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Depression in Older People: Meeting the Challenges of an Ageing Population

Thesis Portfolio

Alison Somers Raeburn

Doctorate in Clinical Psychology

University of Edinburgh

August 2013
DClinPsychol. Declaration of own work

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*Word Count (excluding references and appendices): 18,356*
Acknowledgements

I would like to firstly thank all the patients who took the time to participate in this study. I would also like to thank the many clinicians in NHS Highland who helped me during the recruitment phase. Thank you also to Dr Amber Saldias who worked hard to recruit participants in NHS Grampian. I must thank Professor Ken Laidlaw for his enthusiasm and positive encouragement at every step. His expertise has been invaluable. I would like to also thank Dr Paul Graham Morris for his helpful feedback during the latter stages of my thesis. I am grateful to Dr Jim Law for always taking the time to talk about my thesis, and for his helpful supervision. I finally must thank my friends and family. Thank you to Ann and my fellow trainees for their endless support.
Overview to Thesis Portfolio

This thesis has been conducted in part fulfilment of the Doctorate in Clinical Psychology. It comprises two parts: a systematic review and an empirical research study. These are two distinct articles both aiming to provide insight into the challenges of late life depression.

Firstly, the ageing population will mean that mental health services are likely to see an increase in older people with depression, many of whom will have neurological conditions common in late life, including dementia, stroke and Parkinson’s disease. These conditions have a high risk of depression associated with them. Addressing depression can have a significant effect on quality of life and at present there is limited evidence for effective treatments for depression in neurological conditions. Researchers and therapists have previously been reluctant to conduct psychological therapy with this population, however, there is preliminary evidence that psychological therapies can be efficacious for this population. CBT is structured, goal focused and orientated in the present therefore may be easily adapted for the needs of people with neurological conditions and associated cognitive impairment. Chapter one presents systematic review of this literature, titled ‘Cognitive and behavioural therapies for the treatment of depression in people with dementia, stroke and Parkinson’s disease’.

Secondly, depression in the general older adult population will also present challenges for mental health services. Psychological therapies have been shown to be equally effective for older people as they are for younger adults. However, there are a range of gerontological issues that must be considered when working with older people. For example, cohort beliefs, interpersonal role changes and physical health changes may all impact on the way an older person conceptualises their difficulties. In particular, depression in older people has been associated with negative attitudes about ageing. Cognitive theory states that attitudes are mood-state dependent and if negative or dysfunctional attitudes are modified, this can result in improvement in mood. Exploring the attitudes of older people with depression will aid our understanding of late life depression and may provide useful information on whether attitudes to ageing should be specifically addressed during therapy for depression.
The current research study explores attitudes to ageing with a clinical sample of depressed older adults and compares attitudes with non depressed control participants. Chapter two outlines the full methodology used in the research study and chapter three contains the research study, titled ‘Attitudes to ageing and clinical depression in older people’, presented within a journal article format.
Thesis Portfolio Abstract

Systematic Review: Neurological conditions common in late life include dementia, stoke and Parkinson’s disease (PD). Depression in these conditions is common and can have significant adverse effects quality of life. Psychological therapies such as CBT are effective for late life depression, however, there is a lack of empirical evidence for CBT based therapies in the treatment of depression in neurological conditions. The current systematic review was therefore carried out to evaluate the evidence for cognitive and behavioural therapies in the treatment of depression in dementia, stroke and PD. A total of 19 studies were included in the review. It was concluded that there is currently insufficient high quality evidence examining CBT based therapies in people with these conditions. There are, however, promising preliminary results which need to be examined further using high quality research designs including long term follow up data.

Empirical Research Study: Depression in older people can have a detrimental effect on morbidity and quality of life. Unfortunately it is often unrecognised and untreated. Given the challenges associated with ageing, such as losses and physical health problems, people may consider depression as ‘understandable’ and an inevitable consequence of ageing. The current study aimed to explore older people’s attitudes towards their own ageing and the effect of clinical depression. Twenty eight participants over the age of 60 with clinical depression were compared with a control sample of non depressed participants. Groups were compared on measures including: Attitudes to Ageing Questionnaire, Geriatric Depression Questionnaire, quality of life, satisfaction with health and various demographic variables. The clinically depressed sample also completed the Geriatric Anxiety Scale, Beck Hopelessness Scale, Prospective and Retrospective Memory Questionnaire and the Understandability Questionnaire. Results showed significant differences in attitudes to ageing relating to psychosocial loss, with the depressed population reporting more negative attitudes. Depression was found to be a significant predictor of negative attitudes and factors including increased hopelessness and reduced quality of life were also associated with negative attitudes. This study highlights the importance of assessing attitudes to ageing in older people with depression as this may have implications for psychological treatments for late life depression.
PART I – SYSTEMATIC REVIEW
Chapter 1: Systematic Review

Cognitive and Behavioural Therapies for the treatment of depression in dementia, stroke and Parkinson’s disease

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Department of Clinical Psychology (University of Edinburgh)

This review has been written in accordance with Clinical Psychology Review (Appendix 1)

