to determine if provision of abortion care from such settings does result in increased uptake of LARC, and if this can impact at all on rates of unintended pregnancy.

References


5. Powell-Jackson R, Glasier A, Cameron ST. Benefits of using a digital video disk for providing information about abortions to women requesting termination of pregnancy. *Contraception* 2010;81;537-541


Appendices

Appendix 1

Patient Information Questionnaire - Patient Survey

As part of our efforts to continuously improve women’s health, we would like to determine your views and knowledge about intrauterine methods of contraception. Doctors and nurses feel that the copper IUD and the mirena are both very good methods for contraception but many women are often reluctant to use either. We want to try and determine why this may be the case.

This questionnaire is completely **anonymous**. Please read it carefully and take a few minutes to complete it. Place it in collection box when complete.

Please circle your response(s) for each statement.

1. **The Intrauterine Device (the mirena or ‘coil’):**

   a) Is painful to have inserted.
      
      Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

   b) Is only suitable for women who have had children.
      
      Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

   c) It is not suitable if you have had more than 3 children.
      
      Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

   d) Can only be used by older women.
      
      Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

   e) There is a good chance it can make you infertile.
      
      Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

   f) There is a good chance it can damage the neck of my womb.
      
      Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

   g) There is a good chance it can damage the lining of my womb.
      
      Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

   h) It can get stuck inside your womb.
      
      Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

   i) It can rust inside of you.
      
      Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree
j) You or your partner can feel it during sex.
   Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

k) It can move during sex.
   Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

l) It can move around inside your body.
   Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

m) There is a high chance it might fall out.
   Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

n) It can get stuck on the babies head if you become pregnant.
   Strongly agree   Somewhat agree   Neither agree/disagree   Somewhat disagree   Disagree

2. What age are you?...................years

3. What is your postcode?....................(e.g. EH1 37)
   This information is only used to find out what area you live in and how far you have had to travel here today.

4. Are you a smoker? (Please tick)
   □ Yes □ Ex-smoker □ Never smoked

5. Have you ever given birth? (Please tick)
   □ Yes □ No

6. Have you ever had a miscarriage? (Please tick)
   □ Yes □ No

7. Have you had an abortion before? (Please tick)
   □ Yes □ No

8. Which of these contraceptive methods have you used before? (Please tick any that apply)
   □ None □ Condoms □ Cap/diaphragm
   □ Oral contraceptive pill □ Hormonal injection (depoprovera)
   □ Implanon/Nexplanon □ Intrauterine device/coil
   □ Hormonal patch (Evra) □ Hormonal ring (NuvaRing)
   □ Sterilisation □ Other

9. Which are you going to use after leaving today? (Please tick)
   □ None □ Condoms □ Cap/diaphragm
   □ Oral contraceptive pill □ Hormonal injection (depoprovera)
   □ Implanon/Nexplanon □ Intrauterine device/coil
   □ Hormonal patch (Evra) □ Hormonal ring (NuvaRing)
   □ Sterilisation □ Other
If you have any other comments please write them here:

........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

Thank you for taking the time to fill in this questionnaire.
Appendix 2

SECTION A – Previous Contraception

1. Which of the following methods of contraception have you used previously? (tick any that apply)

- None
- Diaphragm / Cap
- COCP
- Contraceptive patch
- Depo-provera
- IUS
- Condoms
- POP
- Nuva Ring
- IUD
- Other – specify………………………

2. Which of the following contraceptive methods are you currently using?

- None
- Diaphragm / Cap
- COCP
- Contraceptive patch
- Depo-provera
- IUS
- Condoms
- POP
- Nuva Ring
- IUD
- Other – specify………………………

SECTION B – Recall

1. The contraceptive implant can be kept in for ...... years before it requires to be changed? (please circle)

- 1
- 3
- 5

2. The contraceptive implant works by inhibiting ovulation – stopping an egg being produced. (please circle)

- Correct
- Uncertain
- Incorrect

3. The contraceptive implant can cause the following side effects. (please circle any that apply)

- Significant weight gain
- Altered bleeding pattern (irregular / longer lasting)
- Your periods may stop when using it
- Problems with mood changes and headaches
4. When the implant is removed your fertility can take weeks or months to return to normal. (please circle any that apply)

Correct          Uncertain          Incorrect

SECTION C – Intention to have implant

1. Do you intend to arrange to have an implant fitted? (please circle)

   Yes          Uncertain          No

2. If no, tick any of the following reasons for not choosing to have an implant.

   □ Scared of insertion / removal
   □ Due to possibility of problematic bleeding
   □ Concerned of other side effects (skin changes / mood changes)
   □ Don’t wish a foreign body in my arm
   □ Wish a shorter term contraception
   □ A friend told me it doesn’t work
   □ A friend told me it caused bad side effects
   □ I would prefer another option
   □ I have been advised another method would be more suitable
   □ Other (specify)……………………………………………………………………………………………………

SECTION D – Acceptability (DVD group only)

Please circle response to the following statements:

1. I found the DVD to be helpful.

   strongly agree   somewhat agree   neither agree / disagree   somewhat disagree   disagree

2. I found the DVD easy to understand.

   strongly agree   somewhat agree   neither agree / disagree   somewhat disagree   disagree

3. I found the DVD to be confusing.

   strongly agree   somewhat agree   neither agree / disagree   somewhat disagree   disagree

4. In comparison to a face to face consultation I found the DVD to be acceptable.

   strongly agree   somewhat agree   neither agree / disagree   somewhat disagree   disagree

5. I would have preferred to have a face to face consultation instead of the DVD.

   strongly agree   somewhat agree   neither agree / disagree   somewhat disagree   disagree
6. Overall, on a scale out of 10, how useful would you rate the information you received about the contraceptive implant today?
I rate the usefulness of the information I received as ………..out of 10.

Do you have any additional comments you would like to make about your consultation today?
…………………………………………………………………………………………
………………………………………………………………………………………….

SECTION E – Demographics

1. Age

2. Postcode

3. Smoking status (circle)
   Never smoked   Ex-smoker   Smoker

4. Previous Pregnancies (write number)
   Births
   Miscarriages
   Ectopies
   Terminations

SECTION F – Contact Information

Mobile phone number…………………………

Home phone number…………………………

Preferred number to contact (circle) mobile home

Address…………………………………………
…………………………………………
…………………………………………
Appendix 3

Telephone interview

- Verify that the person answering the telephone is the correct individual
- Introduce oneself; that you are a research nurse/doctor conducting the research project on using a DVD to provide information about the contraceptive implant. Reminder of what project is about and that it is a short telephone interview (no more than 15 mins)
- Check that they are still willing to participate.
- Remind them that they are under no obligation to answer any or all of the questions
- Say that you are very grateful for their help.
- Check that it is a convenient time for them to speak. If not rearrange a suitable date/time. (Re-scheduled for ……………………………. @ hrs)

At END of interview:

- Thank women for participation
- Would they like a personal copy of results (12 months)- address or email
- Or if copy on web site of Chalmers sufficient– give web address and email contact number
- Ask how participant would like to receive £10 voucher
- If by post then collect address that they wish voucher to be sent to.(address……………………………………………………………………
  Care of ……………………………………………………………)
- Check if participant would be willing to participate in IDI

Name of interviewer……………………………………..

Date of interview………………………………………….
SECTION A – Contraception

1. Which methods of contraception have you used since your initial attendance?

☐ None  ☐ Condoms  ☐ Diaphragm  ☐ Cervical cap  ☐ COCP  ☐ POP  ☐ Contraceptive patch  ☐ Nuva Ring  ☐ Depo-provera  ☐ IUD  ☐ IUS  ☐ Nexplanon  ☐ Other – specify…………………………

2. Did you have a contraceptive implant fitted? (circle)

Yes  No  Not yet, I intend to

3. If yes, when did you have it fitted? (please tick)

☐ Immediately following consultation  ☐ Within 7 days  ☐ Within 2 weeks  ☐ Within 1 month  ☐ Between 1 month and now

4. If no, give reason why. (tick any that apply)

☐ Scared of insertion / removal  ☐ Due to possibility of problematic bleeding  ☐ Concerned of other side effects (skin changes / mood changes)  ☐ Didn’t wish a foreign body in my arm  ☐ Wished a shorter term contraception  ☐ A friend told me it doesn’t work  ☐ A friend told me it caused bad side effects  ☐ I wished to use another option  ☐ I couldn’t arrange appointment for insertion  ☐ Other (specify)……………………………………………………………………
SECTION B – Acceptability
Please circle response to statements below.

1. I was happy to have been involved in a randomised trial.
   
   strongly agree  somewhat agree  neither agree / disagree  somewhat disagree  disagree

2. I would participate in a similar trial again in the future.
   
   strongly agree  somewhat agree  neither agree / disagree  somewhat disagree  disagree

3. I found the DVD to be informative.
   
   Not applicable

4. I would be happy to be given information by means of a DVD again.
   
   Not applicable

SECTION C – Implant group only

1. Are you happy with your implant so far? (circle)
   
   Yes, no problems  Uncertain  Some problems  No, not at all

2. What problems are you having? (tick any that apply)
   
   Local reaction to implant
   Pain / discomfort at implant site
   Bleeding side effects – persistent
   Bleeding side effects – irregular
   Bleeding side effects - amenorrhoea
   Skin changes
   Mood changes
   Other (specify)…………………………………………………………………

3. Did you expect these side effects from the information given to you at consultation? (circle)
   
   Yes, I was fully aware  Not to this extent  I didn’t realise there were side effects
Appendix 4

Emergency contraception from the pharmacy poll

We would be grateful if you could take the time to read and complete this short anonymous questionnaire. Once completed please place in the collection box. We hope that the information you provide will enable us to have a better understanding of the reasons that women use the emergency contraception, what contraception women choose to use following it and where they would choose to access it.

Thank you for your time.

1) What age are you?............

2) Please state the first 4 characters of your current postcode (e.g. – EH14) ............
   (This will let us know what areas of Edinburgh women answering this questionnaire live in.)

3) Is this the first time you have taken the ‘morning after pill’? (tick box)
   □ Yes
   □ No - please state number of times taken in last 12 months ........ ever.............

4) What contraception are you using just now? (tick box)
   □ None   □ Condoms   □ Other (please state)..............................

5) What was the reason you required to use the ‘morning after pill’ today? (tick box)
   □ Unprotected sex (no condom)   □ Condom failure (burst etc.)
   □ Forgot/ran out of contraceptive pills
   □ Forgot/unable to have Depo-provera injection or implant / coil changed when due

6) Are you in an ongoing sexual relationship? (tick box)
   □ Yes   □ No   □ Uncertain

7) Would you like to use a method of contraception other than condoms? (tick box)
   □ I Already do   □ Yes
   □ No, not sexually active   □ Uncertain
   □ No, happy to use condoms (with emergency contraception as back up)
No, happy not to use contraception (but use emergency contraception as back up)

Please turn over to complete questionnaire

8) If you answered yes to the previous question, where would you choose to go first to obtain this contraception? (tick box)

- My own GP
- Family planning clinic / Chalmers Centre
- Caledonia Youth
- Uncertain
- Other – please state……………………………………………………………………………………………………………………

9) If at the pharmacy you could have been given a 1 month temporary supply of a contraceptive pill to start after taking the emergency contraceptive, to allow you the time to attend elsewhere for ongoing contraception – would you have found this helpful? (tick box)

- Yes
- No
- Don’t know

Comments
……………………………………………………………………………………………………………………
……………………………………………………………………………………………………………………

Thank you for your time.
Appendix 5

Pharmacists and pharmacy that agreed to participate in research study in chapter 6.

<table>
<thead>
<tr>
<th>Pharmacist</th>
<th>Pharmacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. Aziz</td>
<td>Newington Pharmacy, 46-50 Clerk Street, Edinburgh, EH8 9JB</td>
</tr>
<tr>
<td>P. Tinkler</td>
<td>Royal Mile Pharmacy, 67 High Street, Edinburgh, EH1 1SR</td>
</tr>
<tr>
<td>I. Kalka</td>
<td>Boots the Chemist, 101-103 Princes Street, Edinburgh, EH2 3AA</td>
</tr>
<tr>
<td>C. Barnes</td>
<td>Lindsay and Gilmour, 11 Elm Row, Edinburgh, EH7 4AA</td>
</tr>
<tr>
<td>G. Toohie / J. Dewart</td>
<td>Boots the Chemist, 32 West Maitland Street, Edinburgh, EH12 5DX</td>
</tr>
<tr>
<td>C. Cooney</td>
<td>Boots the Chemist, 230-232 Gorgie Road, Edinburgh, EH11 2PN</td>
</tr>
<tr>
<td>A. Wallace</td>
<td>Boots the Chemist, 5-9 St James Centre, Edinburgh, EH1 3SN</td>
</tr>
<tr>
<td>C. Gallagher / F. Watson</td>
<td>Boots the Chemist, 6 St Patrick Street, Edinburgh, EH8 9HB</td>
</tr>
<tr>
<td>M. Hamilton</td>
<td>Bristo Square Pharmacy, 6 Bristo Square, Edinburgh, EH8 9AL</td>
</tr>
<tr>
<td>F. McKim</td>
<td>Apple Pharmacy, 6 Eyre Place, Edinburgh, EH3 5EP</td>
</tr>
<tr>
<td>L. Jack</td>
<td>Boots the Chemist, Ocean Terminal, Ocean Drive, Edinburgh, EH6 6JJ</td>
</tr>
</tbody>
</table>
Survey of professionals in sexual and reproductive health in the United Kingdom, about attitudes towards provision of abortion care within SRH clinics.

Increasingly in some areas in the UK, abortion services now run within community sexual and reproductive health services, either in addition or as an alternative to NHS hospital services or clinics run by private and charity based organisations. We wish to determine the attitudes of those working within this area towards participating in abortion and their views as to which settings are most appropriate for such services. We would be grateful if you could take the time to read and complete this short anonymous questionnaire. Once completed please place in the marked collection box.

Thank you for your time.
Dr Lucy Michie on behalf of the Clinical Studies Group

**SECTION 1 - Demographics**

1) Please indicate your gender? (please tick box)
   - Female
   - Male

2) What age are you? (please tick box)
   - 20-30 years
   - 31-40 years
   - 41-50 years
   - 51-60 years
   - 61 years and over

3) Which region do you work within?
   - England
   - Wales
   - Scotland
   - Northern Ireland
   - Ireland
   - Channel Islands
   - Other (please specify) ………………………………………

4) What is your current role related to sexual and reproductive health (SRH)?
   - Based mainly in community SRH
     - Consultant
     - SAS grade
     - Medical Trainee
     - Nurse
Based mainly in Genitourinary Medicine
Consultant ☐ SAS grade ☐
Medical Trainee ☐ Nurse ☐

Based mainly in hospital - Obstetrics and Gynaecology
Consultant ☐ SAS grade ☐
Medical Trainee ☐ Nurse ☐

General Practice
GP ☐
Medical Trainee ☐ Nurse ☐

Working within private / charity sector
Doctor ☐ Nurse ☐

No longer working ☐

Other (please specify)………………………………………………………………………………………………………………

SECTION 2 - Current practice and attitude to abortion

5) What involvement do you have in abortion care in your current practice? (please tick any that apply)
None ☐ Refer patients on for abortion ☐
Assessment / Provision of information to patient’s ☐
Signing HSA 1 form ☐
Undertaking procedure / Administer medication ☐
Other (please specify)………………………………………………………………………………………………………………

6) Please circle the response that best describes your view of abortion.
   I consider myself to be:

   Broadly ☐ Undecided Anti-Abortion
   Pro-Choice

7) Please circle your response to the following statement. I believe women should have the right to choose to have an abortion in the first trimester (up to 12 weeks) without restrictions or conditions.
SECTION 3 - Views on location of abortion services

Please circle your response to the following statements.

8) Abortion care services (for uncomplicated cases within the first trimester) would be best suited to community clinics as opposed to a hospital setting.

9) Abortion care services are best provided within a hospital based setting in gynaecology.

10) Abortion care services are best provided by separate non-NHS, private and/or charitable organisations.

11) Abortion care services should be divided across these services.

12) I am / would be willing to participate in abortion care for women, including completing relevant paperwork or administering medication / undertaking procedure where appropriate.

13) I do not feel my role within sexual and reproductive health should have any involvement in abortion care services.
Thank you for taking the time to complete this questionnaire.
Appendix 7

A survey of attitudes of staff working within an integrated sexual and reproductive health centre, towards undertaking early medical termination of pregnancy within the centre.

It is planned that services to provide early medical termination of pregnancy up to 9 weeks of gestation will begin at Chalmers Sexual Health Centre later in 2012, in addition to those already provided at The Royal Infirmary of Edinburgh. With this short questionnaire we hope to obtain information regarding staff attitudes towards both this change to services and about undertaking the procedure. We would therefore be grateful if you could read it carefully and complete it.

1. Please indicate your gender: (please tick)
   - Female
   - Male

2. Please indicate your role within Chalmers: (please tick)
   - Consultant in SRH
   - Consultant in GUM
   - SAS grade doctor in SRH
   - SAS grade doctor in GUM
   - Junior doctor/Trainee in SRH
   - Junior doctor/Trainee in GUM
   - ANP nurse (based in SRH)
   - ANP nurse (based in GUM)
   - Nurse
   - Clinical support worker
   - Health Advisor
   - Other

3. How do you feel about the plan for early medical termination of pregnancy to take place at Chalmers? (please tick)
   - This is a natural extension to services already offered at Chalmers.
   - This is not an appropriate setting for termination of pregnancy.
   - I am uncertain.
   - I have no feelings either way.

4. Would you be happy to work in such a clinic? (please tick)
   - Yes
   - No – I conscientiously object to termination of pregnancy.
No  - This is not an area that interests me.

Other (please specify)…………………………………………………………

5. Which of the following do you feel could be advantages for women having the abortion service within Chalmers? (please tick all appropriate)

- Better provision of contraception post procedure.
- More readily accessible site for patients.
- Opportunity to better manage STI’s.
- More holistic approach to patient care.
- Other (please specify)…………………………………………………………

6. Do you feel there will be any disadvantages for women seeking an abortion, to have their care delivered from Chalmers?

- Yes  In what way?…………………………………………………………
- No
- Uncertain

7. Do you feel the introduction of the termination of pregnancy service will affect the running of other clinics? (please tick)

- Yes  In what way?…………………………………………………………
- No
- Uncertain

8. Would you wish further training in abortion care before this service begins at Chalmers? (please tick)

- Yes
- No
- Uncertain
Any other comments?..........................................................................................................
..........................................................................................................
..........................................................................................................
..........................................................................................................
..........................................................................................................

Thank you for your help.
Publications arising from this work


Michie L, Cameron ST, Glasier A, Chen ZE, Milne D, Wilson S. Provision of contraception after emergency contraception from the pharmacy: evaluating the acceptability of pharmacy for providing sexual and reproductive health services. *Public Health* DOI:http://dx.doi.org/10.1016/j.puhe.2015.11.017

Improving the uptake of long acting reversible contraception: a review

L. MICHIE 1, 2, S. T. CAMERON 1, 2

Across the world rates of unintended pregnancy are high. Unintended pregnancy not only results in substantial costs to health services, it can lead to personal distress for women experiencing this. Whilst a large number of unintended pregnancies occur in those not using any method of contraception, a proportion occur in women using a contraceptive method incorrectly or inconsistently. Long acting reversible methods of contraception such as the IUD, IUS, contraceptive implant and contraceptive injectables are the most effective methods of contraception. In spite of this, they are under-utilized by women in developed countries. Educating women and health professionals, and dispelling myths about these methods may improve their acceptability. Furthermore, facilitating uptake by ensuring that a range of contraceptive providers are trained and able to provide to women without undue delay, particularly in the immediate post abortion and postpartum period, may also be effective strategies to improve uptake, and prevent more unintended pregnancies.

Key words: Contraception - Contraception, barrier - Pregnancy, unplanned.

Worldwide, estimations of rates of unintended pregnancy are high. Approximately 85 million unintended pregnancies occur annually and 33 million of them are thought to be in women using a contracep-

Corresponding author: L. Michie, Department of Reproductive and Developmental Sciences, University of Edinburgh, 51 Little France Crescent, Edinburgh EH16 5SU, UK. E-mail: lucy.michie@ed.ac.uk
took place. Although many contraceptive options are available to women, long acting reversible methods are thought to be amongst the most effective as they require minimal patient adherence following initiation. Reported rates of failure of contraception vary with perfect use and typical use, since methods that rely on user compliance are more likely to be used incorrectly or inconsistently. The percentage chance of a woman becoming pregnant within a year using either intrauterine contraception or a contraceptive implant, is the same with both perfect and imperfect use (0.2% and 0.05% chance of pregnancy, using Levonorgestrel intrauterine system (LNG-IUS) and the contraceptive implant respectively). Conversely, with use of combined hormonal methods (pill, patch or ring), the chance of an unintended pregnancy is 26 times greater with typical use compared to perfect use (0.3% and 8% chance of pregnancy, within a year with perfect and typical use respectively).