Word Count: 8143 (excluding abstract and references)
Abstract

Background: Dementia, stroke and Parkinson’s disease (PD) are three common neurological conditions in older people. Depression in these conditions significantly affects quality of life and exacerbates symptoms of the conditions. There is a need for effective psychological treatments therefore this review aims to systematically review the evidence for cognitive and behavioural therapies in the treatment of depression in these three conditions. Method: A systematic literature search was conducted using search engines including Medline, Embase, PsycInfo and CINAHL. Inclusion and exclusion criteria are described and included articles were assessed on methodological quality. Results: Nineteen studies met the inclusion criteria for this review: five studies examining dementia, five examining stroke and nine examining PD. Results across the different conditions were mixed. There was higher quality evidence for the efficacy of behavioural therapies in people with dementia. The evidence for post stroke depression was inconclusive and there is preliminary evidence that CBT may be efficacious for people with PD. Conclusions: There is currently insufficient high quality evidence for the efficacy of CBT based therapies for people with these three neurological conditions. However, the evidence for CBT in people with PD, and behavioural therapy for people with dementia is promising. Further high quality research is required with longer term follow ups in order to determine the efficacy of cognitive and behavioural therapies for people with dementia, stroke and PD.

Keywords: Depression, stroke, dementia, Parkinson’s disease, CBT

Abstract Word Count: 225
**Introduction**

Clinical depression in late life is a common condition which affects about 8-16% of people over the age of 65 (Blazer, 2003). The prevalence rate increases for people in care settings including hospitals and care homes (Jorm, 2000). Rates of depression also increase in those with neurological conditions (Rodda, Walker & Carter, 2011). As the population of older people grows, there will be an increase in neurological conditions such as dementia, stroke and Parkinson’s disease (PD). Despite the increased risk of depression, it is often unrecognised and therefore untreated in this population. This may be partly due to the challenges in diagnosing depression in these conditions, for example, depressive symptoms may be attributed to fatigue or reduced concentration resulting from the condition (Raskind, 2008). Comprehensive assessment of symptoms might also be further complicated by individuals’ cognitive impairments and communication difficulties (Rickards, 2005). Identifying and treating depression in these conditions is of increasing importance as depression can have a significant effect on the prognosis of the condition and on quality of life of patients and their carers (Rickards, 2006).

Treatment of late life depression has largely relied on pharmacological approaches (Rodda et al., 2011). However, the problems associated with polypharmacy in older people are well documented (Kaufman, 2011). It is therefore important to examine the role of psychotherapy for depression in later life. In a systematic review examining 112 studies, it was concluded that psychotherapy is an effective treatment for depression and it is equally effective in older and younger adults (Cuijpers, van

Among the psychotherapies for older people, cognitive behavioural therapy (CBT) has the largest evidence base (Pinquart, Duberstein & Lyness, 2007). It focuses on the links among people’s thoughts, feelings and behaviour and it may be particularly useful for older people as it is easy to understand, problem focused and skills enhancing, and it empowers individuals to develop a range of coping strategies (Laidlaw, Thompson & Gallagher-Thompson, 2004). Several systematic reviews and meta-analyses have examined the role of CBT for late life depression and concluded that it is more effective than treatment as usual, and equally effective to other treatments, including pharmacotherapy and other psychotherapies (e.g. Gould, Coulson & Howard, 2012).

It has been suggested that CBT may be adapted for use with people with neurological conditions (Broomfield et al., 2011). It has already been applied within a range of different populations, including people with learning disabilities (e.g. Hassiotis et al., 2013) and people with long term medical conditions (e.g. Halford & Brown, 2009). It has been shown to be effective in reducing depressive symptoms in people with physical health conditions, such as cancer and diabetes (e.g. Beltman, Voshaar & Speckens, 2010). With regard to neurological conditions, it has been successfully used to treat depression in people with multiple sclerosis (e.g. Mohr, Boudewyn, Goodkin, Bostrom & Epstein, 2001) and traumatic brain injury (e.g. Fann, Hart & Schomer, 2009).
Despite evidence suggesting that CBT may benefit people with various neurological conditions, there is still a lack of research examining this in older adults. It may be that researchers have been reluctant to use CBT with this client group due to the cognitive impairments that may make it difficult for people to engage and utilise it effectively. However, CBT can be adapted for people with cognitive impairment (Spector et al., 2012), for example, by utilising memory aids, increasing repetition and maintaining highly structured sessions (Gellis, McClive-Reed & Brown, 2009).

The most common neurological conditions occurring in older people are dementia, stroke and Parkinson’s disease. Given the high rates of depression associated with these conditions and the significant impact it can have on clinical outcomes, it is important that there are effective treatments for depression. Each of these conditions will firstly be outlined separately.

**Dementia**

Dementia affects over 800,000 people in the UK (Luengo-Fernandez, Leal & Gray, 2010) and Alzheimer’s disease (AD) is the most common type of dementia. AD is characterised by gradual decline in cognitive functioning. Additionally, psychiatric and behavioural disturbances can affect up to 90% of people with AD (Lyketsos & Olin, 2002) and 20-25% of people with AD will experience major depression. The link between depression and dementia is complex, and although some researchers consider depression as a prodrome to dementia (Brommelhoff et al., 2009), the presence of dementia also increases the risk of depression (Wilkins, Kiosses & Ravdin, 2010).
Symptoms of depression in dementia, such as apathy, hopelessness and anhedonia can have a significant impact on the prognosis of the disease; it exacerbates cognitive impairment and has been linked with increased mortality (Sutcliffe et al., 2007). Additionally, depression and anxiety have been associated with reduced quality of life (Hoe, Hancock, Livingston & Orrell, 2006) and increased risk of admission to a nursing home (Gibbons et al., 2002). As well as increasing distress to the individual suffering from dementia, depression also increases caregiver distress (Gonzalez-Salvador, Arango, Lyketsos & Barba, 1999).

With regard to treatment of depression in dementia, there is insufficient evidence that antidepressant medication is effective (Bains, Birks & Dening, 2002). The UK National Institute for Health Research conducted a large scale RCT examining antidepressant medication for depression in dementia and concluded that they are not cost effective treatments (Banerjee et al., 2013). They suggested that antidepressants should not be prescribed as a first line treatment and that psychosocial interventions should be further examined. A range of psychological approaches in addition to CBT have been examined, including interpersonal therapy (Burns et al., 2005), and group psychotherapy (Cheston, Jones & Gillard, 2003). However, these studies did not find significant treatment effects. There is also an increasing recognition of the importance in involving carers in treatments (Paukert et al., 2010).

**Stroke**

Stroke affects around 130,000 people per year in the UK (National Audit Office, 2005) and it is most common cause of disability and the third most common cause of death in the UK. However, survival rates are increasing and as they do, there will be
a greater need for reducing morbidity in survivors. In addition to physical disability and cognitive impairments, post stroke depression has been reported to occur in about 30 per cent of cases (Kneebone & Lincoln, 2012). Vulnerability to depression is increased following stroke due to the nature of the impairments it causes. For example, impaired physical functioning can result in a reduced ability to engage in pleasurable activities and cognitive deficits can result in negative thinking biases (Broomfield et al., 2011).

It is important to assess and treat post stroke depression as it is associated with increased cognitive impairment and increased mortality (Williams et al., 2007). It also reduces quality of life and increases burden to carers (Kootker, Fasotti, Rasquin, van Heugten & Geurts, 2012). There is a lack of research examining the effectiveness of psychological treatments for post stroke depression. Hackett, Anderson, House and Xia (2008) conducted a systematic review of the effects of psychotherapy on post stroke depression and concluded that there are not enough studies of good quality to demonstrate any significant benefit of psychological treatments. Despite this limited evidence base, researchers have suggested that CBT ought to be suitable for people with post stroke depression (Broomfield et al., 2011) and therefore further research is needed to examine whether there is evidence for an augmented CBT approach in this population. Most of the research to date has examined interventions targeting the prevention of post stroke depression (Robinson et al., 2008). In particular, motivational interviewing has been shown to reduce the likelihood of developing depression following stroke (Watkins et al., 2007).
Parkinson’s disease

Parkinson’s disease (PD) is a degenerative neurological condition characterised by motor symptoms such as bradykinesia (slowness of movement), tremors and rigidity (Misayaki et al., 2006). As such, simple activities of daily living including walking, dressing and eating are more difficult for people with PD. This can have a significant impact on an individual’s quality of life and relationships with others.

Non-motor symptoms include neuropsychological symptoms such as cognitive impairment (Macht, Pasqualini & Taba, 2007). Depressive symptoms are also common, occurring in about 35 per cent of people with PD (Reijnders, Ehrt, Weber, Aarsland & Leentjens, 2008). There is debate in the literature as to whether depression in PD is ‘reactive’ or ‘organic’, with some researchers suggesting that people with PD are more susceptible to depression due to the neuropathological changes associated with the condition (Slaughter, Slaughter, Nichols, Holmes & Martens, 2001). However, it has been stated that there is little evidence for this distinction and that it should not affect treatment choice (Leentjens, 2004). Similar to stroke and dementia, depression in PD has an adverse affect on prognosis of the disease and has been associated with a greater decline in cognitive and motor functioning as well as poorer quality of life (Menza et al., 2009).

The treatment of depression in PD has largely relied on pharmacotherapy. However, there is insufficient evidence that antidepressant treatments are effective in people with PD (Burn, 2002; Leentjens, 2004). This is also made more complicated by adverse side effects, for example, the risk of falls in PD increases with polypharmacy (Ashburn et al., 2001). This highlights the importance of having alternative
interventions for mood disorders in PD (Charidimou, Seamons, Selai & Schrag, 2011). It has been suggested that psychological therapy such as CBT may be useful in the treatment of depression in PD (Cole & Vaughan, 2005). Assogna et al.’s (2013) study demonstrated that depressive symptoms in people with PD are comparable to those with other non-neurological illnesses, suggesting that people with PD could also potentially benefit from CBT. Further research is needed, however, as a recent Cochrane review examining treatments for depression in PD did not find any studies of psychological therapy that were of a good enough quality to include in their review (Ghazi-Noori, Chung, Deane, Rickards & Clarke, 2009).