Furthermore, a large systematic review of studies reporting contraceptive efficacy from 1990 onwards, concluded that long-acting hormonal contraceptives (LNG-IUS and implants) were as effective as female sterilisation and were closely followed in effectiveness by copper intrauterine devices with ≥300mm² surface area.

The term "Long Acting Reversible Contraception", commonly referred to as LARC, has been defined in a United Kingdom (UK) National Guideline as "contraceptive methods that require administration less than once per cycle or month". In the UK, LARC is taken to include; copper intrauterine devices (IUD), progestogen-only intrauterine systems (IUS), progestogen-only injectable contraceptives, progestogen-only subdermal implants and combined vaginal rings. Another term that has been used less commonly, to describe methods of contraception that don't require any active intervention before three years of use, is 'forgettable contraception'. However, this additionally includes non-reversible sterilisation and excludes both progestogen-only injectables and the contraceptive vaginal ring. In the United States, LARC methods are described as those with a long duration of action and no need for active adherence following initiation. This takes into account both intrauterine devices and contraceptive implants.

For the purpose of this review, LARC methods will include IUD/IUS, contraceptive implants and progestogen-only injectables. This article will cover the barriers to uptake of these methods of contraception, and potential strategies to overcome them in the developed world.

**Rates of uptake**

Comparison of rates of use of specific contraceptive methods between countries can be difficult, as a result of differences in design, methods and implementation of the population surveys used to obtain such data. Furthermore, some countries have data available that is more up to date than others. Nevertheless, uptake of LARC can be seen to vary across the world. In the UK, the most recent national data available from the Office for National Statistics sexual health survey, in 2008/2009, indicated that 75% of women aged 16-49 yrs were currently using a method of contraception. However, in this survey the proportion of women using LARC methods were low, with 6% using an IUD or IUS, 3% using the progestogen-only injectable and only 1% using an implant. Estimations from the US, from a population survey in 2006/2008, indicated that 75% of women aged 16-49 yrs were currently using a method of contraception. Conversely, reported rates of use of intrauterine contraception are as high as 40.6% in China (data from a 2006 population survey), 36.1% in Egypt (data from 2008) and 22.7% in France (data from 2004/2005) of women aged 16-49 years of age who are either married or in a union. Likewise, in some countries the use of the contraceptive injectable is far higher at 28.4% in South Africa (data from 2003/2004) and 31.8% in Indonesia (data from 2007). Across the world, reported use of the contraceptive implant remains low,
with Norway reporting the greatest use, at 3.3% of women aged 16-49 who are married or in a union (data from 2005). Although many of the most recently available population surveys reporting contraceptive use are now over 5 years old, and uptake of LARC methods may have increased in these countries since their publication, it is clear that more needs to be done to increase their use further in certain parts of the world.

**Possible barriers to the use of LARC**

*Patient's knowledge and attitudes towards LARC*

There are several possible explanations for the low uptake of LARC methods in some countries. It has been shown that women lack accurate knowledge about the individual types of LARC and often hold negative attitudes towards them. Qualitative research from the UK identified a common theme of women having little accurate knowledge about individual methods, instead relying on information relayed to them by friends and family. In this study conducted in Scotland in 2007 the views of 55 women of varying ages, were sought during focus group discussions with regard to the acceptability of LARC (injectable, IUD / IUS / Implant). In addition to limited knowledge, it was apparent that women were also concerned about the potential side effects of these methods, and in many cases these concerns were based upon the past negative experiences of friends. Even after providing women with accurate information, concerns remained and only a minority (25%) expressed any interest in using LARC in the future. Similarly, in a separate qualitative study a lack of knowledge and fear of possible side effects, were amongst the common themes identified during interviews with ten women specifically about intrauterine contraception. Further concerns were anxiety about fitting of an IUD and of the risk of infection with an IUD. Additionally, this study highlighted that women felt that lack of personal control of intrauterine contraception was a drawback.

Whilst many doctors may perceive that a method of contraception that can be fitted and forgotten about, such as both intrauterine methods and contraceptive implants, is beneficial, some women disagree. Women described feeling a loss of control of their contraception as they required it to be both fitted and removed by a health professional, and furthermore they expressed concerns that it felt less reliable as they could not see it once fitted. A survey undertaken in the US, specifically targeted adolescent and young women to determine their attitudes towards intrauterine contraception (IUC). In response to advice from the American College of Obstetrics and Gynecology (ACOG) to consider IUC as first-line contraception in adolescents, the investigators sought to study the views of women aged 14-27 years to identify how realistic this might be. Of the 252 women surveyed, 98% had previously had sex, although none of them had previously used an IUD/IUS. Less than half (45%) had heard of an IUD/IUS, and following a brief description of an IUD/IUS, only 26% expressed some degree of interest in using it in future. Similar negative perceptions were evident again, including fear of pain at insertion and the requirement for a health professional to fit and remove the device. Since several studies suggest that negative myths and misconceptions about intrauterine contraception are responsible for their poor uptake, a further UK study sought to identify to what extent these beliefs are held. Over 100 women requesting a termination of pregnancy at a hospital clinic in Scotland, UK, completed an anonymous questionnaire. The questionnaire contained 12 negative statements regarding IUD/IUSs and women were asked to indicate their level of agreement with each. The statements women were most likely to agree with were that an IUD/IUS is painful to be inserted (34%), and that it could move around inside the body (24%). However, many women opted to neither agree nor disagree with the statements (ranging from 26-56%). A further 25% indicated they were actually consider-
improving the use of an IUD/IUS following abortion. This reinforces previous findings that women lack accurate knowledge about this method and suggests that negative views of intrauterine contraception may not be held as strongly as once thought. Health professionals therefore have the opportunity to educate women, and dispel myths and misconceptions where they do exist, about both IUD/IUS and other LARC methods.

**Health professionals’ knowledge and attitudes towards LARC**

Although health professionals may well have the opportunity to educate potential users of LARC about its benefits, it is also clear that lack of accurate knowledge and the skills required to provide these methods also exists among health professionals themselves. Following a recommendation by the National Institute of Clinical Health and Excellence (NICE) in the UK, that increased use of LARC methods could decrease unintended pregnancy rates, the views of doctors and nurses working in general practice (main providers of contraception in the UK) were sought with regard to LARC. Respondents to this survey regarded LARC methods as safe, easy to use and rated them highly for efficacy compared to non-LARC methods. However, they ranked LARC lower than the combined pill, for acceptability. Misconceptions were prevalent in both doctors and nurses about side effects of these methods, with a significant proportion of respondents incorrectly believing that the contraceptive implant could cause weight gain and a delay in return to fertility. Disappointingly, 58% of male and 35% of female doctors stated they would not consider a contraceptive implant as a first line method for women in any age group, and 46% of male and female doctors would not consider the injectable as first line. This may in part be related to the high proportion of doctors in the survey (81% of male and 45% of female doctors) who felt they saw too few patients to maintain the skills to insert implants. If the health professionals most commonly discussing contraception with women, possess inaccurate knowledge, or lack the skills to counsel women about or administer LARC methods, then clearly an opportunity to increase their uptake via patient education is lost. A further survey of general practitioners in London, UK, concerning their knowledge and attitudes about the LNG-IUS, highlighted again that misconceptions about this method are prevalent. In this survey, 17% of the 71 surveyed, incorrectly agreed the LNG-IUS would increase the risk of pelvic inflammatory disease (PID), whilst 23% believed it to increase the risk of an ectopic pregnancy. When asked regarding their first line choice of contraception for a young (<25 years of age) nulliparous women only 8% stated a LARC method, none opted for LNG-IUS and the majority (92%) chose the pill. Amongst the Canadian counterpart to UK GPs, Family Physicians (FPs), it was also clear that many incorrectly believed misconceptions about IUDs. Over 60% of respondents incorrectly felt ectopic pregnancy and PID were major risks of using an IUD. Once again, the majority (>70%) would not recommend use of an IUD to nulliparous women. There is also evidence that gynaecologists may hold misconceptions about intrauterine contraception. A 2002 survey of Fellows of American College of Obstetricians and Gynecologists, regarding knowledge of and attitudes towards IUD, identified that nearly a third (29%) believed that the IUD increased the risk of PID by 10% or more. It was also suggested that US gynecologists feared litigation from such grossly exaggerated beliefs about risks with use of an IUD, which in turn presented a barrier to uptake of the IUD. A more recent survey, showed that such misconceptions about the IUD still prevailed among gynaecologists in the US from 2008. Negative attitudes towards the IUD and other methods of LARC, might mean that health professionals are unlikely to promote these methods and may even perpetuate incorrect negative views of intrauterine contraception in patients. Beliefs that LARC methods such as the IUS/IUS are not suitable for young or nulliparous
women are particularly worrisome, since these women are arguably at greatest risk of unintended pregnancy and would benefit from the most effective method. It is possible therefore, that better training and knowledge about these methods among health professionals could increase uptake of LARC in women.

**Accessibility and cost of LARC**

There are national practice recommendations, advising health professionals to provide counselling to all women about all contraceptive methods including LARC, in the UK and the US.\(^9\),\(^{23}\) Additionally, World Health Organisation policy aims to eliminate systemic barriers to contraceptive services and increase access to modern contraception.\(^{24}\) Unfortunately, the uptake of LARC remains limited in some areas and in certain groups of women, as a result of difficulty accessing it and high costs. In the UK, contraception has been provided free of prescription charges as part of the National Health Service since the 1970s. Furthermore, women do not require to pay any consultation fees to receive contraception, and have the option of attending a range of providers, including their general practitioner or community sexual health clinics.\(^9\) In contrast, in the US and other parts of the world, women may be faced with high upfront costs for LARC methods.\(^{23}\) The ability to provide these methods and the actual cost women may require to pay, can depend upon the level of health insurance she has, if any, and the LARC methods available to her at the clinic she opts to attend. Some free or low-cost clinics may not be able to fund and therefore provide these methods to all women.\(^{25}\),\(^{26}\) There is evidence in the US that women of low-income status, (implied by virtue of receiving public health insurance), are significantly more likely to undergo sterilisation following a pregnancy rather than use LARC.\(^{27}\) This may not simply reflect higher upfront costs with LARC, but may also reflect other barriers to access that potentially affect low income groups, such as difficulty in travelling to a contraceptive provider, particularly for women who may live in remote or rural areas.\(^{27}\),\(^{28}\) Difficulty with access to services or the requirement to travel a distance to attend, is a particular barrier to the use of the injectable method of contraception since it requires to be administered by a health professional every ten (NET-EN) or twelve (DMPA) weeks. Even for those women where access to services is not a particular problem, they may be less inclined to use it if they perceive regular 3 monthly visits to be an inconvenience. There is some evidence that the potential ability to self-administer the injectable method could increase its acceptability and possibly uptake of this method.\(^{29}\) In a survey of women attending a family planning clinic in Scotland, 61% of women surveyed stated they would prefer to attend a clinic less often for contraceptive supplies.\(^{29}\) Two-thirds of the women who were current users of the injectable, expressed a theoretical preference to use a preparation that they could self-inject at home. In the same survey, a significant proportion of ex-users and never users of the method stated they would consider using it again, if it were available for self-administration.\(^{29}\)

Contraceptive services in remote and/or rural areas (even in developed nations) may also have difficulty in providing LARC to women, due to having fewer providers or lacking the provider training that is more easily available in urban areas.\(^{28}\) In a survey of both urban and rural family planning providers at Title X clinics (those providing free contraceptive services) in Texas, providers in urban areas were more likely to report that they were well trained in LARC methods (75%) compared to rural providers (57%).\(^{28}\)

**Strategies to increase the uptake of LARC**

It is evident that barriers exist which may hinder efforts to increase the uptake of the most effective forms of contraception, although there are various approaches which
could be taken to try to overcome them. Strategies to improve women’s knowledge of LARC methods may result in a more positive attitude towards LARC. This was demonstrated in a study conducted in the US in 2006, where a team of investigators devised a three minute educational intervention about the IUD for women attending general obstetric and gynaecology clinics.\textsuperscript{30, 31} The intervention consisted of brief oral information about intrauterine contraception, including; its effectiveness, risks, benefits, effects on fertility and menstruation, length of use and difference between the two different types and use of a plastic model IUD to explain the insertion procedure. The investigators showed that following the intervention, over half of all participants (54\%) had a positive attitude towards IUDs compared to 15\% before the intervention. Furthermore, even in women who had prior knowledge of the IUD, the proportion with a positive attitude towards them rose significantly from 38\% to 64\%.\textsuperscript{31} The authors concluded that all sexually active young women could benefit from brief education about the IUD.\textsuperscript{31} Previous qualitative research has identified that some of the factors that women take into account when choosing their method of contraception include; their perception of safety, efficacy, reliability, ease of use, side effects and reversibility.\textsuperscript{14} Therefore the provision of accurate information about LARC, including reassurance of the safety, reliability, ease of use and reversibility of these methods, in addition to a clear explanation of side effects that are common and those that are not, may result in increased interest in these methods.

However, improving knowledge and attitudes amongst patients will remain difficult if a poor knowledge or negative attitudes prevail amongst the health professionals who provide contraception. National practice guidelines, which recommend the use of LARC in women of all ages, and provide a clear guide for health professionals to refer to when considering their use, aim to eliminate the misconceptions that exist amongst health professionals.\textsuperscript{9, 32} Furthermore, in the US, the ACOGs “LARC program” works to ensure health professionals have access to the most up to date information and resources through provision of training and training materials and an E-newsletter.\textsuperscript{33} The “LARC program” is a national strategy of the ACOG, and in addition to providing information and guidance on LARC methods to health providers via the college website, it involves various activities nationally which aim to promote and increase the uptake of LARC.\textsuperscript{33}

A large prospective cohort study undertaken in St Louis in the US, known as CHOICE, which has now been the subject of several publications, involved several measures with the aim of promoting the use and increasing the uptake of LARC (which included intrauterine contraception and the contraceptive implant).\textsuperscript{25, 34-36} The Contraceptive CHOICE Project aimed to recruit a cohort of 10000 women aged 14-45 yrs, of age, and provide them with any reversible contraceptive method of contraception that the woman chose at no cost for a three year period. In addition to obtaining the method free of charge, all participants read information about the safety and effectiveness of LARC and underwent in-depth, evidence based, contraceptive counselling by trained contraceptive providers before they chose their method. In addition to removing the barrier of cost and providing education about LARC to all women at enrolment, LARC was made more accessible to many women as the CHOICE project was widely available in many outpatient facilities throughout the region. All participants were followed up by telephone at three months, six months and then six monthly intervals until three years.\textsuperscript{34} Over a four year period from 2007-2011, over 9000 women were recruited, with a mean age of 25 years. One third had only high school education or less, almost half were nulliparous and almost two thirds reported a previous unintended pregnancy.\textsuperscript{35} The authors suggested that the demographics of this cohort of women indicated they were at high risk of unintended pregnancy. The majority (75\%) of participants recruited opted for
an IUD/IUS or implant as their choice of contraception (46% chose LNG-IUS, 12% chose Cu-IUD, 17% chose contraceptive implant). If those choosing DMPA were included in this total (7%), then 82% of participants chose LARC as defined in this review.35 This level of uptake for methods of LARC is significantly higher than both the most recent nationally reported US uptake rates, and reported uptake in many other parts of the world.12 This strongly suggests that when you remove potential barriers to these methods, uptake will increase. Of course, emulating this rise in use of LARC would obviously be more difficult in practice when it is not part of a large, regional, well organised and well funded research study. The CHOICE study also analyzed 12 months of follow-up data in over 5000 participants, to estimate continuation rates and satisfaction with intrauterine contraception and implants. It has been noted in previous research that some health professionals may have concerns about high discontinuation rates with these methods.18 However, in this analysis, discontinuation rates were significantly higher among women not using a long acting method than in those using an IUD/IUS or implant (45% vs. 14% in IUD/IUS or implant users). Furthermore, those using LARC were significantly more likely to be satisfied with their method at 12 months (84% satisfied vs. 53% satisfied on non-LARC users).36 This may help to alleviate concerns about the safety, benefits and acceptability of LARC in adolescents and young adults, go one step towards this.9,25,32 Provision of youth friendly services may go one step further. The World Health Organisation defines youth friendly services as being equitable, accessible, acceptable, appropriate and effective for young people.37 Strategies to make services youth friendly include convenient locations and opening hours, age appropriate educational materials and specific training of health professionals working within these services in adolescents and young adults. A team of investigators in the US aimed to identify youth friendly services within publicly funded facilities, and the relationship of LARC-related services in these settings versus non youth friendly services.38 Out of just over 600 services that were surveyed, 78% were deemed as youth friendly sites. Respondents from these sites were significantly more likely to indicate that LARC methods were typically discussed during a contraceptive visit with teens/young adults, and additionally that LARC provision had increased in their services, compared to sites that were not deemed as "youth friendly".38 This study thus highlights that it is important to take account of the specific needs of teenagers and young adults when designing contraceptive services as increased interest in and attendance at youth friendly services, will result in greater opportunities to educate them about LARC, and consequently increased uptake of LARC.

The development of a subcutaneous form of Depo-Provera as an injectable method of contraception, lends the possibility of self-administration, so removing the barrier of access for some women to this method.29,39,40,41 Three studies have investigated the feasibility of self-administration of subcutaneous DMPA.40,41,42 Continuation rates at 1 year at 12 months were high (74% US and 88% UK studies) and most women found the injections to be convenient (95%), easy (87%) and would recommend them to others (94%). The third study showed that self-administration of this subcutaneous injectable was feasible even in teenagers after brief training.42 The possibility to self administer may not only be attractive to women but could potentially help to prevent unintended pregnancies for some women who might otherwise miss an injec-
tation because they unable to get to a scheduled clinic appointment. A further benefit of a subcutaneous form of Depo-Provera, aside from the option of self-administration, is the potential for it to be administered by a range of health professionals including community pharmacists. This was shown to be feasible in a pilot study in the US, whereby 50 women were randomised following an initial dose in clinic, to receive two subsequent doses of subcutaneous Depo-Provera at either the same clinic or at a community pharmacy. Continuation rates with the second and third injections were similar in both settings and follow-up surveys showed no significant differences in patient satisfaction with location, convenience, privacy and respect from providers. For those women who are not keen to self-administer, attendance at a pharmacy in a location suitable for them would offer another option.