**Rationale for current systematic review**

Dementia, stroke and PD are the most common neurological conditions affecting older people and there is an increased risk of depression associated with them. Depression impairs quality of life and causes excess disability in these conditions. Therefore, effective treatments for depression will have a significant impact on the overall functioning of people with neurological conditions (Raskind, 2008), thus improving health outcomes and lowering treatment costs.

Research to date has shown indications that psychological interventions may be effective for people with neurological disorders (e.g. Yang, Sajatovic & Walter, 2012). In particular, CBT may be particularly suitable for use in the population as it is structured, time limited and focuses on the here and now. However, a focused review of the role of CBT in treating depression in these conditions has not yet been conducted. This will be of relevance for clinicians working in older adult mental health services as a high proportion of service users will have neurological
conditions. It will also consolidate the existing research and identify areas for future research.

Methodology

Aim

The aim of this systematic review is to investigate the efficacy of cognitive and behavioural therapies for the treatment of depression in people with neurological conditions common in older people, including dementia, stroke and Parkinson’s disease (PD).

Search strategy

The Cochrane database of systematic reviews (CENTRAL) was searched to ensure that there were no existing reviews of this topic. Then OVID databases: Medline (1946 - 2013) and EMBASE (1974 – 2013) were searched. The EBSCO databases: PsychINFO (to 2013) and CINAHL (to 2013) were also searched.

Search terms included: cognitive therapy, behaviour therapy, cognitive behaviour therapy and problem solving therapy. These were used in conjunction with: depression or depressive disorder. Each neurological condition was searched for separately using the following search terms: stroke or cerebrovascular accident; Parkinson’s disease or parkinsonism; dementia or Alzheimer’s disease. Key words were identified for each database and the search terms were mapped to a subject heading relevant to the particular database. The search engine Google Scholar and
Science Direct were also used during the search strategy and the references of relevant articles were examined in order to gather further papers.

**Inclusion and exclusion criteria**

Inclusion and exclusion criteria were determined based on PICOS criteria, outlined in the Centre for Reviews and Dissemination Guidelines (CRD, 2008).

**Population**

Studies were selected if they included participants with diagnoses of dementia, stroke or PD. In order to ensure that the intervention was effective in a particular condition, studies were excluded if they examined participants with more than one neurological condition. Although there may be overlap, for example, individuals with vascular dementia may also have had strokes, the primary diagnosis was taken into consideration. Studies were included if participants had the presence of depression of any severity. This was based on either meeting criteria for depression according to the DSM-IV or ICD-10. Alternatively, depression could be indicated by use of clinical cut-off scores on standardised outcome measures. The review only included studies confined to adults (aged 18 or over).

**Intervention**

The primary intervention examined is CBT. There are a range of therapies that are based on cognitive behavioural principles and can be classed as variations of CBT. Thus, therapies including behaviour therapy, cognitive therapy or problem solving therapy were also included in this review. Most interventions involved individualised CBT, however, telephone CBT, group CBT and computerised CBT (cCBT)
interventions were also included. There was no limit stipulated on number or length of sessions.

Outcome
Studies were included if level of depression was an outcome following treatment. Studies that did not use standardised outcome measures for assessing depression were excluded. Papers that also included other outcomes, for example, anxiety or quality of life, were not excluded.

Study design
Randomised controlled trials (RCTs) were sought as they are generally believed to provide the highest quality of evidence when reviewing interventions. However, studies using other designs were included if they met the above inclusion criteria, such as uncontrolled trials with pre and post measures and case series designs.

Other criteria
Papers were limited to English language as there were no translation services available. It is important to carry out a broad search of literature, both published and unpublished. However, due to constraints of this review, only research articles from peer reviewed journals were included. Review articles were excluded.

Quality criteria
Criteria were developed in order to rate the methodological quality of the included studies. These criteria were based on the SIGN 50 (2011) guidelines and adapted to the needs of the current review question. The PRISMA statement (Liberati et al.,
2009) for reporting systematic reviews was also consulted. It states that the assessment of risk of bias should be addressed using standardised criteria, which may need to be adapted depending on the nature of the included studies. The quality criteria used in this systematic review are outlined in Table 1.1.
Table 1.1: Quality Criteria