The use of LARC following abortion and postpartum

Provision of counselling regarding contraceptive methods and access to a wide range of contraception immediately following an abortion, is an important component of abortion care. Increasing evidence has emerged in recent years that immediate uptake of LARC following an abortion, reduces the incidence of repeat abortions. In one such study, of just under 1000 women attending for abortion in Scotland in 2008, the chance of a further abortion in the subsequent two years was 20 times less with the use of intrauterine contraception post abortion, compared to the oral contraceptive pill. The risk of further abortion was 16 times less with use of the contraceptive implant compared to the pill. Therefore, strategies to increase the uptake of LARC immediately following abortion care important. Furthermore, this is a time when women may be more motivated to use such methods and may welcome the opportunity to discuss LARC. For a small number of women, who may only attend health services on very few occasions, it may be the only opportunity to educate them about the benefits of LARC and dispel any misconceptions. In a survey of women requesting abortion in the US about their views on receiving contraceptive advice, two thirds of those surveyed expressed a desire to leave the abortion facility with a contraceptive method or supplies. Additionally, over 60% of women expressed an interest in using a LARC (IUD/IUS/Implant) method in the future. In a study from the UK, provision of specialist contraceptive advice to women at the time of abortion compared to standard care, enhanced advice and provision was associated with an increase in the uptake of LARC at this time. Similarly, in New Zealand, an intervention that involved updating medical staff about LARC, promoting these methods to women and then providing them free of charge, significantly increased the uptake of LARC post-abortion from 44% to 61%. Insertion of intrauterine contraception is feasible at the time of surgical abortion. However, it is not standard practice for insertion to occur at the time of medical abortion; particularly if the woman leaves the abortion facility after medication has been administered, going home to pass products of conception. In these circumstances, arrangements therefore require to be made for her to return for insertion of intrauterine contraception at a later date, if she opts for this. However, it has been shown that many women will not return for such appointments. One review of over 200 women referred following medical abortion, over a two and a half year period, indicated only 53% attended. Aiming for early insertion at one week post abortion, as opposed to delayed insertion, is one potential strategy to increase the proportion of women who will attend. Insertion of intrauterine contraception at one week post medical abortion has been shown to be as safe as delayed insertion. Moreover, in two separate studies where women were randomised to either early (1 week) or delayed (3-4 weeks) insertion following medical abortion, significantly more women returned for insertion in the early
Improving the Uptake of Long Acting Reversible Contraception

MICHIE

with women, and service providers take these factors into account when organising their care, we may be more successful in initiating highly effective contraception in a group of women who would gain great benefit from it. Immediate insertion of contraceptive implants or intrauterine contraception postpartum may avoid the problem of women failing to return for insertion in the weeks following delivery. In a study of adolescent mothers from the US, those who chose to have a progestogen only implant inserted soon after childbirth were shown to have good continuation rates with this method, and were significantly less likely to become pregnant again within 12 months compared to counterparts using other methods.58 A Cochrane Database Review, of nine randomised controlled trials of immediate postpartum insertion of IUDs, found this to be safe and effective.59 Although expulsion rates may be slightly higher than with interval insertion, the added advantages of immediate insertion include; highly motivated women at this point in time, assurance the women is not pregnant and convenience.59

Conclusions

Long acting reversible methods of contraception are amongst the most effective methods available to women, yet uptake rates are low. Aside from cost issues, improving knowledge and dispelling misconceptions about LARC in women will be important to increase demand for these methods. However, improved education and training for health providers regarding LARC is also necessary to ensure this occurs. Providing women with information promoting the benefits of LARC through social marketing can empower women to choose the most effective methods for themselves. Taking measures to ensure services meet the needs of specific groups, such as the provision of LARC in a youth friendly setting, may further enhance uptake. Similarly, offering LARC methods immediately or shortly following abortion and postpartum, targets women who may be highly motivated to

Improving the Uptake of Long Acting Reversible Contraception

MICHIE

with women, and service providers take these factors into account when organising their care, we may be more successful in initiating highly effective contraception in a group of women who would gain great benefit from it. Immediate insertion of contraceptive implants or intrauterine contraception postpartum may avoid the problem of women failing to return for insertion in the weeks following delivery. In a study of adolescent mothers from the US, those who chose to have a progestogen only implant inserted soon after childbirth were shown to have good continuation rates with this method, and were significantly less likely to become pregnant again within 12 months compared to counterparts using other methods.58 A Cochrane Database Review, of nine randomised controlled trials of immediate postpartum insertion of IUDs, found this to be safe and effective.59 Although expulsion rates may be slightly higher than with interval insertion, the added advantages of immediate insertion include; highly motivated women at this point in time, assurance the women is not pregnant and convenience.59

Conclusions

Long acting reversible methods of contraception are amongst the most effective methods available to women, yet uptake rates are low. Aside from cost issues, improving knowledge and dispelling misconceptions about LARC in women will be important to increase demand for these methods. However, improved education and training for health providers regarding LARC is also necessary to ensure this occurs. Providing women with information promoting the benefits of LARC through social marketing can empower women to choose the most effective methods for themselves. Taking measures to ensure services meet the needs of specific groups, such as the provision of LARC in a youth friendly setting, may further enhance uptake. Similarly, offering LARC methods immediately or shortly following abortion and postpartum, targets women who may be highly motivated to

Improving the Uptake of Long Acting Reversible Contraception

MICHIE

with women, and service providers take these factors into account when organising their care, we may be more successful in initiating highly effective contraception in a group of women who would gain great benefit from it. Immediate insertion of contraceptive implants or intrauterine contraception postpartum may avoid the problem of women failing to return for insertion in the weeks following delivery. In a study of adolescent mothers from the US, those who chose to have a progestogen only implant inserted soon after childbirth were shown to have good continuation rates with this method, and were significantly less likely to become pregnant again within 12 months compared to counterparts using other methods.58 A Cochrane Database Review, of nine randomised controlled trials of immediate postpartum insertion of IUDs, found this to be safe and effective.59 Although expulsion rates may be slightly higher than with interval insertion, the added advantages of immediate insertion include; highly motivated women at this point in time, assurance the women is not pregnant and convenience.59

Conclusions

Long acting reversible methods of contraception are amongst the most effective methods available to women, yet uptake rates are low. Aside from cost issues, improving knowledge and dispelling misconceptions about LARC in women will be important to increase demand for these methods. However, improved education and training for health providers regarding LARC is also necessary to ensure this occurs. Providing women with information promoting the benefits of LARC through social marketing can empower women to choose the most effective methods for themselves. Taking measures to ensure services meet the needs of specific groups, such as the provision of LARC in a youth friendly setting, may further enhance uptake. Similarly, offering LARC methods immediately or shortly following abortion and postpartum, targets women who may be highly motivated to

Improving the Uptake of Long Acting Reversible Contraception

MICHIE

with women, and service providers take these factors into account when organising their care, we may be more successful in initiating highly effective contraception in a group of women who would gain great benefit from it. Immediate insertion of contraceptive implants or intrauterine contraception postpartum may avoid the problem of women failing to return for insertion in the weeks following delivery. In a study of adolescent mothers from the US, those who chose to have a progestogen only implant inserted soon after childbirth were shown to have good continuation rates with this method, and were significantly less likely to become pregnant again within 12 months compared to counterparts using other methods.58 A Cochrane Database Review, of nine randomised controlled trials of immediate postpartum insertion of IUDs, found this to be safe and effective.59 Although expulsion rates may be slightly higher than with interval insertion, the added advantages of immediate insertion include; highly motivated women at this point in time, assurance the women is not pregnant and convenience.59

Conclusions

Long acting reversible methods of contraception are amongst the most effective methods available to women, yet uptake rates are low. Aside from cost issues, improving knowledge and dispelling misconceptions about LARC in women will be important to increase demand for these methods. However, improved education and training for health providers regarding LARC is also necessary to ensure this occurs. Providing women with information promoting the benefits of LARC through social marketing can empower women to choose the most effective methods for themselves. Taking measures to ensure services meet the needs of specific groups, such as the provision of LARC in a youth friendly setting, may further enhance uptake. Similarly, offering LARC methods immediately or shortly following abortion and postpartum, targets women who may be highly motivated to
Migliorare la comprensione dei metodi contraccettivi reversibili a lunga durata d’azione: una review

In tutto il mondo, i tassi di gravidanze non programmate sono elevati. Le gravidanze non programmate non solo comportano notevoli costi per i servizi sanitari, ma possono anche essere fonte di angoscia per le donne che le affrontano. Nonostante un gran numero di gravidanze non programmate si verifichi in donne che non utilizzano alcun metodo anticoncezionale, parte di esse si verifica in donne che utilizzano un metodo anticoncezionale in maniera sbagliata o irregolare. I metodi contraccettivi reversibili a lunga durata d’azione, come i dispositivi intrauterini (IUD), i sistemi intrauterini (IUS), gli implant contraccettivi e le sostanze iniettabili, rappresentano i metodi contraccettivi più efficaci. Nonostante ciò, essi sono sottoutilizzati dalle donne nei paesi sviluppati. Educare donne e gli operatori sanitari, eliminando le leggende su tali metodi può migliorare la loro accettabilità. Inoltre, agevolare la comprensione, garantendo che una serie di operatori siano addestrati e capaci di fornire assistenza alle donne che utilizzano un metodo anticoncezionale in maniera sbagliata o irregolare.

Riassunto

Migliorare la comprensione dei metodi contraccettivi reversibili a lunga durata d’azione: una review

- Better uptake and continuation rates of LARC could lead to fewer unintended pregnancies and the associated distress for affected women and cost to health services they bring.

References


23. American College of Obstetricians and Gynecolo- gists. ACOG Committee Opinion Number 450. Increasing use of Contraceptive Implants and Intrauteri-


Funding.—None.

Conflicts of interest.—The authors certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

Received on April 15, 2013.

Accepted for publication on April 19, 2013.
Myths and misconceptions about intrauterine contraception among women seeking termination of pregnancy

Lucy Michie,1 Sharon T Cameron,2 Anna Glasier,3 Kaye Wellings,4 Joanna Loudon5

ABSTRACT

Background Immediate initiation of an intrauterine device (IUD) or intrauterine system (IUS) following termination of pregnancy (TOP) is associated with a significant reduction in the risk of another TOP. In spite of its high efficacy, uptake of intrauterine contraception in the UK is low. Myths and misconceptions about the method may contribute to the low uptake.

Study design Anonymous, self-administered questionnaire among women requesting a TOP in a hospital abortion service in Scotland, UK.

Methods Misconceptions about intrauterine contraception were extracted from an online social networking and micro-blogging service, and from existing research to develop a questionnaire containing 12 negative statements about intrauterine contraception. Respondents indicated their level of agreement with each statement.

Results A total of 106/125 (85%) women requesting a TOP completed the questionnaire. The two commonest negative statements that respondents agreed with were that the IUD/IUS ‘Is painful to have inserted’ (n=36; 34%) and that ‘It can move around inside your body’ (n=25; 23.6%). The range of women who neither agreed nor disagreed with negative statements was 26.4–56.0%. Twenty-seven (25%) women indicated that the IUD/IUS was their planned method of post-TOP contraception.

Conclusions Although myths about intrauterine contraception persist among a small proportion of women requesting a TOP, lack of knowledge about the method is also evident. The consultation prior to TOP is an important opportunity to provide accurate and quality information to women about the IUD/IUS that may serve to increase uptake and prevent repeat abortions.

Key message points

▸ Only a minority of women requesting a termination of pregnancy (TOP) hold misconceptions about intrauterine contraception, although knowledge of the method is lacking.
▸ The consultation prior to TOP is an important opportunity to provide accurate and quality information to women about intrauterine contraception that may serve to increase uptake of this method and protect women from a further TOP.

INTRODUCTION

The use of intrauterine contraception, either as an intrauterine device (IUD) or hormone-releasing intrauterine system (IUS), varies significantly across the world. Worldwide use was most recently estimated to be 14%, although this rises in some countries with rates as high as 37% in Eastern Asia.12 The UK, however, has much lower rates of use of intrauterine contraception (6% using an IUD and 2% using an IUS in 2010). Intrauterine contraception is considerably less popular in the UK than either oral contraception or condoms.3 A systematic review of the literature regarding contraceptive efficacy found the IUS to be as effective as female sterilisation, and the IUD was rated second to the IUS for effectiveness.4

In 2011, the rate of abortion per 1000 women aged 15–44 years was 12.0 in Scotland and 17.5 in England and Wales.5 6 National guidance from the UK
recommends that increasing uptake of intrauterine contraception has the potential to reduce the number of termination of pregnancies (TOP). There is also global evidence that immediate initiation of intrauterine contraception at the time of TOP is associated with a significant reduction in the likelihood of subsequent TOP. In 2011, 29% of women having an abortion in Scotland and 35% in England and Wales had at least one previous TOP. Increased uptake of intrauterine contraception among women having a TOP could therefore play an important role in reducing this repeat abortion rate. Unfortunately, myths and misconceptions about intrauterine contraception may account for the low uptake of this method in the UK.

In order to determine what proportion of women seeking TOP hold misconceptions about the IUD/IUS we conducted a survey among women requesting TOP at a hospital abortion service at the Royal Infirmary of Edinburgh (RIE), Edinburgh, Scotland, UK. The RIE is the main provider (80%) of abortion services in Lothian (Edinburgh and surrounding area). In 2011, 2416 induced abortions were conducted in Lothian. The purpose of the study was to provide information to help guide health professionals in developing effective educational strategies that may increase positive attitudes towards intrauterine contraception, so that more women may consider this as a method of ongoing contraception after a TOP.

METHODS

In order to help to develop a short questionnaire for women to complete regarding their beliefs about intrauterine contraception, two separate sources were used to identify common misconceptions women may have. First, statements about intrauterine contraceptives were taken from unpublished transcripts of interviews undertaken with young people aged 13–21 years during 2000–2004 as part of an evaluation of a national teenage pregnancy strategy. Second, we extracted negative statements about the IUD/IUS from an online social networking and micro-blogging service (Twitter) by conducting two searches 10 days apart in December 2011. The search terms used were ‘IUD’, ‘intrauterine device’, ‘IUS’, ‘mirena’, ‘coil’ and ‘paragard’. Statements were identified that discussed the IUD, although those that used the term in an unrelated meaning were not included. By reviewing these sources common themes were identified regarding women’s views towards, and concerns about, the IUD/IUS. This allowed us to create a questionnaire comprising a short introductory paragraph followed by 12 negative statements about the IUD/IUS. During January and February 2012, women attending the RIE clinics requesting a TOP were given the questionnaire by one of the clinic nurses and invited to complete it and place it in an opaque sealed envelope in a collection box. The questionnaires were completed by women prior to either ultrasound scan or consultation with medical staff in the clinic, and they therefore were not aware of what method of TOP they could have (if at all), and had not discussed contraception with any medical staff in the clinic at that point. The questionnaire was anonymous and self-completed and required a response to each statement on a five-point Likert scale ranging from ‘strongly agree’ to ‘strongly disagree’. Further questions sought demographic information including age, postcode area of residence (used to obtain a Carstairs deprivation category score) and previous and intended contraceptive use.

Statistics

All the data were coded and entered onto a database using Microsoft Excel. Data were entered into the database by a research nurse and the data were checked and coded by one of the authors (LM). Responses to each statement were combined such that ‘strongly agree’ and ‘somewhat agree’ were grouped as ‘agree’, while ‘strongly disagree’ and ‘somewhat disagree’ were grouped as ‘disagree’. The remaining group of responses were ‘neither agree nor disagree’. Data analysis was performed using IBM Statistical Package for Social Sciences (SPSS) software V18 (IBM Corporation, New York, NY, USA). Demographic data were obtained including means and standard deviations. To allow statistical comparison between age groups, four age groups were defined: 0–19, 20–24, 25–34 and 35+ years. Comparisons were made using Fisher’s exact test as counts within the individual cells of the contingency table fell below 5. Statistical significance was deemed to be p<0.05.

Ethical approval

The questionnaire was reviewed by the chair of a local research ethics committee who confirmed that ethical approval was not required for this study.

RESULTS

A total of 106 completed questionnaires were obtained from 125 distributed (an 85% response rate). The age of respondents ranged from 15 to 42 years and their demographics are shown in Table 1. Seventy-eight per cent of women (n=83) had used more than one method of contraception previously, and eight (8%) women had previously used an IUD or IUS in the past (Table 1). Regarding future planned use of contraception, three (3%) women intended to use no contraception and two (2%) were uncertain. Of those respondents (n=101) who were intending to use contraception, the methods planned included oral contraceptive pill (n=33; 31%), IUD or IUS (n=27; 25%), progestogen-only implant (n=26; 24%), barrier methods (n=26, 24%), progestogen-only injectable (n=13; 12%), combined hormonal contraceptive patch (n=3, 3%) and sterilisation (n=2, 2%). Parous women were significantly more likely to indicate that they planned to use an IUD/IUS...
for future contraception compared to nulliparous women \((p=0.009)\). Women who had previously had a TOP were also significantly more likely to choose the IUD/IUS as a future method when compared to women with no history of TOP \((p=0.039)\). Women who had used previously used intrauterine contraception were significantly more likely to disagree with Statement 5 (‘There is a good chance it can make you infertile’) than those who had not \((p=0.03)\). There was no significant difference in responses between these groups for all other statements. Women aged 19 years and under \((n=24)\) were significantly more likely to agree with Statement 1 (‘It is painful to have inserted’) compared to women in any other age group \((p=0.037)\). There were no significant associations between any demographic factors tested (i.e. age group, deprivation category score, reproductive history) and agreement with any other statements.

### DISCUSSION

Our study showed that only a small percentage of women requesting a TOP agreed with the negative statements about intrauterine contraception, suggesting that only a minority of these women held major misconceptions about this method. Our study did, however, show that approximately one-third of women ‘neither agreed nor disagreed’ with the statements, which may suggest a lack of knowledge about intrauterine contraception amongst this group. Thus the TOP consultation does offer a good opportunity to provide information about this most effective method of contraception that has been shown to reduce the risk of a subsequent TOP\(^8\)\(^–\)\(^10\). Some health professionals may worry that women requesting a TOP may not wish to discuss contraception at this point.

### Table 1 Demographics of the questionnaire respondents \((n=106)\)

<table>
<thead>
<tr>
<th>Demographic</th>
<th>([n (%)])</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years) Mean (SD)</td>
<td>25 (6.4)</td>
</tr>
<tr>
<td>Range</td>
<td>15–42</td>
</tr>
<tr>
<td>Deprivation Category score*</td>
<td></td>
</tr>
<tr>
<td>1–2 Affluent</td>
<td>15 (14.2)</td>
</tr>
<tr>
<td>3–5 Moderate</td>
<td>77 (72.6)</td>
</tr>
<tr>
<td>6–7 Deprived</td>
<td>14 (13.2)</td>
</tr>
<tr>
<td>Parity</td>
<td></td>
</tr>
<tr>
<td>Nulliparous</td>
<td>57 (53.8)</td>
</tr>
<tr>
<td>Parous</td>
<td>49 (46.2)</td>
</tr>
<tr>
<td>Previous abortion</td>
<td>36 (34.0)</td>
</tr>
<tr>
<td>Previous methods of contraception ever used</td>
<td></td>
</tr>
<tr>
<td>Condom</td>
<td>98 (92)</td>
</tr>
<tr>
<td>Oral contraceptive pill</td>
<td>74 (74)</td>
</tr>
<tr>
<td>Progestogen-only implant</td>
<td>16 (15)</td>
</tr>
<tr>
<td>Progestogen-only injectable</td>
<td>12 (11)</td>
</tr>
<tr>
<td>Intrauterine device/system</td>
<td>8 (8)</td>
</tr>
<tr>
<td>Combined hormonal patch</td>
<td>5 (3)</td>
</tr>
<tr>
<td>None</td>
<td>4 (4)</td>
</tr>
</tbody>
</table>

*Deprivation Category is a marker of deprivation in Scotland based upon postcode area of residence. SD, standard deviation.

### Table 2 Response to negative statements about intrauterine contraception

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 It is painful to have inserted</td>
<td>36 (34.0)</td>
<td>59 (56.0)</td>
<td>11 (10.0)</td>
</tr>
<tr>
<td>2 It is only suitable for women who have had children</td>
<td>8 (7.5)</td>
<td>40 (37.8)</td>
<td>58 (54.7)</td>
</tr>
<tr>
<td>3 It is not suitable if you have had more than three children</td>
<td>3 (2.8)</td>
<td>53 (50.0)</td>
<td>50 (47.2)</td>
</tr>
<tr>
<td>4 Can only be used in older women</td>
<td>4 (3.8)</td>
<td>38 (35.8)</td>
<td>64 (60.4)</td>
</tr>
<tr>
<td>5 There is a good chance it can make you infertile</td>
<td>3 (2.8)</td>
<td>45 (42.5)</td>
<td>58 (54.7)</td>
</tr>
<tr>
<td>6 There is a good chance it can damage the womb</td>
<td>17 (16.0)</td>
<td>36 (34.0)</td>
<td>53 (50.0)</td>
</tr>
<tr>
<td>7 There is a good chance it can damage the ovaries</td>
<td>6 (5.7)</td>
<td>44 (41.5)</td>
<td>56 (52.8)</td>
</tr>
<tr>
<td>8 It can rust inside you</td>
<td>8 (7.5)</td>
<td>36 (34.0)</td>
<td>62 (58.5)</td>
</tr>
<tr>
<td>9 It can move around inside your body</td>
<td>25 (23.6)</td>
<td>28 (26.4)</td>
<td>53 (50.0)</td>
</tr>
<tr>
<td>10 There is a high chance it might fall out</td>
<td>16 (15.1)</td>
<td>40 (37.7)</td>
<td>50 (47.2)</td>
</tr>
<tr>
<td>11 It can get stuck on the baby’s head if you become pregnant</td>
<td>6 (5.6)</td>
<td>36 (34.0)</td>
<td>64 (60.4)</td>
</tr>
<tr>
<td>12 It is a breeding ground for infection</td>
<td>17 (16.0)</td>
<td>47 (44.4)</td>
<td>42 (39.6)</td>
</tr>
</tbody>
</table>
time, or that they may feel under pressure to accept contraception in order to obtain agreement to have an abortion. However, there is good evidence that women value the opportunity to discuss contraception at this visit and do not feel coerced into accepting a method of contraception.\textsuperscript{15} Although the consultations to discuss TOP may be lengthy and the time available to discuss contraception is short, there is evidence from the USA that even brief (3 minutes) oral educational interventions about the IUD/IUS can improve knowledge and positivity about this method.\textsuperscript{16–18} Furthermore, women seeking a TOP find that information about contraception imparted from viewing a digital video disk (DVD), rather than a face-to-face consultation with a health professional, is highly acceptable at this time.\textsuperscript{15}

In our study the most common misconception about intrauterine contraception that women agreed with were that the IUD/IUS is painful to have inserted and that it can move around inside your body. This may indicate that health professionals need to concentrate on providing accurate information and reassurance to women about these issues. In particular, oral analgesia or local anaesthesia for insertion can be discussed with women, as is recommended by the Faculty of Sexual & Reproductive Healthcare guidance.\textsuperscript{19} Women can also be reassured that the likelihood of an IUD/IUS perforating the uterus is rare.\textsuperscript{19}

The demographic characteristics of women participating in our survey were similar to that of previous studies of women attending for TOP in our region.\textsuperscript{10} In addition, our finding of 8% of women having previously used an IUD/IUS is in keeping with rates of uptake of intrauterine contraception in the UK.\textsuperscript{2} More surprising was the finding that 25% of respondents were considering using an IUD/IUS following a TOP. A study of ongoing contraception post-TOP from our service in 2008 showed that 9.5% of women had an IUD/IUS inserted immediately following a TOP.\textsuperscript{16} It is possible that this apparent increase in ‘interest’ in intrauterine contraception in our current study may reflect the impact of a Scottish Government sexual health strategy that used social marketing to promote awareness of the most effective long-acting methods of contraception.\textsuperscript{20} Our surveys were anonymous, so it is unlikely that women felt compelled to indicate interest in this method of contraception. It does, however, suggest that the consultation prior to a TOP is a good opportunity for health professionals to provide accurate information to women about the IUD/IUS, since motivation to use this method may be high and its uptake may protect women from a subsequent TOP. Although clearly our study was limited by sample size, the findings do add weight to the importance of abortion care providers being trained and funded to be able to provide the IUD/IUS to women at the time of abortion, if they wish this and if it is appropriate to do so.\textsuperscript{10}

Author affiliations
1 Clinical Research Fellow, Department of Reproductive and Developmental Sciences, University of Edinburgh, Edinburgh and Chalmers Sexual and Reproductive Health Centre, Edinburgh, UK
2 Consultant in Gynaecology and Reproductive Health, Department of Reproductive and Developmental Sciences, University of Edinburgh, Edinburgh and Chalmers Sexual and Reproductive Health Centre, Edinburgh, UK
3 Honorary Professor of Sexual and Reproductive Health, Department of Reproductive and Developmental Sciences, University of Edinburgh, Edinburgh, UK
4 Professor of Sexual and Reproductive Health Research, London School of Hygiene and Tropical Medicine, London, UK
5 Medical Student, College of Medicine and Veterinary Medicine, University of Edinburgh, Edinburgh, UK

Acknowledgements The authors are grateful to clinical research nurses Helen Dewart and Anne Johnstone for assistance with conduct of the survey.

Funding This project was undertaken with funding from Scottish Government, Public Health Division as part of a series of projects aimed at improving the patient journey through abortion services.

Competing interests None.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES


Giving information about the contraceptive implant using a DVD: is it acceptable and informative? A pilot randomised study

Lucy Michie,1 Sharon T Cameron,2 Anna Glasier,3 Anne Johnstone4

ABSTRACT

Background To provide standardised information about the contraceptive implant (Nexplanon®), a digital video disc (DVD) was developed for use within a sexual and reproductive health (SRH) service in Edinburgh. The aim was to determine if the accuracy of information recalled after watching a DVD was comparable to that following a face-to-face consultation, and if patients found the use of a DVD acceptable.

Methods Fifty women attending an SRH service abortion clinic considering using Nexplanon for the first time agreed to be randomised to receive information about the implant either by (a) a DVD (n=35) developed using information taken from Faculty of Sexual & Reproductive Healthcare guidance or (b) a face-to-face consultation (n=15). A structured interview was conducted immediately following the DVD/face-to-face consultation and by telephone 3 months later. A small number of participants from each group attended for in-depth interview.

Results Knowledge recall (e.g. expected side effects) immediately following each intervention was similar in both groups. Most of the women who watched the DVD felt it was helpful (89%), easy to understand (94%) and acceptable (69%). Subsequently 76% of participants were contacted successfully at 3 months. The majority of those who had watched the DVD agreed that it had been informative (93%) and would be happy to receive contraceptive information via a DVD in future (93%).

Conclusions The use of a DVD to provide patient information on Nexplanon is acceptable and informative, and may enhance patient consultations. A large randomised controlled trial may determine if provision of quality standardised information via DVD can improve uptake or continuation rates of long-acting reversible methods of contraception.

Key message points

▸ The use of an audio-visual digital video disc (DVD) to provide patient information on the contraceptive implant is acceptable and informative and may enhance patient consultations.

▸ Women who watched the DVD felt it was helpful and easy to understand, and they would be happy to watch a DVD for information provision again.

INTRODUCTION

Unintended pregnancy is common. In Scotland in 2013 there were 11 777 therapeutic abortions1 and around 30% of pregnancies are unplanned.2 Most could have been prevented by use of effective contraception. Unlike other medical treatments (e.g. antihypertensive drugs, antibiotics) it is the individual user who chooses their contraceptive method. This choice is likely to be based on information received from friends, family or the media, just as much as from health professionals.3 The effectiveness of a contraceptive method is contingent upon its correct and continued use, and this is vitally dependent on its acceptability to the user. It seems logical that the provision of good-quality information about a contraceptive method and what might be expected during its use should improve both correct use and continuation rates; however, there is little evidence for this, and none from the UK.4

Providing detailed information about a contraceptive method takes time to do well, but for many health care providers...
consultation times are short. Health care providers have different levels of training and education and may place emphasis on different aspects of a contraceptive method. Furthermore, the content of the consultation may vary depending on organisational factors such as whether the patient is the first or last to be seen that day. Consequently the quality of information women receive about a contraceptive method may be of variable quality, may sometimes be inaccurate, and may reflect the bias of the provider.

In NHS Lothian, the sexual and reproductive health service (SRH) has used digital video discs (DVDs) in the clinic for several years to provide information about vasectomy, intrauterine contraception and abortion. This ensures that patients receive accurate and standardised information in an audio-visual format. In a questionnaire survey of women requesting abortion who received information via DVD, women rated highly the content of the DVD and the acceptability of receiving information in this way. However, the effectiveness of a DVD for information giving, nor how it compares to a traditional face-to-face consultation for information provision, has not been formally evaluated.

To provide standardised, quality information about the contraceptive implant (Nexplanon), a DVD was developed for use at Chalmers Sexual Health Centre SRH service, NHS Lothian. The information included on the DVD was taken from the Faculty of Sexual & Reproductive Healthcare Clinical Effectiveness Unit Guidance on contraceptive implants, and covered mode of action, insertion, removal, contraindications, risks and side effects. The DVD’s content was agreed by clinicians working in the service and the DVD was made with technical assistance from the Medical Photographic Department, NHS Lothian. The DVD was piloted among stakeholders and minor modifications were made. The final version lasted 9 minutes. We conducted a pilot study that was designed to determine whether women found receiving information about Nexplanon via the DVD acceptable and informative. We wished to ascertain how the amount and accuracy of information recalled after watching a DVD compared to that following a face-to-face consultation with a clinician, and if the information given by either modality matched women’s experience of Nexplanon following insertion.

METHODS
Recruitment
All women aged ≥16 years, attending Chalmers Sexual Health Centre from January to June 2013 for medical abortion, and considering using Nexplanon, were invited to participate. Following a routine consultation and after arrangements had been made for the abortion procedure, the clinician determined eligibility for Nexplanon, according to *UK Medical Eligibility Criteria for Contraceptive Use*. Exclusion criteria included previous use of the contraceptive implant and the need for an interpreter during the consultation. A member of the research team provided further written and verbal information about the study before written consent was obtained from women agreeing to participate. Fifty women considering starting Nexplanon for the first time were recruited.

Interventions and randomisation
Participants were randomised to be given information about Nexplanon, either by DVD (35 women) or in a traditional one-to-one face-to-face consultation (15 women) with either a doctor or nurse (control group). Because this was a pilot study, a randomisation scheme allocating more participants to the intervention than the control group was chosen to improve the power in the intervention group without seriously affecting the power for between-group comparisons. A clinician provided women in the control group with information about Nexplanon according to their routine practice. Women randomised to the DVD watched it in the consultation room. When the DVD had finished, the clinician returned to the consulting room, thus providing an opportunity for women to ask any questions, and women wishing to undergo implant insertion were scheduled for this procedure following the abortion. Randomisation was done at the time of recruitment using sequentially numbered opaque sealed envelopes produced by a computer-generated randomisation sequence. Due to the nature of the intervention it was not possible to blind either the research team or the participant to the allocated intervention. Women were offered a £10 voucher if they were successfully contacted 3 months later for telephone interview.

Follow-up
Immediately following the consultation all women underwent a structured interview with a single researcher. A standard proforma was used to record demographic information, previous contraceptive use and what information the subject had gleaned from the consultation and its accuracy. The overall acceptability of the consultation was determined using a Likert scale to quantify descriptors including ‘helpful’, ‘easy to understand’ and ‘confusing’.

Three months following the initial intervention all the study participants were contacted about participating in a short standardised telephone interview, lasting ≤5 minutes, conducted by the same member of the research team (LM). Three attempts at contact were made using the telephone numbers provided, at varying times of the day. Women were asked which contraceptive method they had chosen following the intervention. Women who had Nexplanon inserted were asked if the implant matched their expectations, particularly with respect to side effects and bleeding.
patterns. All the women were asked about their experience of taking part in a randomised trial, and those in the DVD group were additionally asked about their experience of using a DVD as a means of receiving information.

**Qualitative methods**

At the time of the telephone interview all the women were invited to attend for a further in-depth interview with a member of the research team (LM or AJ), which was designed to explore in more detail their feelings about participating in a research study and the use of a DVD for information provision compared with a traditional consultation. Four women who watched the DVD and four who did not watch the DVD agreed to attend. A topic guide was used to structure each interview, based on the key areas described above. Women were offered a £20 voucher if they attended for in-depth interview. Interviews were conducted between May and August 2013 at Chalmers Sexual Health Centre, and lasted approximately 30 minutes. Interviews were audio-recorded and transcribed verbatim. Data were organised by cross-sectional indexing. After all the interviews had been conducted the data were analysed using thematic analysis.

**Statistics**

A sample size of 35 subjects was allocated to the DVD group to allow estimation of percentage rates of acceptability and recall to within a standard error of around 8%. The power for the randomised comparison to 15 controls is low, but sufficient to give a high chance of detecting a statistically significant major difference between the two groups of the order of 40%. The allocation of unequal numbers of participants to the two groups was to improve the power for estimation within the DVD group without greatly decreasing the power for the between-group comparisons. All the data, including demographic data recorded at recruitment and at telephone follow-up, were coded and entered onto a Microsoft Excel™ database by LM and checked by AJ. Descriptive statistics were obtained including means and standard deviations (SDs). Rates of acceptability and recall in both groups were calculated. Comparisons were made using the Chi square ($\chi^2$) tests or Fisher’s exact test where appropriate counts within individual cells of the contingency table fell below a value of five. Statistical significance was deemed to be $p<0.05$.

**Ethical approval**

The Scotland A Research Ethics Committee (12/SS/0075) approved the study in May 2012.

**RESULTS**

Only 8/58 women asked to participate declined, giving a recruitment rate of 86%. Seven women had no time to participate, while one declined as she did not wish to be randomised to watch the DVD. The mean age of participants was 24 (SD 5.5) years. Thirty-five women were recruited to the DVD arm of the study and 15 to the control arm. There were no statistically significant demographic differences between the two groups (Table 1).

Immediately following either the DVD viewing or the face-to-face consultation all the women were asked four multiple-choice questions to test information recall. Recall was similar in both groups in response to three of the questions (Table 2); however, respondents in the control group incorrectly expected mood and/or skin changes to be common side effects with Nexplanon compared to respondents in the DVD group.

All the participants were asked if they intended to proceed to implant insertion after the abortion procedure; 43 (86%) women stated that they did [30 (86%) and 13 (87%) in the DVD and control groups, respectively]. The remainder was uncertain, and no woman definitely decided not to have Nexplanon inserted. DVD participants were asked to respond to a series of statements relating to the DVD itself. Thirty-one (89%) women agreed it was helpful, 33 (94%) agreed it was easy to understand and 24 (69%) felt it was an acceptable way in which to receive information compared to a face-to-face consultation. Thirty-four (97%) women disagreed that the DVD was confusing, and only one felt neutral. Asked to

<table>
<thead>
<tr>
<th>Demographic</th>
<th>DVD group ($n=35$)</th>
<th>Control group ($n=15$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>24 (5.3)</td>
<td>23 (5.9)</td>
</tr>
<tr>
<td>Range</td>
<td>16–36</td>
<td>17–34</td>
</tr>
<tr>
<td>DepCat Score* ($n$ (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–2 (Affluent)</td>
<td>3 (9)</td>
<td>1 (7)</td>
</tr>
<tr>
<td>3–5 (Moderate)</td>
<td>25 (71)</td>
<td>13 (87)</td>
</tr>
<tr>
<td>6–7 (Deprived)</td>
<td>7 (20)</td>
<td>1 (7)</td>
</tr>
<tr>
<td>Smoker ($n$ (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>19 (54)</td>
<td>10 (67)</td>
</tr>
<tr>
<td>Current</td>
<td>13 (37)</td>
<td>4 (27)</td>
</tr>
<tr>
<td>Ex</td>
<td>3 (9)</td>
<td>1 (7)</td>
</tr>
<tr>
<td>Previous birth ($n$ (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>12 (34)</td>
<td>5 (33)</td>
</tr>
<tr>
<td>Previous abortion ($n$ (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>11 (31)</td>
<td>3 (20)</td>
</tr>
<tr>
<td>Previous contraception use ($n$ (%)</td>
<td>2 (6)</td>
<td>0</td>
</tr>
<tr>
<td>Condoms</td>
<td>32 (91)</td>
<td>14 (93)</td>
</tr>
<tr>
<td>Combined (pills/patch)</td>
<td>26 (74)</td>
<td>14 (93)</td>
</tr>
<tr>
<td>Progestogen-only pill</td>
<td>11 (31)</td>
<td>0</td>
</tr>
<tr>
<td>Contraceptive injection</td>
<td>3 (9)</td>
<td>1 (7)</td>
</tr>
<tr>
<td>Intrauterine method</td>
<td>2 (6)</td>
<td>1 (7)</td>
</tr>
</tbody>
</table>

*The DepCat Score is a marker of deprivation in Scotland based upon postcode area of residence, scoring from 1 (least deprived) to 7 (most deprived).

DVD, digital video disc; SD, standard deviation.
rate the usefulness of the information that they had received via the DVD on a scale from 0 (least useful) to 10 (most useful), responses ranged from 5 to 10, with a mean score of 9 out of 10.

Thirty-eight (76%) women were successfully contacted and interviewed 3 months later, 27 (77%) from the DVD group and 11 (73%) from the control group. There were no statistically significant demographic differences between the women interviewed and those not. Of those women with no completed follow-up at 3 months, one no longer lived in the UK, two had an incorrect number documented on their contact sheet, two answered but declined to proceed with the interview and seven had no answer after three attempts. The mean time to telephone interview from recruitment was 92 (SD 3.9, range 88–104) days (i.e. 13 weeks). Of those women completing telephone follow-up, 34 (89%) had an implant inserted, 25 (93%) and nine (82%) in the DVD and control groups, respectively. A further two women in the DVD group stated they still intended to get the implant fitted at a later date, and two in the control group stated they had changed their mind due to concerns about using a ‘foreign object’ (n=1) or concern about possible bleeding patterns (n=2). While nine (26%) women remained happy with their implant, 10 (29%) were uncertain about it, eight (26%) were having some problems and seven (21%) were unhappy (Table 3). Women who experienced side effects were asked if the information received had led them to expect these side effects. Over 60% of those experiencing side effects in the DVD group stated that they did not expect to experience side effects to this extent, while the majority (83%) of women in the control group did, although this difference did not reach statistical significance (Table 3). Side effects described included bleeding problems (15), mood changes (8), concern about amenorrhoea (1), pain/irritation at the site of implant insertion (2) and skin changes (1). By 3 months’ follow-up, five (20%) women in the DVD group who had Nexplanon fitted had already had the implant removed, while all nine women in the control group continued to use Nexplanon. This difference was not statistically significant (p=0.29). Women in the DVD group were again asked about their experience; 27 (93%) agreed that the DVD was informative and that they would be happy to use a DVD for information provision again. Two (7%) women disagreed with these statements.

In-depth interviews

One of the four women in the control group failed to attend; consequently three in-depth interviews were conducted in the control group, and four in the intervention group. All seven respondents still had Nexplanon in situ at the time of the interview.

### Table 2 Responses to questions relating to information recall

<table>
<thead>
<tr>
<th>Question responses</th>
<th>DVD group [n (%)]</th>
<th>Control group [n (%)]</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1: Length of licence limit of implant?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year</td>
<td>0</td>
<td>0</td>
<td>1.0</td>
</tr>
<tr>
<td>3 years</td>
<td>33 (94)</td>
<td>15 (100)</td>
<td></td>
</tr>
<tr>
<td>5 years</td>
<td>2 (6)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Q2: The implant works by inhibiting ovulation?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>28 (80)</td>
<td>11 (73)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1 (3)</td>
<td>0</td>
<td>0.63</td>
</tr>
<tr>
<td>Uncertain</td>
<td>6 (17)</td>
<td>4 (27)</td>
<td></td>
</tr>
<tr>
<td>Q3: Common side effects to expect with implant?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight gain</td>
<td>6 (17)</td>
<td>5 (33)</td>
<td>0.27</td>
</tr>
<tr>
<td>Irregular bleeding</td>
<td>29 (83)</td>
<td>15 (100)</td>
<td>0.16</td>
</tr>
<tr>
<td>Amenorrhoea</td>
<td>28 (80)</td>
<td>14 (93)</td>
<td>0.41</td>
</tr>
<tr>
<td>Mood or skin changes</td>
<td>2 (6)</td>
<td>8 (53)</td>
<td>0.0004</td>
</tr>
<tr>
<td>Q4: There can be a delay in return to fertility?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14 (40)</td>
<td>2 (13)</td>
<td>0.17</td>
</tr>
<tr>
<td>No</td>
<td>15 (43)</td>
<td>10 (67)</td>
<td></td>
</tr>
<tr>
<td>Uncertain</td>
<td>6 (17)</td>
<td>3 (20)</td>
<td></td>
</tr>
</tbody>
</table>

Bold figure denotes significance.

DVD, digital video disc; Q, question.

### Table 3 Women’s experience of the implant at 3 months’ follow-up

<table>
<thead>
<tr>
<th>Experience</th>
<th>DVD group [n=25]</th>
<th>Control group [n=9]</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy with implant</td>
<td>6 (24)</td>
<td>3 (33)</td>
<td></td>
</tr>
<tr>
<td>Uncertain about implant</td>
<td>6 (24)</td>
<td>4 (44)</td>
<td></td>
</tr>
<tr>
<td>Having some problems with implant</td>
<td>6 (24)</td>
<td>2 (22)</td>
<td></td>
</tr>
<tr>
<td>Not happy at all with implant</td>
<td>7 (28)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>If side effects experienced, do they meet expectations from information provided?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7 (37)</td>
<td>5 (83)</td>
<td>0.09</td>
</tr>
<tr>
<td>Not to the extent I have experienced</td>
<td>9 (47)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>No, not at all (n=women in whom side effects present)</td>
<td>3 (16) (n=19)</td>
<td>1 (17) (n=6)</td>
<td></td>
</tr>
</tbody>
</table>

DVD, digital video disc.
The respondents in both groups generally viewed the information provided to them, either by DVD or via face-to-face consultation, as sufficient. All four respondents who watched the DVD thought it was useful and helpful as a means of information provision (Box 1). However, there also seemed to be consensus that a DVD could not entirely replace a traditional consultation, as women also valued the opportunity to ask questions of someone face-to-face (Box 2). Some suggestions were made about improving the DVD, including the inclusion of endorsements from women who have already used an implant and the use of graphics to demonstrate insertion and mechanism of action. All the respondents felt that having the DVD available to watch via a website would be useful (Box 3).