<table>
<thead>
<tr>
<th>Quality Criteria</th>
<th>Description</th>
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<tr>
<td>1. Study design</td>
<td><em>Experimental RCT</em></td>
<td>Well covered (3)</td>
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<tr>
<td></td>
<td><em>Experimental</em> Non randomised controlled trial</td>
<td>Adequate (2)</td>
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<tr>
<td></td>
<td><em>Observational</em> Before and after (uncontrolled trial)</td>
<td>Poor (1)</td>
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<tr>
<td></td>
<td><em>Observational</em> Case series</td>
<td>Very Poor (0)</td>
</tr>
<tr>
<td>2. Clearly focused and appropriate research question(s)</td>
<td>Question(s) clearly focused and appropriate</td>
<td>Well covered (3)</td>
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<td></td>
<td>Question(s) adequately focused and appropriate</td>
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<td></td>
<td>Question(s) poorly defined or inappropriate</td>
<td>Poor (1)</td>
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<td></td>
<td>No research question(s) described</td>
<td>Not addressed (0)</td>
</tr>
<tr>
<td>3. Population appropriate and clearly described using inclusion and exclusion criteria</td>
<td>Population clearly appropriate to research question e.g. clear diagnosis of depression and neurological condition</td>
<td>Well covered (3)</td>
</tr>
<tr>
<td></td>
<td>Population adequately appropriate to research question</td>
<td>Adequate (2)</td>
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<td></td>
<td>Population inappropriate or poorly described</td>
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</tr>
<tr>
<td></td>
<td>Population not addressed</td>
<td>Not addressed (0)</td>
</tr>
<tr>
<td>4. Appropriate and clearly randomised control group</td>
<td>Random allocation, investigator(s) blinded, treatment and control groups comparable at start of trial</td>
<td>Well covered (3)</td>
</tr>
<tr>
<td></td>
<td>Control group adequately randomised or groups not comparable</td>
<td>Adequate (2)</td>
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<td>Control group inappropriate or not randomised</td>
<td>Poor (1)</td>
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<tr>
<td></td>
<td>No control group</td>
<td>Not addressed (0)</td>
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<tr>
<td>5. Intervention clearly described to ensure reliability and external validity of therapy</td>
<td>Intervention clearly described, treatment protocols followed which are replicable. Study ensures external validity of therapy.</td>
<td>Well covered (3)</td>
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<tr>
<td></td>
<td>Intervention adequately described or no treatment protocols used.</td>
<td>Adequate (2)</td>
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<tr>
<td></td>
<td>Intervention poorly described or poor validity of therapy.</td>
<td>Poor (1)</td>
</tr>
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<td></td>
<td>Intervention not described or inappropriate intervention used.</td>
<td>Not addressed (0)</td>
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<tr>
<th>6. Intervention appropriately conducted to ensure internal validity and treatment fidelity</th>
<th>Intervention appropriately carried out by a suitably trained professional, and attempts made to ensure treatment fidelity (e.g. monitoring to ensure therapy administered accurately and consistently)</th>
<th>Well covered (3)</th>
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<td>Intervention not carried out by trained professional and only adequate attempts to ensure fidelity.</td>
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<td>Intervention not carried out by trained professional or no attempts made to ensure fidelity</td>
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<td></td>
<td>Information on therapist(s) or treatment fidelity not provided</td>
<td>Not addressed (0)</td>
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<tr>
<th>7. Use of appropriate and standardised outcome measures that are valid and reliable for measuring depression</th>
<th>All depression outcome measures appropriate, valid, reliable and standardised</th>
<th>Well covered (3)</th>
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<td>Most (more than 50%) depression measures are appropriate and standardised.</td>
<td>Adequate (2)</td>
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<tr>
<td></td>
<td>Some (less than 50%) depression measures appropriate and standardised.</td>
<td>Poor (1)</td>
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<td></td>
<td>Inappropriate depression measures used</td>
<td>Not addressed (0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. Appropriate and clearly reported statistical analysis</th>
<th>Appropriate and clearly reported statistical analysis</th>
<th>Well covered (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appropriate and adequately reported statistical analysis</td>
<td>Adequate (2)</td>
</tr>
<tr>
<td></td>
<td>Inappropriate or poorly conducted statistical analysis</td>
<td>Poor (1)</td>
</tr>
<tr>
<td></td>
<td>Statistical analysis not carried out or not reported.</td>
<td>Not addressed (0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9. Follow up measures administered</th>
<th>Follow up measures &gt; 12 months</th>
<th>Well covered (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Follow up measures &gt; 6 months</td>
<td>Adequate (2)</td>
</tr>
<tr>
<td></td>
<td>Follow up measures &lt; 6 months</td>
<td>Poor (1)</td>
</tr>
<tr>
<td></td>
<td>No follow up measures taken</td>
<td>Not addressed (0)</td>
</tr>
</tbody>
</table>
Results

Study Inclusion

The search strategy yielded 525 results. The titles and abstracts of these studies were screened and those that were irrelevant were excluded. This resulted in a total of 89 studies remaining. Full copies of these papers were analysed using the inclusion and exclusion criteria. Duplicates were removed and further articles were removed as shown in Figure 1. A total of 19 articles were therefore selected for inclusion in this review.

Quality assessment

The quality criteria outlined in Table 1.1 were applied to each of the studies. In order to increase confidence in the ratings, each paper was co-rated by a Trainee Clinical Psychologist. Agreement (within two marks) on the total quality score was found for 14 out of 19 (74%) of the co-rated papers. Disagreement by three marks was found for four of the papers, and one paper’s ratings disagreed by four marks. All disagreements were reviewed through discussion and ratings were amended to the consensus.