All the respondents expressed positive views about participating in clinical research and all would agree to do so again if asked. Respondents appeared to have no concerns with the concept of being randomised and understood the purpose of it.

DISCUSSION
This pilot study demonstrates that using a DVD to provide information about the contraceptive implant is both acceptable and informative. The majority of participants who watched it felt that the DVD was both helpful and easy to understand, and rated it highly with a mean score of 9 out of 10 points for usefulness. Although information recall was similar for both the DVD and control groups, more women in the control group incorrectly thought that side effects comprising mood/skin changes were common.

This highlights the variation in counselling that can occur in face-to-face consultations. The majority of respondents in the DVD group, when asked at follow-up 3 months later, stated that they would be happy to watch a DVD for information provision again. Participants from both groups who returned for in-depth interview were happy with the quality of information provided to them at their initial consultation, and those who watched the DVD felt it was useful and helpful. Previous research on the use of a DVD to provide information about abortion to women had similar findings, namely that women rated receiving information via DVD highly. Some sexual health services have adopted the use of DVDs routinely, and have reported that men find this preferable to attending an outpatient appointment for vasectomy pre-operation counselling.

While research relating to the use of a DVD in contraceptive counselling is limited, the use of ‘apps’ providing information about contraception, including long-acting reversible contraception (LARC), that patients can access via a smartphone or tablet computer prior to a consultation, have proved acceptable for information provision, and may increase knowledge and interest in effective forms of contraception. Similarly, a computer-based contraceptive assessment module, with the use of additional specifically tailored health materials, may positively influence contraceptive choice and potentially improve contraceptive continuation and adherence.

Our qualitative research revealed some possible factors to consider if producing DVDs for patient information provision. The inclusion of endorsements from women who have previously used the contraceptive method may aid decision-making. The use of case studies showing other patients’ experiences was well liked by men who used a DVD for vasectomy counselling. The use of animated graphics demonstrating the mode of action of contraceptive methods and, where relevant, insertion and removal procedures,
may also be helpful (but expensive to produce). It was clear that women appreciate having the opportunity to ask questions of health professionals, and to have information provided to them to take away to read, or possibly watch, later. It is not our intention that DVDs should replace face-to-face consultations completely, rather they could enhance these. A health provider will always be required to issue the chosen method of contraception thus allowing questions to be asked, but after watching a DVD or similar technology the resultant questions should be better informed and more focused. The concept of having DVDs available to watch on a relevant website, either before or after a consultation, was welcomed by women in our study.

There are limitations to this pilot study, namely the select population that we recruited from and the small number of participants. We chose to recruit women attending a clinic for abortion, as this is a time when counselling about contraceptive use, and particularly encouraging the use of LARC methods, is vitally important. Although the sample was small, we did achieve a high recruitment rate, and our aim in this small pilot study was to determine if using a DVD for information provision was feasible and acceptable, with a view to considering initiating a larger multicentre study at a later date. Neither the research team nor the study participants were blinded to the intervention to which they were randomised. Women requiring an interpreter were excluded from participation, which did of course eliminate a segment of the population. In any further larger-scale studies it would be important to consider producing DVDs in languages other than English, although this would be expensive.

This pilot study has shown that the use of audio-visual DVDs to provide patient information about the contraceptive implant is acceptable and informative, and can be used to enhance face-to-face patient consultations rather than replace them altogether. A large-scale randomised controlled trial is now needed to determine if provision of quality standardised information via DVD can improve uptake and/or continuation rates of LARC and save time during consultations, a factor that we did not evaluate.

**Author affiliations**
1 Clinical Research Fellow, Department of Reproductive and Developmental Sciences, University of Edinburgh, Edinburgh, and Chalmers Sexual Health Centre, Edinburgh, UK
2 Consultant Gynaecologist, Department of Reproductive and Developmental Sciences, University of Edinburgh, Edinburgh, and Chalmers Sexual Health Centre, Edinburgh, UK
3 Honorary Professor, Department of Reproductive and Developmental Sciences, University of Edinburgh, Edinburgh, and London School of Hygiene and Tropical Medicine, London, UK
4 Research Nurse, Department of Reproductive and Developmental Sciences, University of Edinburgh, Edinburgh, and Chalmers Sexual Health Centre, Edinburgh, UK

**Acknowledgements** The authors are grateful to the nursing and medical staff working in the abortion clinic at Chalmers Sexual Health Centre for their support in recruiting participants to the study. They are grateful to Rob Elton, statistician, for his assistance with calculation of sample size and randomisation. They are grateful to Eric Chen, qualitative researcher, University of Edinburgh, for his advice and guidance on qualitative analysis. They are grateful to Mike Devlin of the Department of Medical Photography, Edinburgh Royal Infirmary and Dr Kate Weaver, Associate Specialist in Sexual and Reproductive Healthcare, Chalmers Sexual Health Centre, Edinburgh, for producing the DVD.

**Funding** A research grant was provided by HRA Pharma which enabled Lucy Michie to be funded as a clinical research fellow at The University of Edinburgh. This grant was independent and unrestricted, and not specified to fund any particular research projects.

**Competing interests** None declared.

**Ethics approval** The Scotland A Research Ethics Committee.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**REFERENCES**

8 Likert R. A technique for the measurement of attitudes. *Archives of Psychology* 1932:140:1–53.


Contraceptive use among women presenting to pharmacies for emergency contraception: an opportunity for intervention

Lucy Michie,1 Sharon T Cameron,2 Anna Glasier,3 Elizabeth Greed4

ABSTRACT

Objectives Most women who use emergency contraception (EC) do so because of unprotected sexual intercourse or condom failure and so remain at risk of pregnancy unless they commence an effective method of contraception. In Great Britain, increasingly women now choose to obtain EC from a pharmacy; however, pharmacists do not currently provide effective ongoing contraception. We sought to determine the views of women obtaining EC from pharmacies and clinicians working in sexual and reproductive health care (SRH) about the possibility of pharmacists providing a temporary supply of a progestogen-only pill (POP) together with EC.

Methods Self-administered, anonymous questionnaires of (1) women requesting EC from pharmacies in Edinburgh, Scotland and (2) SRH clinicians attending a major UK scientific meeting.

Results A total of 211/232 women completed questionnaires in pharmacies (a 91% response rate). Of those women not using a hormonal method of contraception at the time of EC (n=166; 79%), almost half (44%) wished to use an effective method. Most women (64%) agreed that the option of a pharmacist being able to supply a POP would have been helpful. Among the SRH clinicians, 110 completed questionnaires out of 150 distributed (a 73% response rate). The majority of respondents (92%) were positive about a pharmacist supplying a POP at the time of EC.

Conclusions A reasonable proportion of women requesting EC would like to start using an effective contraceptive method. Both the women and the SRH clinicians we surveyed are positive about the possibility of pharmacists providing a limited supply of the POP at the time of EC.

INTRODUCTION

The majority of women who require emergency contraception (EC) do so following unprotected sexual intercourse (UPSI) or an accident when using a condom.1,2 A smaller proportion of women may have had a mishap with a hormonal method of contraception (e.g. missed pills).1,2 Increasingly, women in Great Britain prefer to attend a pharmacy for EC rather than a sexual and reproductive health (SRH) service or general practitioner (GP).3 Levonorgestrel EC has been available free of charge without a prescription from pharmacies since 2008 in Scotland4 and 2011 in Wales.5 In a recent trial comparing two oral emergency contraceptives fewer than 3% of women became pregnant, and so the vast majority of women remain at risk of pregnancy after they have used EC.6
A few women get pregnant in the same menstrual cycle from sexual intercourse after taking EC. In a meta-analysis that included 11 trials of just under 5000 women who had sexual intercourse after using EC but before the return of menses (i.e. in the same cycle) the relative risk of pregnancy was 2.67 (2.11–3.39) when compared with women who did not have sex after using EC. Starting an effective ongoing method of contraception after EC use is clearly important if women are to avoid unintended pregnancy. Community pharmacists in the UK and most other industrialised countries are usually unable to provide any ongoing contraception except condoms, which are available for purchase. Two mystery shopper studies have shown that while pharmacists are good at adhering to protocols for providing EC, only a minority of them provide women with advice about ongoing contraception.

Little is known about the views of women who present for EC on the use of regular, effective methods of contraception. In order to determine such views, and estimate the proportion of women using EC that may wish to start a method of effective contraception, we designed a questionnaire for women to complete when they attended a pharmacy for EC. We also sought to determine the views of women attending for EC, and clinicians working in sexual and reproductive health care (SRH), on the possibility of a pharmacist being able to provide women with a limited supply of progestogen-only oral contraceptives at the time of EC, allowing the women time to arrange an appointment to obtain a long-term contraception method.

METHODS

Two separate one-page, self-completed questionnaires were designed: (1) a questionnaire offered to women presenting to any of nine community pharmacies with a request for EC in January 2013 and (2) a questionnaire distributed to delegates (SRH clinicians) at the Faculty of Sexual and Reproductive Healthcare (FSRH) UK scientific meeting in May 2011. A short introductory paragraph explained the purpose and anonymous nature of both questionnaires. Selected community pharmacies in the City of Edinburgh and Lothian region (in Scotland) had participated in a clinical study aimed at increasing the uptake of regular contraception after EC in 2012. Nine pharmacists participating in that study, who dispensed EC to more than 10 women per month, agreed to participate in the questionnaire study. Pharmacists in Scotland can prescribe and dispense EC to women free of charge under a preapproved patient group direction (PGD), although they are required to complete additional training related to sexual health and contraception to enable them to do so. Women were offered the questionnaire by the pharmacist at the time of EC consultation, and once completed placed it in a sealed collection box before leaving the pharmacy. All questionnaires were numbered to allow us determine the response rate. At the FSRH scientific meeting questionnaires were distributed during a plenary session and collected from delegates at the end of the session. Both questionnaires, which included limited demographic data, required simple tick box responses, however additional space was provided for free text comments in response to certain questions. Delegates were asked to indicate how they felt about a limited supply of a progestogen-only oral contraceptive pill (POP) being offered to women presenting for EC. Responses included extremely positive, positive, neutral, negative and extremely negative. For the purposes of analysis, extremely positive and positive results were combined, as were negative responses.

Statistics

All the data were coded and entered onto two separate databases using Microsoft Excel. Data analysis was performed using the IBM Statistical Package for Social Sciences (SPSS) software V18 (SPSS Inc., Chicago, IL, USA). Demographic data were obtained including means and standard deviations (SDs) where appropriate. To allow statistical comparison between age groups in the questionnaire conducted in the pharmacies four age groups were defined: 14–19, 20–24, 25–34 and 35 years and over. Comparisons were made using Chi square (x²) test or Fisher’s exact test where appropriate if counts within the individual cells of the contingency table fell below 5. Statistical significance was deemed to be p<0.05.

Ethical approval

The questionnaire for women attending pharmacies for EC was reviewed by the scientific officer of the local research ethics committee, who confirmed that ethical approval was not required as the questionnaire was an opinion survey seeking views of patients on a health care issue. Ethical approval was not required for the questionnaire distributed at the scientific meeting as the responses were anonymous.

RESULTS

Pharmacy questionnaire

A total of 211 completed questionnaires were obtained from 232 distributed to women attending pharmacies for EC (a 91% response rate). The mean age of respondents was 23 (range 14–48; SD 5.6) years. For 59 women (28%) this was the first time they had taken EC; 151 (72%) had used it before and one person (0.5%) did not answer the question. Significantly more women aged 14–19 years were using EC for the first time compared to women aged 35 years and over (Table 1). The mean number of episodes of ever-use of EC was 2 (range 1–7) and for use in the past 12 months was 1 (range 1–4).
The majority of women ($n=140; 66\%$) were using condoms as their contraceptive method at the time of requesting EC, whilst 45 (21\%) were using a hormonal method and 26 (12\%) were using no contraception (Figure 1). The majority of respondents ($n=163; 77\%$) stated they were currently in a sexual relationship at the time of using EC. Almost one-third of respondents ($n=66; 31\%$) required EC on this occasion because of UPSI, whilst almost half of them ($n=99; 47\%$) reported a condom failure (Table 2).

There were no significant associations between respondents’ age and method of contraception used, reason for use of EC or relationship status.

All the women were asked if they would like to start using a regular method of contraception other than condoms and, if so, from where they would choose to obtain it. Of the 166 women who were not already using a hormonal method of contraception at time of EC, 73 (44\%) women would like to do so (Figure 1). Most commonly women would choose to

### Table 1 Previous use of emergency contraception (EC) by women attending a pharmacy for EC provision

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>First ever use [n (%)]</th>
<th>Use in past 12 months [n (%)]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>14–19</td>
<td>59 (28)</td>
<td>27 (46)*</td>
</tr>
<tr>
<td>20–24</td>
<td>83 (39)</td>
<td>20 (24)</td>
</tr>
<tr>
<td>25–34</td>
<td>58 (27)</td>
<td>11 (19)</td>
</tr>
<tr>
<td>≥35</td>
<td>11 (5)</td>
<td>1 (9)*</td>
</tr>
<tr>
<td>Total</td>
<td>211 (99)</td>
<td>60 (28)</td>
</tr>
</tbody>
</table>

*p*=0.006.

Figure 1 Flowchart of contraceptive use on presentation at a pharmacy for emergency contraception (EC) provision and interest in the use of a regular method of contraception.
obtain contraception from their GP (family doctor) \((n=80; 48\%)\), while 12 (7\%) would attend a family planning clinic; four (2\%) did not state a preference; seven (4\%) would attend a sexual health service for young people and seven (4\%) were unsure where they would go. One-third \((n=52; 31\%)\) of the women chose not to answer this question. Three women stated they would choose to obtain contraception from a pharmacy, while one woman stated she wished to go “somewhere no one knows her” to obtain contraception.

Women were asked if it would have been helpful for the pharmacist to provide a 1-month supply of a POP to allow them time to attend elsewhere for ongoing contraception. The majority of respondents \((n=135; 64\%)\) agreed that this would have been helpful, 25 (12\%) women felt it would not be, 38 (18\%) were unsure and 13 (6\%) did not respond. Significantly more young women (aged 14–19 years) felt a supply of a POP would have been helpful, compared to women aged 35 years and over \((80\% \text{ vs} 18\%; p=0.002\)).

**DISCUSSION**

Our study confirmed previous findings that the majority of women presenting for EC do so either following UPSI or as a result of condom failure.\(^1\,\,2\) Given the small number of women using effective contraception in the past \((n=2)\); a wish to avoid a hormonal method \((n=1)\); concern about possible side effects \((n=2)\); a preference to discuss contraceptive methods with a doctor \((n=1)\) and concern that a medical condition they had might contraindicate use of the POP \((n=1)\).
almost half of the women not already doing so would wish to use an ongoing method of contraception, suggesting that there is potential to target this sizeable group of women to increase contraceptive use following EC. Our results suggest that significantly more young women (<20 years of age) were using EC for the first time compared to older women (>35 years of age), and that significantly more women welcomed the option of a supply of a POP at the time of EC. Although the number of women aged 35 years or over was small and there is the possibility this may have resulted by chance, it suggests that younger and potentially more vulnerable women may be receptive to simple interventions to increase contraceptive uptake.

Research has shown that pharmacists are good at supplying EC, and that women rate community pharmacy EC services highly. However, research has also identified that pharmacists are not particularly good at providing advice about ongoing contraception, and some women have expressed concerns about receiving advice in the pharmacy about future contraception. A recent study in London, UK concluded that when pharmacists were trained to provide oral contraception by means of an approved PGD they were competent in doing so and women were satisfied with this additional service. Simple interventions within the pharmacy that may encourage and help women to start effective contraception after EC have also been the subject of recent research. We considered the possibility of a pharmacist providing a limited supply of a POP, allowing women time to arrange an appointment with a health care professional to discuss contraception further. We suggested offering a POP rather than a supply of the combined oral contraceptive pill (COC) since the list of contraindications to a POP is very small, making it more suitable for pharmacy provision. The concept was welcomed by the majority of women presenting for EC and also by the SRH clinicians. Women commented on the difficulty in obtaining an appointment with their GP, and that this could serve as interim measure in such situations.

Obviously not all women who use EC wish to commence a regular method of contraception. A proportion of women will inevitably make an informed choice to use condoms or no contraception, and interventions like this are unlikely to impact on this group of women. As with other studies, some women had concerns about obtaining a limited supply of a POP from the pharmacist; however, providing reassurance to women may allay some of these concerns. Women can be reassured of the very small daily dose of progesterone in a POP compared to the dose in EC, and its safety compared with the COC. A small number of health professionals expressed concern that such interventions may decrease the use of the most effective LARC methods and thus preferred that women attended a clinic to discuss such methods.

However, we know that a large number of women now seek EC from community pharmacies and that they rate such services highly. Moreover, even when women attend specialist services for EC, almost three-quarters of them leave without effective contraception, let alone a long-acting method. Therefore, we need to establish ways in which we can help women access ongoing contraception after obtaining EC from a pharmacy.

A limitation to our study is the lack of demographic data available from both our study populations. Short, anonymous questionnaires were used in order to encourage a high response rate and we chose to limit the amount of demographic data sought. However, the survey was conducted in several large pharmacies located within a large city, with a response rate close to 100%, so we would hope that our study population is close to being representative of most women presenting for EC in Scotland.

Encouragingly, many women presenting for EC would wish to use effective ongoing contraception if they do not already do so, and would welcome a simple intervention in the pharmacy to help them do so. SRH clinicians, who are experts in contraception, are also positive about such an intervention. By helping women to obtain ongoing methods of effective contraception at time of using EC we may succeed in preventing more unintended pregnancies for more women.

Acknowledgements The authors are grateful to the organisers of the Faculty of Sexual and Reproductive Healthcare annual scientific meeting in Liverpool for allowing them to distribute the questionnaire, and to the pharmacists who agreed to give this questionnaire to women presenting for emergency contraception at their pharmacy: Shazad Aziz, Caroline Barnes, Jane Dewart, Michele Hamilton, Linzi Jack, Izabela Kalka, Peter Tinkler, Gill Toohe, Alison Wallace and Fiona Watson.

Competing interests None.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES


Pharmacy-based interventions for initiating effective contraception following the use of emergency contraception: a pilot study

L. Michie, S.T. Cameron, A. Glasier, N. Larke, A. Muir, A. Lorimer

Department of Reproductive and Developmental Sciences, University of Edinburgh, 51 Little France Crescent, Edinburgh, EH16 5SU, United Kingdom
Chalmers Sexual Health Centre, 2A Chalmers Street, Edinburgh, EH3 9ES, United Kingdom
London School of Hygiene and Tropical Medicine, Keppel Street, London, WC1E 7HT, United Kingdom
Department of Public Health and Health Policy, NHS Lothian, Waverley Gate, 2-4 Waterloo Place, Edinburgh, EH1 3EG
Pharmacy Department, Royal Edinburgh Hospital, Morningside Terrace, Edinburgh, EH10 5HF

Received 16 February 2014; revised 23 April 2014; accepted 1 May 2014

Abstract

Objectives: In Scotland most women get emergency contraception (EC) from pharmacies. Pharmacists currently cannot provide effective ongoing contraception after EC. In this pilot study, we aimed to determine the feasibility of a larger study designed to ascertain if pharmacy-based interventions can increase the uptake of effective contraception after EC.

Study design: This is a pilot study of women presenting for levonorgestrel EC to community pharmacies in Edinburgh, UK, in 2012. Pharmacies were cluster randomized to provide either standard care or one of two interventions: (a) one packet of progestogen-only pills (POPs), giving women 1 month to arrange ongoing contraception; (b) invitation to present the empty EC packet to a family planning clinic (FPC) for contraceptive advice (rapid access).

Results: One hundred sixty-eight women were recruited from 11 pharmacies to POP (n=56), rapid access (n=58) and standard care (N=54) groups, respectively. Telephone follow-up was conducted successfully in 102 women (61%) 6–8 weeks later to determine current contraceptive use. In the POP arm, 35/39 (90%) women used the pills provided, and 9/28 women (32%) in the rapid access arm attended the FPC. The proportion of women using effective contraception at follow-up was significantly greater in both POP [56% (22/39), p=0.001] and rapid access [52% (13/25), p=0.006] groups compared to standard care [16% (5/31)]. The relative probability of a woman using an effective method of contraception versus barrier/no method, after use of EC, was 3.13 [95% confidence interval (CI), 1.90–5.13] in the POP group and 2.57 (95% CI, 1.55–4.27) in the rapid access group.