The total quality score that studies could receive was 27. There is evidence that numerical ratings of quality can be misleading when conducting systematic reviews (Liberati et al., 2009) therefore the studies were also categorised into qualitative ratings: Poor (0-14), Good (15-20), Excellent (21-27). The ratings for each of the studies in relation to the quality criteria are shown in Table 1.3.
Figure 1. Identified studies and reasons for exclusion

Studies identified by search strategy
PsychInfo (n=87); Medline (n=124);
Embase (n=239); Cinahl (n=75)
Total N=525

Studies deemed irrelevant and excluded on the basis of title and abstract
PsychInfo (n=59); Medline (n=104);
Embase (n=210); Cinahl (n=60)
Total Excluded (N = 433)

Full copies obtained for assessing eligibility
N = 89

Duplicates removed (N = 40)

More studies added from Google Scholar search (N = 2)

No diagnosis of depression (n=7);
No diagnosis of neurological condition (n= 7);
Not using CBT (n= 4);
Protocol only (n=4);
Review article (n=7);
Co-morbidity of conditions (n= 2);
Caregiver intervention (n= 1)
Total Excluded (N = 32)

Total selected and included in current review
N=19
General characteristics of studies

The general characteristics of the included studies are described in Table 1.2. In the 19 studies admitted into this review, there were seven RCTs, four uncontrolled trials and eight case series designs, all meeting quality and inclusion criteria. With regard to the neurological conditions examined, five studies included people with dementia, five included people who had experienced a stroke, and nine studies included people with PD.