Conclusions: This promising pilot study suggests that simple pharmacy-based interventions may increase the uptake of effective contraception after EC. A larger study is required to provide further validation of these findings.

Implications statement: For women obtaining EC from a pharmacy, simple interventions such as supplying 1 month of a POP, or offering rapid access to a FPC, hold promise as strategies to increase the uptake of effective contraception after EC.

Keywords: Morning-after pill; Levonelle; Quick-start; LARC; POP

1. Introduction

Since hormonal emergency contraception (EC) became available without prescription from UK pharmacies, increasingly, women prefer to attend a pharmacy for EC rather than a doctor [1]. From late 2008, levonorgestrel-EC (LNG-EC) became available from pharmacies throughout Scotland free of charge [2]. Fewer than 5% of women get pregnant after EC, so the vast majority remain at risk [3]. In a meta-analysis of 11 trials among almost 5000 women having sexual intercourse after using EC but in the same cycle, the relative
risk of pregnancy was approaching three times that of women who abstained from sex [4]. UK guidelines recommend that women using EC should be provided with an effective contraceptive to start either with the onset of their next period or immediately if they will not abstain from sex [5]. This may be an interim “bridging” method that women can use until they can initiate their chosen contraceptive [5]. In an audit of almost 500 women attending a specialist family planning clinic (FPC) for EC in 2007/08, only 24% were provided with effective contraception (excluding condoms) to start immediately [6]. This figure may be even lower when EC is obtained from nonspecialist services. Community pharmacists in the UK (as elsewhere in the industrialised world) are unable to provide any ongoing contraception (except condoms, which can be purchased). Two mystery shopper studies show that while UK pharmacists provide EC appropriately, only a minority give women advice about ongoing contraception which mostly comprises advising them to consult a doctor [7,8]. So while in the UK EC is much easier to obtain and, by making it free of charge in pharmacies, use has almost certainly increased [8], we have created a situation where EC is provided almost solely from settings where other more effective methods of contraception cannot be immediately provided. We need urgently to explore ways to ensure that women attending pharmacies for EC have easy and rapid access to an ongoing contraceptive method which they start as soon as possible.

Within the Edinburgh region community pharmacists dispense an average of 1300 courses of EC every month. We wished to test two interventions designed to increase the uptake of effective ongoing contraception (all methods other than barrier methods) after use of EC obtained from a pharmacy. As a pilot study, the primary outcome was to determine the feasibility of a larger study, investigating whether either intervention resulted in an increased proportion of women self-reporting use of effective ongoing contraception at 6–8 weeks after EC use, compared to standard care.

2. Materials and methods

2.1. Interventions

2.1.1. Intervention 1

A packet of 35 progestogen-only pills (POPs: 35-mcg LNG; Norgeston®, Bayer, UK) was provided by the pharmacist [using a locally approved patient group directive (PGD)] at no cost to women as a bridging method of contraception, giving them 1 month to attend their usual healthcare provider for ongoing contraception. A PGD allows pharmacists to dispense certain approved medications without a prescription. Outwith this study, pharmacists in Scotland are not currently able to dispense the POP without a prescription. Pharmacists were not specifically trained to provide information regarding where to attend for further ongoing contraception, although they could provide their usual verbal/written information similar to those

pharmacists in standard care groups. The very few absolute contraindications to the POP [9] make it easier to argue the case for pharmacy provision compared with the combined oral contraceptive pill. Pharmacists were trained in POP counselling and provision before the study started and given nationally available written information leaflets about the POP to issue with the supply of pills. Women were advised to start the POP immediately or within 24 h of EC use and to abstain from sexual intercourse or use condoms for 48 h, before relying upon the POP for contraceptive protection.

2.1.2. Intervention 2

Participants in the “rapid access” arm were instructed by the pharmacist to take their empty packet of EC to the local specialist FPC (a single large clinic in Edinburgh city centre) to discuss contraception, as soon as possible. Women attending the FPC were seen on the day that they presented as a drop-in client, without requiring a booked appointment, and were offered all methods of contraception, including long-acting reversible methods of contraception (LARC) to start immediately. This differed from standard practice, as women not participating in the study who present as a drop-in for ongoing regular contraception may be asked to return on another day, if the clinic is already at capacity. The EC boxes were clearly labelled, alerting FPC staff to study participants. The boxes were returned to the study coordinator. Pharmacists provided written information about the location and opening hours of the FPC.

2.1.3. Standard care

Pharmacists dispensed EC in the usual manner, which included the option to provide their usual verbal and/or written information (if available) regarding the importance of establishing an effective ongoing method of contraception. All pharmacies within the region have leaflets detailing the location and services available at local FPCs, should they wish to use them.

Participants were advised that they would be contacted 6–8 weeks later to complete a short telephone interview. At interview completion, a £10 voucher to redeem in the pharmacy was mailed to participants.

2.2. Randomisation

A cluster randomised design was chosen since it was deemed impractical to randomise individual women in pharmacies. Each pharmacy (cluster) agreeing to participate was randomised (by NL) to provide one of the interventions or standard care. Restricted randomisation was used to ensure balance between study arms with respect to EC-dispensing figures and the deprivation category [10] that is based on deprivation category scores derived from postcode area in which the pharmacy is situated.

2.3. Pharmacist and subject recruitment

Pharmacists who had previous experience of undertaking research [11,12] or dispensed 10 or more courses of EC
monthly were invited to participate and attend a meeting with the study team. Eleven pharmacists from 11 different pharmacies agreed to participate. A small incentive (£10 per subject recruited) was offered. Four pharmacies were randomised to the POP intervention arm of the study; four to the rapid access arm and three to standard care.

At the start of the study, a pharmacist randomised to the POP arm of the study was relocated out of Edinburgh, so this pharmacy was removed from the study, and the remaining three pharmacies in the POP arm were each allocated a greater recruitment target. Four months into the study, a participating pharmacist in the standard care arm retired, so the pharmacy was replaced by another pharmacy. All participating pharmacists underwent prestudy training with two members of the research team. This consisted of a detailed explanation of the study and their allocated study arm, inclusion and exclusion criteria, the requirements to complete study paperwork (including demographic information from participants) and consent forms.

Between April 23, 2012 and December 21, 2012, the 11 study pharmacies were asked to invite all women aged 16 years and older, presenting for EC, who had been using either no contraception or a barrier method, to participate. Further eligibility criteria included woman eligible for EC according to the PGD criteria with no medical contraindications, resident in the United Kingdom and not requiring language interpreting services. Contraindications which prevent a pharmacist from dispensing LNG-EC via a PGD include unexplained vaginal bleeding, pregnancy, severe hepatic dysfunction, severe malabsorption syndrome, previous unprotected sexual intercourse in the same menstrual cycle or unprotected sex over 72 h earlier. Although women were excluded if they were already using a hormonal method of contraception, it became apparent later that a small number of such women were recruited and they were subsequently excluded from statistical analysis of the primary outcome.

After EC was dispensed by the pharmacist, a short verbal description of the study and a written patient information leaflet were provided to eligible women, and written consent was obtained by the pharmacist. Demographic data including date of birth, postcode area of residence and contact details (mobile/landline telephone numbers and email addresses) were also recorded. Pharmacists were asked to record the number of women declining to participate and the number of eligible women not invited to participate (e.g., when the pharmacy was particularly busy or when the pharmacist consulting was unfamiliar with the study, e.g., locum/relief staff).

2.4. Telephone follow-up

Two members of the research team conducted all follow-up, which consisted of a short telephone interview lasting approximately 5 min at 6–8 weeks after attendance for EC when women who had received a packet of POP should have finished it. In an attempt to maximise follow-up rates, at least three attempts at contact were made to both landline and mobile telephone numbers, at varying times of the day. Furthermore, if no telephone contact was possible, for those participants who had provided an e-mail address, an e-mail was sent to them to ensure that the telephone contact number documented was correct and to identify if there was a more suitable time to call the participant. Women were asked what method of contraception they were currently using, about their experience of obtaining EC from the pharmacy and of the care that they received. All women were asked if they felt that a small supply of POP had been or would, in theory, have been “helpful”.

2.5. Statistical analysis

No published data were available on which to base a sample size. There are no data on how many women who use EC then visit their general practitioner (GP) or FPC for ongoing contraception. Less than 50% of pharmacists providing EC around Edinburgh [8] give advice about contraception after EC use. We assumed that the proportion of women starting ongoing contraception following EC from a pharmacy would be far less than that in the specialist FPC clinic (24%) [6]. For this pilot study we aimed to recruit 180 women (60 to each arm of the study) from 10–12 pharmacies, as we considered this to be a reasonable number of women to recruit within our 8-month timescale, while still providing an adequate number for follow-up. Based on previous research in sexual health, among reproductive age women [12], we estimated that 50% of women attending for EC would agree to participate and we anticipated loss to follow-up of at most 50%. From these assumptions we calculated that pharmacists would need to see 360 women for EC, in order to recruit 180 and collect follow-up data on at least 90 women.

All data, including demographic data recorded at recruitment and at telephone follow-up, were coded and entered onto a Microsoft Excel database by LM and checked by AJ. Analysis was performed using IBM Statistical Package for Social Sciences (SPSS) software Version 18 (SPSS Inc. Chicago, IL, USA). Descriptive statistics were obtained including means and standard deviations (SDs). To take account of the cluster randomisation, it was necessary to carry out an analysis at cluster rather than individual subject level, and the proportions in each cluster using effective contraception were compared between groups by two-sample t tests [13], weighted by the different number of patients in each cluster. This approach was preferred to random-effects modelling, including variation at both individual and cluster level because of the small number of clusters, since it explicitly recognises this through the degrees of freedom rather than requiring a normal approximation to generate p values. Confidence limits for relative probabilities were derived from t tests based on the logarithms of the effective proportions. Statistical significance was deemed to be p<0.05.

The South East Scotland Research Ethics Committee 03 (11/ss/0045) approved the study in September 2011.
3. Results

During the 8-month recruitment period, a total of 168 subjects were recruited, with a mean age of 23 years (SD, 5.2), to the POP (n=56), rapid access (n=58) and standard care (N=54) groups, respectively. The commonest reason for requesting EC was a condom accident [n=62 (61%)]. Of those recruited, 132 (78%) were subsequently contactable by telephone 6–8 weeks later. Of those contacted, 102 women (61% of all subjects recruited) completed the telephone interview; the remaining 30 women withdrew consent to continue in the study (Fig. 1). The demographics of those women completing telephone follow-up in each of the three study arms are shown in Table 1. For subjects who were not contactable, only data on age were available, and there was no significant difference in age between women contacted and those not contacted [mean age of 23 years (SD, 5.2) and 22 years (SD, 4.9), respectively].

In the POP arm, 35/39 (90%) women reported using the pills provided. Two women chose not to use the pills as they were “not currently sexually active;” one woman stated, “she did not get round to using it,” and one was concerned about side effects. Most women, 26/35 (74%), who took the pill reported completing the packet; 5 used between 7 and 14 pills; 3 delayed starting and had not finished the packet at the time of interview; the information was not documented for 1 woman. Three of the five women who stopped taking the pills did so because of side effects, and two stated they had difficulty remembering to take it. Asked if they felt that the option of a 1-month supply of POP being available from the pharmacy following EC was helpful; 33 (84%) agreed that it was, 3 (8%) felt it was not and 3 (8%) were unsure.

In the rapid access arm, 9/28 (32%) women attended the FPC, three on the day they obtained EC and six, 2 days to 1 month later. Attendance at the FPC after EC use was confirmed by collection of the marked EC boxes. The commonest reason given for not attending for rapid access contraception was “pressure of time” [n=10 (53%)]. Additional reasons included “prefer to see GP” (n=1), “still considering contraceptive options” (n=1), “FPC too far

Fig. 1. CONSORT (modified) flow diagram showing recruitment and follow-up of participants (see separate file).
away” (n=1), “forgot” (n=1), “not sexually active” (n=2) and two women stated that “the option was not clearly explained to them.” A 1-month supply of POP being available from the pharmacy following EC would have been helpful to 15 women (54%); however, 10 (36%) felt it would not help, and 3 women (10%) were unsure.

Women in the standard care arm were asked if they had received information from the pharmacists about the range of methods of contraception available or where they could obtain contraception. Eight (23%) women stated they received no information about methods available, and six (17%) had not received any information about where they could get contraception. A 1-month supply of POP from the pharmacy following EC would have been helpful to 16 women (46%), but 13 (37%) felt it would not have helped, and six (17%) women were unsure.

3.1. Effective method of contraception use at 6–8 weeks post-EC

Seven women were excluded from further analysis as they were using hormonal contraception at the time of presenting for EC and continued to use it at follow-up (three in the rapid access and four in the standard care arms of the study). Only 16% of women receiving standard care reported using an effective method of contraception 6–8 weeks after EC. When compared to standard care, the relative probability of a woman using an effective method of contraception after the use of EC obtained from pharmacies. The relative probability of using an effective method of contraception versus barrier method/no method after use of EC was 3.13 (95% CI, 1.90–5.13) in the POP group and 2.57 (95% CI, 1.55–4.27) in the rapid access group. Compared to standard care, the use of a LARC 6–8 weeks after EC was significantly greater in the rapid access group (20% vs. 0%, p=0.004) (Table 2.)

4. Discussion

This pilot study demonstrates that a simple intervention may increase the uptake of effective contraception after the use of EC obtained from pharmacies. The relative probability of using an effective method of contraception 6–8 weeks after using EC was three times (among women in the POP group) and more than twice (among women in the rapid access group) than among women in the standard care group. This was a pilot study, and loss to follow-up (including lack of willingness to be interviewed after successful contact) was relatively high. However, even if we assume that all the women who did not complete telephone follow-up in each arm of the study were not using an effective method of contraception, there would still be a significant increase in the use of an effective method in the intervention [POP group 39% vs. 9% (p=0.005); rapid access groups 22% vs. 9% (p=0.043)].

Table 1
Demographics of women completing telephone interview

<table>
<thead>
<tr>
<th></th>
<th>POP, n=39</th>
<th>Rapid access, n=28</th>
<th>Standard care, n=35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years) Mean (SD)</td>
<td>22 (5.2)</td>
<td>25 (5.6)</td>
<td>23 (4.5)</td>
</tr>
<tr>
<td>Range</td>
<td>16–44</td>
<td>18–40</td>
<td>18–36</td>
</tr>
<tr>
<td>DepCat* n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–2 (Affluent)</td>
<td>4 (10%)</td>
<td>9 (32%)</td>
<td>3 (9%)</td>
</tr>
<tr>
<td>3–5 (Moderate)</td>
<td>33 (90%)</td>
<td>18 (64%)</td>
<td>31 (89%)</td>
</tr>
<tr>
<td>6–7 (Deprived)</td>
<td>0</td>
<td>1 (4%)</td>
<td>0</td>
</tr>
<tr>
<td>Previous birth n (%)</td>
<td>2 (5%)</td>
<td>1 (4%)</td>
<td>1 (3%)</td>
</tr>
<tr>
<td>Previous abortion n (%)</td>
<td>4 (10%)</td>
<td>3 (11%)</td>
<td>3 (9%)</td>
</tr>
<tr>
<td>Contraception at time of EC n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* DepCat Score is a marker of deprivation in Scotland based upon postcode area of residence scoring from 1 least deprived, to 7 most deprived [10].

Table 2
Method of contraception used at 6–8 weeks post-EC study arm

<table>
<thead>
<tr>
<th></th>
<th>POP (n=39)</th>
<th>Rapid access (n=25)</th>
<th>Standard care (n=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective contraception</td>
<td>All effective methods, n (%)</td>
<td>22 (56%)*</td>
<td>13 (52%)**</td>
</tr>
<tr>
<td></td>
<td>LARC methods, n (%)</td>
<td>3 (8%)****</td>
<td>5 (20%)***</td>
</tr>
<tr>
<td>No/Barrier method, n (%)</td>
<td>17 (44%)</td>
<td>12 (48%)</td>
<td>26 (84%)</td>
</tr>
</tbody>
</table>

Effective—all contraceptive methods aside barrier or natural methods.
LARC (intrauterine method, contraceptive implant, contraceptive injection).
Statistical comparisons of interventions to standard care.
* p=0.001.
** p=0.004.
*** p=0.006.
**** p=0.07.
Both interventions are simple and cheap to provide, although any rapid access arrangement would need to be agreed with local services. While this may be more difficult in places without large specialist FPC services it should not be impossible for GPs to agree that women who have used EC should be seen urgently. There is only one other study of a pharmacy-based intervention after EC that we know of [14]. In this Jamaican study women were offered a voucher for a discount on the cost of oral contraceptives. This study did not increase the uptake of effective contraception after EC, and at follow-up 6 months later, most women continued to use condoms or no method.

For the endpoint of this feasibility study we chose contraceptive use after EC at a time when women receiving the POP should have finished the packet. Increasing the uptake of effective contraception after EC is not a surrogate for reducing unintended pregnancies or abortions, and discontinuation rates of oral contraceptives are high [15]. Moreover, both oral and injectable contraceptives have proven no better than condoms in preventing repeat abortion [16,17]. However, the rapid access intervention also resulted in a statistically significant increase in the uptake of LARC contraception which has been shown to decrease both repeat abortion and teenage pregnancy [18]. Not all women attending for EC will want to start effective contraception. In an anonymous questionnaire of women attending for EC conducted in the same pharmacies in Edinburgh, 53% wished to continue using condoms [19].

There are inevitable limitations to our study. Contraceptive use 6–8 weeks after EC was self-reported. It is unlikely that inaccurate reporting alone could account for the significant differences in use of effective contraception between both intervention groups and standard care. We also lack robust data on those women who were not recruited to the study and cannot rule out selective recruitment. Pharmacists said that they either did not have time to document these demographics during busy working periods or they simply forgot. This illustrates the difficulties encountered when conducting clinical research in pharmacy settings [20]. Finally, we fell short recruiting the intended target sample size during the 8-month recruitment period, and completed telephone follow-up occurred in only 61% of subjects, and we were therefore unable to determine contraceptive use in the remaining 40%. Prior to conducting a larger scale study, further qualitative research with both pharmacists and EC users may help determine what incentives they feel might enhance both recruitment and study continuation and follow-up.

This pilot study has shown that while conducting research within a pharmacy setting poses certain challenges, it is feasible. Despite the small number of participants, the results suggest that the use of simple pharmacy-based interventions may increase the uptake of effective contraception after EC. More robust evidence from a larger study is required to demonstrate that the interventions really do increase use of effective contraception and that this leads to reductions in unintended pregnancies. Frequently interventions which look promising at a pilot stage are shown to be ineffective when scaled-up in a larger study or rolled out to routine care [21,22].

Acknowledgements

We are grateful to Anne Johnstone (research nurse) for assisting with prestudy training of the pharmacists, assistance coordinating recruitment by the pharmacists and for conducting telephone follow-up of subjects. We are grateful to all the pharmacists who participated in the study: Shazad Aziz, Caroline Barnes, Colleen Cooney, Jane Dewart, Chris Gallagher, Michele Hamilton, Linzi Jack, Izabela Kalka, Fiona McKim, Peter Tinkler, Gill Tooohie, Alison Wallace and Fiona Watson. We are grateful to Rob Elton, statistician, for his assistance with statistical analysis accounting for cluster randomisation.

References


Original Research

Provision of contraception after emergency contraception from the pharmacy: evaluating the acceptability of pharmacy for providing sexual and reproductive health services

L. Michie a,b,*, S.T. Cameron a,b, A. Glasier a,c, Z.E. Chen b, D. Milne b,d, S. Wilson d

a Department of Obstetrics and Gynaecology, University of Edinburgh, 51 Little France Crescent, Edinburgh, EH16 5SU, United Kingdom
b Chalmers Sexual Health Centre, 2A Chalmers Street, Edinburgh, EH3 9ES, United Kingdom
c London School of Hygiene and Tropical Medicine, Keppel Street, London, WC1E 7HT, United Kingdom
d Department of Public Health and Health Policy, NHS Lothian, Waverley Gate, 2-4 Waterloo Place, Edinburgh, EH1 3EG, United Kingdom

Objective: Community pharmacies in the United Kingdom (UK) provide sexual and reproductive health (SRH) services such as emergency contraception (EC), although there is scope for provision of additional services. We conducted a pilot study of pharmacy based interventions for initiating effective contraception after EC. By determining the views of participating women and pharmacists we aimed to identify barriers and facilitators to providing interventions from pharmacies routinely.

Study design: In the pilot study, women presenting for levonorgestrel EC to community pharmacies, were provided with either standard care or one of two interventions: one packet of progestogen-only pills (POPs); or an invitation to present the empty EC packet to a local family planning clinic for contraception. A sample of women participating were asked to undergo a further interview. Operational difficulties with research in the community pharmacy were also documented by the research team.

Methods: Semi-structured interviews were conducted with 12 women, four from each arm of the pilot study, using a standardised topic guide. Pre- and post-study interviews were conducted with the pharmacists involved.

Results: All women welcomed the interventions indicating the benefit of having different options available. They also identified possible advantages and disadvantages of each intervention. All pharmacists were positive about their involvement in the study. Methodological problems included difficulty in retention of participating pharmacists, slow recruitment and failure to accurately complete study paperwork.
Introduction

Community pharmacies in the UK are well placed to provide sexual and reproductive health (SRH) services, with many already providing emergency contraception (EC). Women rate these services highly, perceived benefits including anonymity and ease of access.\(^1\)\(^2\) Although a small number of pharmacies currently provide enhanced SRH services, such as provision of oral contraception, there is scope for more to be done and for even greater development.\(^3\)\(^4\) Research exploring pharmacy based provision of such services is important to determine whether it really is advantageous for patients. An evaluation of community pharmacy provision of oral contraception demonstrated that pharmacists were competent to provide the service and clients were satisfied with it.\(^5\) Several studies have sought the views of pharmacists regarding the provision of chlamydia screening in the pharmacy. While pharmacists are willing to provide screening there are difficulties, such as pharmacists feeling uneasy about offering screening to all women in all circumstances and tending to select groups for screening, such as those presenting for EC, or those under 16 years of age.\(^6\)\(^8\)

As SRH services develop within the pharmacy setting, there are increased opportunities to undertake SRH research within this setting. Whilst SRH research, including a pilot of expedited partner therapy for chlamydia, has previously been conducted effectively from the pharmacy setting,\(^9\) research undertaken in this setting is not without challenges. Some of the challenges documented by previous SRH researchers in the pharmacy included; difficulty in calculating a response rate as no record of those declining participation in the study was kept; slow recruitment; and problems ensuring patient confidentiality.\(^10\)

UK guidelines recommend that women using EC should be provided with an effective contraceptive to start either with the onset of their next period, or immediately if they will not abstain from sex.\(^11\) In a meta-analysis of 11 trials among almost 5000 women having sexual intercourse after using EC but in the same cycle, the relative risk of pregnancy was more than two times that of women who abstained from sex.\(^12\) We conducted a pilot study of pharmacy based interventions for initiating effective contraception after EC, in community pharmacies in Edinburgh, UK in 2012.\(^13\) Pharmacies were cluster randomized to provide either standard care or one of two interventions: (a) one packet of progestogen-only pills (POPs), giving women 1 month to arrange ongoing contraception; (b) invitation to present the empty EC packet to a family planning clinic (FPC) for contraceptive advice (rapid access (RA)). Pharmacists who had previous experience of undertaking research\(^9\)\(^14\) or who dispensed at least ten courses of EC monthly, were invited to participate. Eleven pharmacists from eleven different pharmacies agreed to take part. Four pharmacies were randomised to the POP intervention arm of the study, four to the rapid access arm and three to standard care. All participating pharmacists underwent pre-study training with two members of the research team.

Between 23rd April 2012 and 21st December 2012, the 11 study pharmacies were asked to invite all women aged 16 years and over, presenting for EC, who had been using either no contraception or a barrier method, to participate. After EC was dispensed by the pharmacist a short verbal description of the study and a written patient information leaflet were provided to eligible women, and written consent obtained by the pharmacist. Demographic data and contact details (mobile/landline telephone numbers and email addresses) were recorded.\(^13\) Pharmacists were asked to note the number of women declining to participate and the number of eligible women who were not invited to participate (e.g. when the pharmacy was particularly busy). Women were contacted 6–8 weeks later for a telephone interview, during which they were asked what method of contraception they were using, and about their experience of obtaining EC from the pharmacy. The aim of the study was to determine the feasibility of a larger study to ascertain if pharmacy based interventions can increase the uptake of effective contraception after EC.\(^13\) Recruitment to and follow-up of participants in that study, and the methodology of this study is described fully elsewhere.\(^12\) In this paper we report the views of both the women and the pharmacists regarding the provision of these interventions from the pharmacy setting. Using these findings our primary aim was to identify possible barriers and facilitators to providing such interventions from the pharmacy in practice. In addition, during the study we documented any operational problems that arose with research in the pharmacies, to help inform the development of larger scale studies of such interventions from the pharmacy.

Methods

Semi-structured interviews with women

In the pilot study, women were contacted for a telephone interview at 6–8 weeks post EC, to determine contraceptive use at that time. A purposive sample of 12 women (four from each study arm), were recruited at time of telephone follow-up to undergo a face-to-face interview to allow further evaluation of the intervention (or lack of it in standard care arm).
The face-to-face interviews were semi-structured and conducted by a qualitative researcher (ZEC) at a time/venue chosen by the women. The interviews were carried out between August and November 2012.

Given that this is a novel intervention, a semi-structured interview using a standardised topic guide was chosen as a flexible research method. This was to facilitate the generation of data that could be easily compared and thematically analysed, whilst also enabling women to raise issues that are important to them and could inform future development of the research and clinical implementation of interventions. Women were asked to briefly recount their contraceptive history and describe the circumstances leading to the index episode of obtaining EC from the pharmacy. They were also asked to share their experience of obtaining EC from the pharmacist and being invited to participate in the study. Women were asked to reflect on their experience of the intervention (if assigned POP or RA appointments) and also their thoughts about these interventions being offered as routine practice. Finally, women were asked about their motivation to participate in the research and whether providing a financial incentive influenced their decision to participate. Interviews were audio-recorded and transcribed verbatim. Data were organised by cross-sectional indexing and thematically analysed and presented.15

Structured interviews with pharmacists

All study pharmacists agree to participate in a telephone interview before and after the study. These interviews were conducted by telephone and were arranged at a time of day convenient for the pharmacists in order to minimise disruption to working practice. Nine pharmacists were interviewed pre-study and ten post-study (some remained unavailable). None of the pharmacists simply declined to undergo the interview. The structured telephone interviews were conducted by two public health practitioners (DM and SW) who had prior experience with this approach and methodology. A standardised topic questionnaire was used to enable comparability of data collected. In the pre-study interviews pharmacists were asked; whether they anticipated any barriers or issues to arise, any specific training required, and their views on the provision of vouchers as incentive for the women. In the post-study interviews they were asked to highlight any problems experienced with the process of the research or the interventions. Data were organised by cross-sectional indexing and thematically analysed and presented.15

Observations from the research team

Throughout the study, a research log was utilised by the research team to record any operational issues arising as a result of conducting a research study from this setting.

Results

Semi-structured interviews with respondents

49 women were asked to participate in a further interview and 26 agreed (53%). Once the desired sample of 12 women had successfully attended for interview, no further women were asked to participate, hence only 12 women were interviewed; all chose to be interviewed at the city centre SRH service, rather than their home or another venue.

The interviews each lasted about 1 h and covered all the questions prepared in the topic guide. The demographics of women interviewed (n = 12), compared to those of all women who were successfully contacted for telephone interview (n = 102) in the pilot study, are shown in Table 1. The three key themes that were discussed during the interview include accessing effective contraception, provision of POP or Rapid Access (RA) appointments, and recruitment at the pharmacy and participation in the study.

Accessing effective contraception

Women’s description of their experience highlighted challenges they faced in accessing effective contraception which had led to their need for EC. Most women were using condoms as their regular contraceptive method with EC used as a ‘back up’ when they felt they had put themselves at risk of pregnancy. All of the women interviewed indicated that they did not view EC as a routine method of contraception and all expressed the wish to be using effective, ongoing contraception.

Difficulties getting an appointment to discuss contraception with their General Practitioner (GP) or at family planning

| Table 1 – Comparison of demographics of women completing telephone interview (in pilot study) and attending for face-to-face interview. |
|---------------------------------|-----------------|-----------------|
| **Telephone interview n = 102** | **Face-to-face interview n = 12** |
| Age (yrs.) mean (SD) | 21 (7.5) | 26 (5.5) |
| Range | 16–44 | 19–35 |
| DepCat* | | |
| 1–2 (Affluent) | 16 (16%) | 1 (8%) |
| n(3) 3–5 (Moderate) | 82 (80%) | 10 (83%) |
| 6–7 (Deprived) | 1 (1%) | 1 (8%) |
| Previous birth n (%) | 4 (4%) | 0 |
| Previous abortion n (%) | 10 (10%) | 1 (8%) |

* DepCat Score is a marker of deprivation in Scotland based upon postcode area of residence scoring from one least deprived, to seven most deprived.18
services were noted by women. The limited availability of appointments after work coupled with having to be ‘organised and plan ahead’ weeks in advance had been suggested as reasons for putting off accessing more contraception. A couple of respondents said they felt contraception would not be a priority for the GP service, hence their reluctance to raise it with their GP.

I am very busy and work irregular hours which makes it very difficult for me to get appointments with my current GP. I don’t want to trouble my GP for minor health concerns so I prefer to self-medicate or go to the pharmacy across from where I live where they operate a drop-in system to suits me better. (standard care group)

Provision of POP or rapid access (RA) appointments
All women interviewed welcomed both interventions noting that it would be good to have different options available to support women in accessing effective contraception.

Provision of a month supply of POP
The women had mixed views on being offered the POP when presenting for EC at the pharmacy. Discussions centred around two themes: the amount of POP provided and the setting of the provision (at the pharmacy, when presenting for EC). While some women said that a month supply was enough for a woman to make a follow-up appointment to access further supply or to discuss other methods, several women felt that one month supply could be a ‘waste of time’ or put women off using hormonal methods altogether.

I think it will be useful for other women... but for myself and other women, it will take a while for the pill to settle, so a month supply may not be worth it as it may not be able to give a good indication of the side effects on the body. This might put some women off thinking it is not working for them. (standard care group)

Some women felt that being offered the POP at the pharmacy was a good alternative to accessing it only at the GPs or the FPCs.

It is quite good to do this because some people can be quite hesitant going on it and asking about it from their GP. So if they are offered, they can try it. It is easier to ask GP for more rather than to start on it. A month supply should be enough to make an appointment with their GP. (POP group)

However, others had reservations about starting a woman on a new hormonal method at the time of presenting for EC. A few women questioned whether it was the role of the pharmacist to undertake contraception consultations. One woman who attended her GP to discuss contraception said that her GP was shocked that she was offered the POP.

I think for women like me who have never tried hormones before, it is not a good idea. I want to speak to someone about different options and the health implications of hormones before I take them. My GP was surprised when I mentioned that I was given the pills at the pharmacy, it was not a good method for me. (POP group)

All four women from the POP arm of the study recalled being provided with information by the pharmacist and given the opportunity to ask questions about the POP. However three women said they felt they went away having questions about POP which they did not feel able to ask at the time.

Provision of a rapid access (RA) appointment
All women welcomed the idea of a woman presenting for EC to be provided with a RA appointment, as it enabled quicker access to consultations and potentially more specialist support that can help match women to suitable and effective methods of contraception.

Getting the emergency contraception can kick start your brain to think about wanting to get on the pill or something... having an appointment to see someone quickly to discuss more will be really helpful. (standard care group)

Moreover, a few respondents suggested that an appointment several days after presenting at the pharmacy for EC could give a woman time to reflect on her experience and seek appropriate clinical as well as emotional support during follow-up.

For women getting the morning after pill, it can be quite a stressful time for them. With the appointment, they can speak to someone about what happened especially if it had been a bad situation. The appointment will give them a little bit longer to think things through and then they have someone to confide in. If it’s within a week that is not too long to wait. (POP group)

There was some discussion about the option of services where the RA appointment can be accessed. A few women noted that being offered a RA appointment at a FPC would be welcomed especially by younger women who may not feel comfortable using their own GP for EC and contraception. A few women said they would like the RA appointment to be available from their own GPs. These women mentioned that they would be unlikely to use a RA appointment if it were available only from the FPC as they preferred to see their own GP with whom they already have a good relationship and who knows about their medical histories.

I have a good relationship with my GP who knows me well and my problems with finding a suitable method. I am aware that they have specialist here in the centre but I really don’t want to go through my history again with another person. I rather go back to my own GP. (RA Group)

Recruitment at the pharmacy and participation in the study
Discussions with women about their experience at the pharmacy suggested that they felt the information given to them...
by the pharmacist about contraception and the study was clear. When asked whether they felt it was appropriate to recruit women when they presented for EC at the pharmacy most women replied that it was as they were able to make an informed choice and did not feel pressured into participating.

The pharmacist was very nice, it was all very relaxed and very human. It didn’t feel like I was being sold anything... I didn’t feel any pressure to be involved. I think women just need to be assured there is not a lot involved and that they can help other women, feel like they are part of something useful. (standard care group)

A couple of women noted however, even though they were happy to participate, they were keen to be ‘in and out’ of the pharmacy as soon as possible and would have liked to be able to directly contact the research team to discuss being involved rather than having to decide whilst at the pharmacy.

I’m not entirely sure I knew exactly what she was talking about although I was given the information to take away. I think the pharmacist could have asked me a bit more question. But to be honest, I didn’t ask her much because I just wanted to get out of there. (POP group)

After prompting, one woman revealed that she had felt ‘obliged’ to agree to participate despite being assured by the pharmacist that participation was voluntary and would have no impact on the service she would receive. When asked about their motivation to participate in the study, most women said they wanted to ‘help other women’ through the study and to ‘give back’ to the excellent services they received. When asked if the incentive voucher (£10 value to spend in the pharmacy) was a motivation, most women said it helped to remunerate the time they had given to take part, although they would have participated without the voucher.

Pre- and post-study interviews with pharmacists

Pre-study interviews

Interviews were conducted with nine pharmacists. The majority perceived no potential problems with the study although two expressed concern that the time taken to recruit women, within a busy commercial setting, may potentially present a problem. The small incentives offered to pharmacies to recruit women (£10 per woman recruited) and those offered to women to participate (£10 voucher to spend in pharmacy) were seen as helpful. They felt the option of rapid access to a FPC was a good idea to help build on the women’s motivation to use ongoing contraception at presentation for EC.

Post-study interviews

Post-study telephone interviews were conducted with ten pharmacists. All were positive about their involvement and felt that pharmacies could offer a wider range of sexual and reproductive health services. Concerns were expressed by some that recruitment had been slower than they expected. They felt that pressure on consultation time had not been a significant issue, although there were some occasions when the pharmacy was too busy to allow recruitment.

Methodological issues identified from research team observations

Operational issues were documented throughout the study and reviewed, with the following key themes identified:

Retention/continuity of pharmacist

There was the difficulty in retaining within the study the pharmacists who had agreed to participate and underwent pre-study training. One pharmacist randomised to the POP arm was relocated to another pharmacy out of Edinburgh, so this pharmacy was removed from the study and the remaining three pharmacies in the POP arm were each allocated a greater recruitment target. Four months into the study, a pharmacist participating in the standard care arm retired without informing the research team, and the replacement did not wish to participate. Recruitment within this pharmacy therefore stopped and was replaced by another pharmacy.

Recruitment of women

Recruitment of women to the study, within all of the pharmacies, slowed towards the end of the study. In one of the larger pharmacies, which is a branch of a large pharmacy conglomerate within the UK, recruitment slowed over the months of June and July, as the travel vaccination service offered by the pharmacy became the priority. The number of women recruited overall during the study fell short of intended recruitment numbers of 180 by 12.

Adherence to study protocol

There were problems related to pharmacists adhering to guidance given to them during pre-study training about inclusion and exclusion criteria for recruitment, maintaining records of the numbers of eligible women who were dispensed EC but not recruited, and documenting the reasons for this. Exclusion criteria included women who were already using a hormonal method of contraception at time of recruitment. However, seven women were recruited whilst already using a hormonal method. They were subsequently excluded from statistical analysis of the primary outcome of the study. All pharmacists failed to keep accurate records of the numbers of women to whom EC was dispensed and who would have been eligible to participate, but either declined or were not approached to by the pharmacist. Thus there was no way to determine an accurate response rate, or to ascertain the reasons the pharmacists chose not to recruit, or why women decided not to participate.

A further concern was the occasional difficulty the pharmacists had in maintaining accurate documentation. On two occasions the form documenting consent to participate was not signed by the woman, and without consent they could not be contacted for follow-up. Some pharmacists did not document women’s date of birth on every occasion resulting in time spent trying to determine this information from pharmacy records. Additionally, the contact information recorded at time of recruitment was inaccurate for 14 women providing no way of conducting follow-up with them.
Discussion

Enhanced sexual health services provided in pharmacies have been shown to be effective and viewed favourably by women.1,2,5,9 Our pilot study demonstrated that the provision of simple interventions from the pharmacy after EC may increase the uptake of contraception.13 Overall, women welcomed both interventions and felt they offered solutions to the barriers they faced in obtaining regular contraception, leading to the use of EC, in terms of making appointments and being supported to find acceptable and effective contraception. Some concerns were highlighted relating to ‘easy access’ to hormonal methods at pharmacies and the preference some women have for visiting their own GP rather than a family planning clinic. None of the pharmacists felt that pressure on consultation time was an issue in providing the intervention. However, as this paper demonstrates, there are barriers to providing such a service in practice. Reassuring women about the safety of POPs, and provision of information to General Practitioners (GPs) about a service providing POP after EC, may help alleviate some of the concerns we identified from women in our study. Consideration could also be given to extending the provision of rapid access to contraception to GPs, rather than FPCs alone.

A barrier to rolling out such findings from a pilot study into clinical practice is the ability to conduct high quality research in this setting. The difficulties we encountered in conducting the study may impinge on the quality of evidence obtained and therefore the ability to translate it to clinical practice. Although limited evidence would suggest pharmacists are interested in participating in research,14,15 we had some problems in retention of pharmacists during the study. Whilst pharmacists felt recruitment to the study and provision of interventions did not significantly affect their consultation time, recruitment slowed in all pharmacies at points throughout the study. Community pharmacies, which are commercial businesses, may have to prioritise more lucrative services above clinical research at certain times. Reassuringly women found the notion of being recruited to clinical research within a pharmacy acceptable. However, as with recruitment to research in any setting, care should be taken (by pharmacist and research team) to ensure women do not feel obliged to participate at a time when they may be feeling anxious and vulnerable.

Although the depth of detail provided from face-to-face interviews, and similar responses from women across the groups, provides strength to the methodology and suggests reliability of results, there are obvious limitations in this study. This was a small study, with a small sample of women from a single urban site, as the interviews were intended to explore possible facilitators and barriers. The results may not be applicable in other settings, such as rural pharmacies.

Conducting a pilot study and undertaking the follow-up interviews with women, provided an opportunity to gain valuable feedback. Women welcomed both participation in research and the interventions offered. Pharmacists viewed their participation in the study positively. The problems encountered provide valuable feedback to inform further development of research methods in the pharmacy setting, and larger scale studies of such interventions.

Author statements

Acknowledgements

We are grateful to Anne Johnstone (research nurse) for assisting with pre-study training of the pharmacists and assistance co-ordinating recruitment by the pharmacists. We are grateful to all the pharmacists who participated in the study.

Ethical approval

Ethical approval was sought and approved for the original pilot study,13 which included approval to conduct the qualitative interviews reported in this article. The South East Scotland Research Ethics Committee 03 (11/SS/0045) approved the pilot study in September 2011.

Funding

The Edinburgh & Lothians Health Foundation provided funding for this study. Additionally, a research grant was provided by HRA Pharma (Paris, France) which enabled LM to be funded as a Clinical Research Fellow at The University of Edinburgh. This grant was independent and unrestricted, not specified to fund any particular research projects.

Conflict of interests

Both SC and AG, currently and in the past, have received research support from and undertaken consultancies for pharmaceutical companies working to develop emergency contraception.