Most of the studies examined individualised CBT, however, two papers examined telephone-delivered CBT for people with PD (Dobkin et al., 2011b; Veazey, Cook, Stanley, Lai & Kunik, 2009). One study examined group CBT for people with PD (Feeney, Egan & Gasson, 2005). Five of the studies focused on behavioural interventions (Kiosses, Arean, Teri & Alexopoulos, 2010; Mitchell et al. 2009; Snarski et al., 2011; Teri, Logsdon, Uomoto & McCurry, 1997; Thomas, Walker, MacNiven, Haworth & Lincoln, 2012).
<table>
<thead>
<tr>
<th>Author</th>
<th>Design</th>
<th>Active Intervention</th>
<th>Relevant outcome measures</th>
<th>Active Intervention Participants</th>
<th>Control participants</th>
<th>Follow up measures taken</th>
<th>Results</th>
<th>Quality score and qualitative rating</th>
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</thead>
<tbody>
<tr>
<td><strong>Dementia</strong></td>
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<tr>
<td>Kiosses et al. (2010) USA</td>
<td>RCT</td>
<td>PST (12 sessions with trained therapist)</td>
<td>HAM-D</td>
<td>N = 15 (mean age 80)</td>
<td>Supportive therapy (n=15; mean age 78)</td>
<td>None</td>
<td>PST was significantly more effective at reducing depressive symptoms than supportive therapy.</td>
<td>Excellent (21)</td>
</tr>
<tr>
<td>Scholey &amp; Woods (2003) UK</td>
<td>Case series</td>
<td>CBT (8 sessions with trained therapist)</td>
<td>GDS-30</td>
<td>N = 7 (mean age 72)</td>
<td>None</td>
<td>None</td>
<td>Statistically significant decrease in mean GDS-30 scores. Two of the patients made clinically significant improvements.</td>
<td>Poor (14)</td>
</tr>
<tr>
<td>Snarski et al. (2011) USA</td>
<td>RCT</td>
<td>BA (8 sessions with graduate psychology students)</td>
<td>GDS-15</td>
<td>N = 25 (mean age 71)</td>
<td>TAU (n = 25; age &gt;65)</td>
<td>None</td>
<td>24% of the BA group showed clinically significant reduction in GDS-15 scores, compared with 12% of controls.</td>
<td>Excellent (21)</td>
</tr>
<tr>
<td>Teri et al. (1997) USA</td>
<td>RCT</td>
<td>BT (9 sessions with geriatrician)</td>
<td>HAM-D, BDI, CSDD</td>
<td>Problem solving (n=19; mean age 78), Pleasant events (n=23; mean age 72)</td>
<td>Typical care control (n= 10; mean age 79), Wait list control (n = 20; mean age 76)</td>
<td>6 months</td>
<td>A significant treatment effect was found on all depression measures and effects were maintained at 6 months.</td>
<td>Excellent (26)</td>
</tr>
<tr>
<td>Author</td>
<td>Design</td>
<td>Active Intervention</td>
<td>Relevant outcome measures</td>
<td>Active Intervention Participants</td>
<td>Control participants</td>
<td>Follow up measures taken</td>
<td>Results</td>
<td>Quality score and qualitative rating</td>
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<tr>
<td>Walker (2004) <strong>UK</strong></td>
<td>Case study</td>
<td>CBT (16 sessions with psychologist)</td>
<td>GHQ-28, BSI, CSDD</td>
<td>N = 1 (age 75)</td>
<td>None</td>
<td>1, 3, 6, and 12 months</td>
<td>There was an improvement in all measures following therapy. This was not assessed statistically.</td>
<td>Poor (13)</td>
</tr>
<tr>
<td><strong>Stroke</strong></td>
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<tr>
<td>Lincoln &amp; Flannaghan (2003) <strong>UK</strong></td>
<td>RCT</td>
<td>CBT (mean 10 sessions with CPN)</td>
<td>BDI, WDI</td>
<td>N = 39 (mean age 67)</td>
<td>Attention placebo (n = 43; mean age 66) Standard care (n = 41; mean age 65)</td>
<td>3 and 6 months</td>
<td>There was an improvement in mood after 6 months but there were no significant differences between the three groups.</td>
<td>Good (20)</td>
</tr>
<tr>
<td>Lincoln et al. (1997) <strong>UK</strong></td>
<td>Observational (before and after)</td>
<td>CBT (mean 8 sessions with CPN or assistant psychologist)</td>
<td>BDI, HADS, WDI</td>
<td>N= 19 (mean age 67)</td>
<td>None</td>
<td>None</td>
<td>Significant decrease in BDI scores following CBT. Improvement as measured by the HADS and WDI did not reach statistical significance.</td>
<td>Good (16)</td>
</tr>
<tr>
<td>Mitchell et al. (2009) <strong>USA</strong></td>
<td>RCT</td>
<td>Psychosocial-behavioural intervention (9 sessions with nurse)</td>
<td>GDS-30, HAM-D</td>
<td>N = 47 (mean age 57)</td>
<td>TAU (n = 53; mean age 57)</td>
<td>9 weeks, 6, 12 and 24 months</td>
<td>Behavioural intervention with antidepressant was more effective at reducing depression than antidepressant alone.</td>
<td>Excellent (25)</td>
</tr>
<tr>
<td>Author</td>
<td>Design</td>
<td>Active Intervention</td>
<td>Relevant outcome measures</td>
<td>Active Intervention Participants</td>
<td>Control participants</td>
<td>Follow up measures taken</td>
<td>Results</td>
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<tr>
<td>Rasquin et al. (2009)</td>
<td>Case series</td>
<td>CBT (8 sessions, with clinical psychologist)</td>
<td>BDI-II, SCL-D, CLCE-24, visual analogue scale</td>
<td>N = 5 (mean age 46)</td>
<td>None</td>
<td>1 and 3 months</td>
<td>CBT was found to be acceptable and feasible. Three of the five participants showed significant improvements on the BDI-II</td>
<td>Poor (12)</td>
</tr>
<tr>
<td>The Netherlands</td>
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<tr>
<td>Thomas et al. (2012)</td>
<td>RCT</td>
<td>BT (mean 9 sessions, with assistant psychologist)</td>
<td>SADQ, visual analogue mood scales</td>
<td>N= 51 (mean age 68)</td>
<td>TAU (n = 54; mean age 65)</td>
<td>3 and 6 months</td>
<td>BT improved mood. The treatment group made significantly greater reductions in SADQ scores than the control group, which were maintained at follow up.</td>
<td>Good (20)</td>
</tr>
<tr>
<td>UK</td>
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<tr>
<td>Parkinson’s Disease</td>
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<tr>
<td>Cole &amp; Vaughan (2005)</td>
<td>Case series</td>
<td>CBT (7 sessions with clinical psychologist)</td>
<td>GDS-15, BDI-II</td>
<td>N = 5 (mean age 73)</td>
<td>None</td>
<td>One month</td>
<td>There was a clinically significant reduction in GDS-15 scores for 4 patients and a reduction in BDI-II scores for 2 patients.</td>
<td>Poor (12)</td>
</tr>
<tr>
<td>UK</td>
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<tr>
<td>Dobkin et al. (2006)</td>
<td>Case series</td>
<td>CBT (12 – 14 sessions with a clinical psychologist)</td>
<td>HAM-D, BDI</td>
<td>N = 3 (mean age 62)</td>
<td>None</td>
<td>One month</td>
<td>All three patients observed a clinically significant decrease in depression scores (up to a 50% reduction).</td>
<td>Poor (12)</td>
</tr>
<tr>
<td>USA</td>
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<td>Author</td>
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<td>Control participants</td>
<td>Follow up measures taken</td>
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<td>Quality score and qualitative rating</td>
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<tr>
<td>Dobkin et al. (2007)</td>
<td>Observational (before and after study)</td>
<td>CBT (10-14 sessions with a clinical psychologist)</td>
<td>HAM-D, BDI</td>
<td>N = 15 (mean age 65)</td>
<td>None</td>
<td>One month</td>
<td>Significant decrease in BDI and HAM-D scores (a mean reduction of 10 points on each measure).</td>
<td>Good (20)</td>
</tr>
<tr>
<td>Dobkin et al. (2011a)</td>
<td>RCT</td>
<td>CBT (10 sessions with clinical psychologists)</td>
<td>HAM-D, BDI</td>
<td>N = 41 (mean age 63)</td>
<td>Clinical monitoring (n = 39; mean age 65)</td>
<td>One month</td>
<td>Significant reductions in HAM-D (mean reduction of 7 points) and BDI scores in CBT group compared to control group</td>
<td>Excellent (25)</td>
</tr>
<tr>
<td>Dobkin et al. (2011b)</td>
<td>Observational (before and after study)</td>
<td>Telephone CBT (10 sessions with trained clinicians)</td>
<td>HAM-D, BDI</td>
<td>N = 21 (mean age 65)</td>
<td>None</td>
<td>One month</td>
<td>Significant decrease in HAM-D (mean reduction of 8 points) and BDI scores.</td>
<td>Good (20)</td>
</tr>
<tr>
<td>Farabaugh et al. (2010)</td>
<td>Case series</td>
<td>CBT (12 sessions with psychologist)</td>
<td>HANDS, HAM-D</td>
<td>N = 8 (mean age 63)</td>
<td>None</td>
<td>None</td>
<td>Statistically significant decrease in HAM-D scores (mean reduction of 9 points). Following CBT, 57% achieved remission from depression.</td>
<td>Poor (14)</td>
</tr>
<tr>
<td>Author</td>
<td>Design</td>
<td>Active Intervention</td>
<td>Relevant outcome measures</td>
<td>Active Intervention Participants</td>
<td>Control participants</td>
<td>Follow up measures taken</td>
<td>Results</td>
<td>Quality score and qualitative rating</td>
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<tr>
<td>Feeney et al. (2005)</td>
<td>Case series</td>
<td>Group CBT (8 sessions with psychologist)</td>
<td>BDI-II</td>
<td>N = 4 (mean age 65) One group</td>
<td>None</td>
<td>One month</td>
<td>Clinically significant improvement on BDI-II scores for three of the four participants.</td>
<td>Poor (11)</td>
</tr>
<tr>
<td>Australia</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Richardson &amp; Marshall (2012)</td>
<td>Case study</td>
<td>CBT (7 sessions with a clinical psychologist)</td>
<td>GDS-15, HADS, CORE-10</td>
<td>N = 1 (age 84)</td>
<td>None</td>
<td>None</td>
<td>Pre and post measures revealed no change on HADS, improvement on GDS-15 and improvement on CORE-10.</td>
<td>Poor (10)</td>
</tr>
<tr>
<td>UK</td>
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</tr>
<tr>
<td>Veazey et al. (2009)</td>
<td>Before and after study (controlled)</td>
<td>Telephone CBT (mean 8 sessions with psychologist)</td>
<td>PHQ-9</td>
<td>N = 5 (mean age 66) Telephone support (n = 5; mean age 75)</td>
<td>One month</td>
<td></td>
<td>Feasibility of telephone CBT was suggested but there was no significant differences found between CBT and support conditions.</td>
<td>Poor (11)</td>
</tr>
<tr>
<td>USA</td>
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</table>

**Abbreviations:** BA: behavioural activation; BDI = Beck Depression Inventory; BT: behaviour therapy; CBT: cognitive behaviour therapy; CLCE-24: Checklist for cognitive and emotional consequences following stroke; CORE-10: Clinical Outcomes Routine Evaluation Scale; CSDD: Cornell Scale for Depression in Dementia; GDS: Geriatric Depression Scale; HADS: Hospital Anxiety and Depression Scale; HAM-D: Hamilton Rating Scale for Depression; HANDS: Harvard National Depression Screening Day Scale; PHQ-9: Patient Health Questionnaire-9; PST = problem solving therapy; RCT: Randomised Controlled Trial; SADQ: Stroke Aphasic Depression Questionnaire; SLC-D: Symptom checklist depression scale; TAU: Treatment as usual; WDI: Wakefield Depression Inventory.
Table 1.3. Quality ratings for included studies.

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Question</th>
<th>Population</th>
<th>Controls</th>
<th>Intervention validity</th>
<th>Treatment fidelity</th>
<th>Measures</th>
<th>Statistics</th>
<th>Follow up</th>
<th>Overall Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scholey &amp; Woods (2003)</td>
<td>Very poor</td>
<td>Adequate</td>
<td>Well covered</td>
<td>Not addressed</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Well covered</td>
<td>Adequate</td>
<td>Not addressed</td>
<td>Poor</td>
</tr>
<tr>
<td>Snarski et al. (2011)</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Poor</td>
<td>Well covered</td>
<td>Adequate</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Not addressed</td>
<td>Excellent</td>
</tr>
<tr>
<td>Teri et al. (1997)</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Adequate</td>
<td>Excellent</td>
<td></td>
</tr>
<tr>
<td>Walker (2004)</td>
<td>Very poor</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Not addressed</td>
<td>Poor</td>
<td>Adequate</td>
<td>Well covered</td>
<td>Not addressed</td>
<td>Well covered</td>
<td>Poor</td>
</tr>
<tr>
<td>Lincoln et al. (1997)</td>
<td>Poor</td>
<td>Adequate</td>
<td>Well covered</td>
<td>Not addressed</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Not addressed</td>
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</tr>
<tr>
<td>Rasquin et al. (2009)</td>
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<td>Poor</td>
<td>Not addressed</td>
<td>Well covered</td>
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<td>Poor</td>
<td>Adequate