REFERENCES


Please cite this article in press as: Michie L, et al., Provision of contraception after emergency contraception from the pharmacy: evaluating the acceptability of pharmacy for providing sexual and reproductive health services, Public Health (2015), http://dx.doi.org/10.1016/j.puhe.2015.11.017
Abortion care services delivered from a community sexual and reproductive health setting: views of health care professionals

Lucy Michie,1 Sharon T Cameron,2 Anna Glasier3

1Clinical Research Fellow, Chalmers Sexual and Reproductive Health Centre, Edinburgh and Department of Reproductive and Developmental Sciences, University of Edinburgh, Edinburgh, UK
2Consultant Gynaecologist, Chalmers Sexual and Reproductive Health Centre, Edinburgh and Department of Reproductive and Developmental Sciences, University of Edinburgh, Edinburgh, UK
3Honorary Professor, Department of Reproductive and Developmental Sciences, University of Edinburgh, Edinburgh, UK

Correspondence to
Dr Lucy Michie,
Chalmers Sexual and Reproductive Health Centre, 2a Chalmers Street, Edinburgh EH3 9E, UK; Lucy.Michie@ed.ac.uk

Received 10 December 2012
Revised 13 March 2013
Accepted 20 March 2013
Published Online First 24 May 2013

ABSTRACT

Background Abortion services should provide high-quality contraceptive care. The community sexual and reproductive health (SRH) services may be well placed to deliver more abortion care in the UK. We wished to determine the views of health professionals working in SRH regarding their attitudes towards providing more abortion services and also the views of staff within one community SRH centre in Scotland where a service providing early medical abortion (EMA) was due to commence.

Methods An anonymous questionnaire distributed to attendees at a UK SRH scientific meeting collected data on demographics, current practice of and attitude to abortion, and views on delivery of abortion services. An internet questionnaire distributed by e-mail to staff at a community SRH clinic in Scotland sought demographics, views regarding the planned introduction of an EMA service and willingness to participate in it.

Results 165 questionnaires were completed out of 200 distributed at the scientific meeting (an 82% response rate). 128 (78%) respondents felt that abortion services were suited to community clinics and 115 (70%) stated that they would be willing to participate in them. 62/90 (69%) staff from the SRH clinic responded to the internet questionnaire. 44 (71%) felt the plan to introduce abortion services was a natural extension to services already offered and the same number would be willing to be involved in such a service.

Conclusion There is clear support amongst health professionals in community SRH in the UK towards greater participation in the provision of abortion care services.

INTRODUCTION

Delivery of abortion care services throughout the UK is changing. In England and Wales in 2011, 61% of all abortions were carried out in the independent sector, funded by the National Health Service (NHS), whilst 35% were carried out in NHS hospitals.1 In contrast, in Scotland 98% of abortions are provided through the NHS and most of these are delivered from hospital-based departments of obstetrics and gynaecology.2 A key component of the care of women requesting an abortion, as directed in UK guidelines, is the provision of comprehensive counselling and immediate access following abortion to all available forms of contraception, in particular the long-acting reversible methods.3 Indeed there is growing evidence that uptake of these effective methods of contraception, notably the intrauterine device (IUD) and intrauterine system (IUS) and the progestogen-only implant, is associated with a significantly reduced risk of repeat abortion.4–8 In some hospital settings the care of women requesting an abortion may be delegated to the more junior...
members of the medical staff, who often lack knowledge about contraception and the training to insert implants or intrauterine methods. While there is a lack of recent evidence regarding the attitudes of UK obstetrics and gynaecology trainees towards provision of abortion care, there are anecdotal reports that increasing numbers of them are choosing to opt out of abortion care for reasons of personal belief or because they find the work repetitive. A questionnaire of a proportion of both consultants and trainees in obstetrics and gynaecology in the UK in 1998 acknowledged similar concerns. The results identified that around one-third of trainees in obstetrics and gynaecology had not had any training in abortion procedures, a similar number stated a conscientious objection to abortion, and a number of consultants expressed views that some trainees also opted out of abortion for other reasons.

It has been suggested that abortion services would be better provided in the community sexual and reproductive health (SRH) setting, since staff working within this area may be better placed to provide for women’s ongoing contraceptive needs and have expertise in the insertion of IUDs and contraceptive implants. Additionally, SRH services may well be better for screening and testing for sexually transmitted infections (STIs) and may have more robust systems for partner notification.

Increasing numbers of women in Great Britain are undergoing early abortion, 78% of abortions in England and Wales having been performed at under 10 weeks’ gestation and 65.5% in Scotland at under 9 weeks in 2011, and increasing numbers of this group are opting for the medical method and choosing to go home soon after treatment to pass the pregnancy at home. There is good evidence that early medical abortion (EMA) is highly amenable to delivery from a community setting and highly acceptable to women.

The attitude of general practitioners, gynaecologists and medical students in the UK towards their involvement in provision of abortion has been the subject of previous research. However, no previous studies have focused on the views of those working within the field of SRH. In this study we aimed to determine the views of health professionals working in SRH regarding their attitudes towards a future role for specialists in SRH in providing more abortion care services by surveying delegates at the Annual Scientific Meeting of the Faculty of Sexual & Reproductive Healthcare (FSRH) in the UK. In addition, we wished to determine the views of staff working within a community SRH centre in Edinburgh, Scotland, UK about the planned provision within the following 6 months of EMA within their integrated SRH service.

METHODS
To obtain the views and attitudes of a large number of health care workers, either working within or with an interest in SRH, we designed a questionnaire to distribute to all attendees at a large UK SRH scientific meeting (that of the FSRH) in April 2012. An introductory paragraph on the questionnaire explained its purpose and anonymity. Completed questionnaires were placed in sealed collection boxes. The questionnaire collected demographic data of the respondents including gender, age, current working role and geographical region of work, information on their current practice of and attitude to abortion, and their views on location of abortion care services. Responses in the sections relating to views on abortion and attitude and willingness to participate in, and location of, abortion care services were recorded by the participants on five-point Likert scales, the options ranging from ‘strongly disagree’ to ‘strongly agree’.

For the survey of staff within the community SRH service in Edinburgh, an anonymous internet questionnaire was distributed to all staff named on an up-to-date staff mailing list between January and March 2012. The questionnaire sought demographics including gender and role within the service, in addition to views regarding the planned introduction of the EMA service and willingness to participate in it. Responses consisted mostly of drop-down list options with additional free-text responses to selected questions.

Statistics
Data from both questionnaires were coded and entered onto separate databases using Microsoft Excel. In the questionnaire of attendees at the SRH scientific meeting, responses relating to views on abortion, willingness to participate and location of services were combined such that ‘strongly agree’ and ‘somewhat agree’ were grouped as ‘agree’ whilst ‘strongly disagree’ and ‘somewhat disagree’ were grouped as ‘disagree’. The remaining group of responses was ‘neither agree nor disagree’. Data analysis was performed using IBM Statistical Package for Social Sciences (SPSS) software V18 (IBM Corporation, New York, NY, USA). Groups were compared by Chi square test or Fisher’s exact test, where counts within any individual cell of the contingency table fell below five. Statistical significance was deemed to be \( p < 0.05 \).

Ethical approval
Both questionnaires were reviewed by the chair of a local research ethics committee who confirmed that ethical approval was not required as they constituted health services research.

RESULTS
A total of 165 questionnaires were returned out of 200 distributed at the UK SRH scientific meeting (an 82% response rate). Almost all respondents were female (88%) and over two-thirds (73%) were aged between 41 and 60 years. Over half of the respondents worked in England (54%) and the majority
were doctors (95%). Demographics of the respondents are shown in Table 1. Regarding any current involvement in abortion, only five (3%) respondents stated they had no involvement in any aspect of abortion care; 129 (78%) currently referred women for abortion, 106 (64%) counselled and assessed women for consideration for abortion and 103 (62%) signed the required legal paperwork for abortion. Only 24 (14%) respondents stated that they either performed surgical abortion or administered the medications required for medical abortion.

Most respondents (149; 90%) considered themselves to be ‘broadly pro-choice’; six (4%) were undecided and 10 (6%) stated they were broadly anti-abortion. There was no statistically significant difference between gender, age groups, region of work or current working role and personal view of abortion.

Statements were put forward to respondents regarding their view on location of abortion services, their willingness to participate, and views as to whether there is a role within SRH for abortion care. The responses are shown in Table 2. The majority of respondents (128; 78%) attending the UK SRH scientific meeting felt that abortion services were better suited to community clinics than hospital services. Eighty-three (50%) respondents felt that services should be divided across community, hospital and non-NHS charitable and private organisations. Respondents working in England were statistically more likely to agree that abortion services were best suited to non-NHS charitable and private organisations compared to respondents working in other regions (p=0.001). In addition, female respondents were statistically more likely to agree that abortion services were best suited to non-NHS charitable and private organisations compared to male respondents (p=0.017). There were no other statistically significant differences in the responses to statements regarding location of services between gender, age groups, region of work or working role. Some 115 (70%) respondents agreed that they would be willing in the future to participate in abortion services; 35 (21%) disagreed while 13 (8%) were undecided. The majority (143; 87%) disagreed that there was no role in SRH for abortion services; eight (5%) neither agreed nor disagreed and 11 (7%) agreed there was no role. Significantly more women disagreed with this statement than men (p=0.006). Respondents who considered themselves to be broadly anti-abortion were statistically more likely to disagree to participate in abortion services (p=0.001) and statistically more likely to agree that there is no role in SRH for abortion services (p=0.004).

The questionnaire of staff working within an SRH service in Edinburgh was distributed to 90 people, of whom 62 (69%) responded. The majority (56; 90%) of respondents were female. Twenty-four (39%) respondents were nursing staff, 22 (35%) doctors and 16 (26%) administrative and clerical staff.

All were asked ‘How do you feel about the plan for early medical abortion to take place in your service?’ Forty-four (71%) stated they felt this was a natural extension to the services already offered, four (6%) were neutral and nine (15%) were uncertain. Only five (8%) respondents felt it was not an appropriate setting. There was no significant difference in responses to this question with gender and different working roles. In response to the question ‘Would you be happy to be involved in such a clinic?’, 44 (71%) stated ‘yes’, seven (11%) stated ‘no’ due to conscientious objection to abortion and 11 (18%) were either uncertain or stated that this would not be of interest to them. Neither gender nor working role was associated with response to this question.

Respondents were asked, from a list of potential advantages, to select those that they felt would apply to women as a result of providing EMA within the service. Responses are shown in Table 3. One-third (21; 34%) of respondents felt all were possible advantages to women.

Respondents were asked ‘Do you feel there will be any potential disadvantages to women seeking an

### Table 1. Demographics of respondents to the questionnaire distributed at the Faculty of Sexual & Reproductive Healthcare Annual Scientific Meeting in 2012.

<table>
<thead>
<tr>
<th>Demographics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>146 (88)</td>
</tr>
<tr>
<td>Male</td>
<td>18 (11)</td>
</tr>
<tr>
<td>Missing data</td>
<td>1 (1)</td>
</tr>
<tr>
<td><strong>Age range (years)</strong></td>
<td></td>
</tr>
<tr>
<td>20–30</td>
<td>5 (3)</td>
</tr>
<tr>
<td>31–40</td>
<td>29 (18)</td>
</tr>
<tr>
<td>41–50</td>
<td>61 (37)</td>
</tr>
<tr>
<td>51–60</td>
<td>60 (36)</td>
</tr>
<tr>
<td>&gt;60</td>
<td>10 (6)</td>
</tr>
<tr>
<td><strong>Geographical region</strong></td>
<td></td>
</tr>
<tr>
<td>Scotland</td>
<td>65 (39)</td>
</tr>
<tr>
<td>England</td>
<td>90 (54)</td>
</tr>
<tr>
<td>Wales</td>
<td>3 (2)</td>
</tr>
<tr>
<td>England and Wales</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Ireland</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Channel Islands</td>
<td>3 (2)</td>
</tr>
<tr>
<td><strong>Working role</strong></td>
<td></td>
</tr>
<tr>
<td>Consultant</td>
<td>35 (21)</td>
</tr>
<tr>
<td>General practitioner</td>
<td>51 (31)</td>
</tr>
<tr>
<td>Staff grade/associate specialist grade doctor</td>
<td>53 (32)</td>
</tr>
<tr>
<td>Trainee doctor</td>
<td>16 (10)</td>
</tr>
<tr>
<td>Unspecified doctor</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Nurse</td>
<td>6 (3)</td>
</tr>
<tr>
<td>No longer working</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Missing data</td>
<td>1 (1)</td>
</tr>
</tbody>
</table>
abortion, in having their care delivered from the community SRH setting?² and were invited to specify what they considered the disadvantages to be. Thirty-two (52%) felt there would be no disadvantages, 14 (22%) thought there would and 16 (26%) were uncertain. A total of eight possible disadvantages suggested by the respondents were: possible lack of anonymity within the community setting (n=4); concern that the new abortion service would place undue additional workload on the existing services (n=2); concern that some women may not wish to attend an SRH clinic for abortion due to possible stigma associated with sexual health clinics (n=1); and that women may not wish to return to the SRH service in the future as it may remind them of having had an abortion (n=1).

DISCUSSION

This study showed that most of the health professionals in SRH who were surveyed were generally supportive of providing abortion services from a community SRH setting. This is reassuring for future workforce provision of abortion services in the UK. Currently, those abortion services that are provided from hospital departments of obstetrics and gynaecology often compete for staffing with acute areas such as the labour ward, with the result that staffing of the abortion clinic may be delegated to junior, inexperienced members of the team. There is also evidence that trainees in obstetrics and gynaecology often compete for staffing with acute areas such as the labour ward, with the result that staffing of the abortion clinic may be delegated to junior, inexperienced members of the team. There is also evidence that trainees in obstetrics and gynaecology may lack interest in abortion management since a survey of senior trainees in 2008 showed that only 2.8% had opted to undertake the advanced training module in abortion care.¹⁸ Our study confirms that doctors working within community SRH may be more willing to participate in abortion services. Additionally, abortion care is included as a mandatory module within the new training curriculum for UK specialist trainees in community SRH, ensuring that all doctors training in this new specialty gain knowledge and exposure of this integral part of SRH.¹⁹

Increasing numbers of women in Great Britain who request an abortion are at early gestation (≤9 weeks), and increasing numbers are choosing to have an EMA method that enables them to leave the abortion service soon after treatment to pass the pregnancy at home.¹⁰ ¹¹ There is evidence that this method is highly amenable to provison in a community setting and that it is safe to do so, and furthermore it is acceptable to women.¹² Our results show that the overwhelming majority of delegates at the SRH scientific meeting surveyed agreed that abortion services would be suited to a community SRH setting. Additionally, the majority of staff working in a community SRH clinic where abortion services were about to be introduced felt that this was a natural extension to the services already offered.

There are other reasons why it may be advantageous for more abortion care to be provided from community SRH clinics. First, it is possible that uptake of the most effective long-acting reversible methods of contraception (LARC) would be greater in a specialist contraceptive setting compared to a hospital setting, where hospital staff may lack specialist contraceptive knowledge or the ability to insert intrauterine contraception or progestogen-only implants. In our study, 7/10 staff surveyed at the community SRH clinic agreed that better contraceptive provision would be an advantage of providing abortion care through the SRH clinic. Immediate post-abortion provision of LARC is important as there is increasing evidence that insertion of an IUD/IUS or an implant is associated with a significantly reduced risk of having a further abortion.⁴–⁸ In a Scottish study of a hospital-based abortion service, women who chose to have an

---

Table 2  Views on location of and participation in abortion services

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree [n (%)]</th>
<th>Neither agree nor disagree</th>
<th>Disagree [n (%)]</th>
<th>Missing [n (%)]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abortion services would be best suited to community clinics as opposed to a hospital setting</td>
<td>128 (78)</td>
<td>24 (14)</td>
<td>12 (7)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Abortion services are best provided within a hospital-based setting in gynaecology</td>
<td>31 (19)</td>
<td>44 (27)</td>
<td>88 (53)</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Abortion services are best provided by separate non-NHS, private and/or charitable organisations</td>
<td>18 (11)</td>
<td>53 (32)</td>
<td>93 (56)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Abortion services should be divided across these services</td>
<td>83 (50)</td>
<td>49 (30)</td>
<td>29 (18)</td>
<td>4 (2)</td>
</tr>
<tr>
<td>I would be willing to participate in abortion care for women, including relevant paperwork or administering medication/undertaking procedure where appropriate</td>
<td>115 (70)</td>
<td>13 (8)</td>
<td>35 (21)</td>
<td>2 (1)</td>
</tr>
<tr>
<td>I do not feel my role within SRH should have any involvement in abortion services</td>
<td>11 (7)</td>
<td>8 (5)</td>
<td>143 (87)</td>
<td>3 (2)</td>
</tr>
</tbody>
</table>

NHS, National Health Service; SRH, sexual and reproductive health.

Table 3  Possible advantages for women of an abortion service located in Chalmers Sexual Health Centre, Edinburgh, UK

<table>
<thead>
<tr>
<th>Possible advantages*</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better provision of contraception post-procedure</td>
<td>44 (71)</td>
</tr>
<tr>
<td>More holistic approach to patient care</td>
<td>42 (68)</td>
</tr>
<tr>
<td>Opportunity to better manage sexually transmitted infections</td>
<td>33 (53)</td>
</tr>
<tr>
<td>More readily accessible site for patients</td>
<td>32 (52)</td>
</tr>
<tr>
<td>No response</td>
<td>10 (16)</td>
</tr>
</tbody>
</table>

*Multiple advantages could be selected by each respondent.
IUD/IUS fitted were almost 18 times less likely, and women who chose to have a contraceptive implant inserted were 16 times less likely, to return for another abortion within the next 2 years, compared to those choosing to use an oral contraceptive pill.4

It would also seem only logical that an integrated community SRH service would also be better placed to manage STIs in women requesting abortion. Indeed, over half (53%) of the respondents working within the community SRH clinic agreed that better management of STIs would be an advantage to offering abortion care within their setting. It has previously been shown that women who test positive for *Chlamydia trachomatis* at a hospital abortion service have poorer partner treatment rates than their counterparts who test positive at either a genitourinary medicine clinic or family planning clinics.20 This suggests that management of STIs amongst women requesting abortion may be particularly challenging for hospital services.

Of course it is possible that there may be some disadvantages to providing abortion care services from a community setting. Only a small number of staff from the SRH clinic reported possible disadvantages and these tended to be related to perceived increasing workload for themselves, or concerns that women may have less anonymity than in a hospital clinic. Clearly any abortion service must be able to provide guarantees of privacy and anonymity for women, and sexual health services are surely particularly sensitive to users’ needs in this respect. A concern that was expressed by a minority of staff was that women might be reluctant to attend an SRH setting due to perceived stigma attached to a sexual health service. However, currently many women actually choose to attend SRH clinics to request a referral for abortion. Clearly, future qualitative research on the views and experiences of women attending abortion services in both hospital and community settings will be important to determine the location of services that women would consider most convenient and acceptable.

Although more than three-quarters of respondents from the scientific meeting felt that abortion services were suited to a community SRH setting, half also agreed that services should be divided across community, hospital and non-NHS organisations. Currently in England and Wales, abortion services are delivered from both the independent sector, funded by the NHS, and from NHS hospitals. This division of services has worked well for many years, although as suggested by the responses to our survey, these services could co-exist in both the independent sector and in an NHS community SRH setting. In Scotland the overwhelming majority of abortions are provided by hospitals, and while hospital services with surgical facilities and inpatient and day case beds will still be required, assessment clinics and facilities for EMA or early surgical abortion could also exist in community SRH clinics.

Clearly a potential drawback to our study is that most respondents from the scientific meeting were aged over 40 years, and so may not necessarily have reflected the views of younger health professionals or those still in training, who are the potential future providers of abortion services. There is currently a lack of recent qualitative research regarding attitudes towards abortion care of UK trainees in both obstetrics and gynaecology and SRH, and a future study in this area would be valuable. Nevertheless, our study showed that UK health professionals currently working in SRH are supportive of providing more abortion services in a community SRH setting. Clearly it will be important to evaluate service delivery from community SRH settings to determine if this model is indeed associated with the anticipated benefits for women and what, if any, the disadvantages may be.

Acknowledgements The authors are grateful to the Clinical Studies Group at the Faculty of Sexual & Reproductive Healthcare for agreeing to the distribution of the study questionnaire during their session at the 2012 Faculty Annual Scientific Meeting.

Funding This project was undertaken with funding from Scottish Government, Public Health Division, as part of a series of projects aimed at improving the patient journey through abortion services.

Competing interests None.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES


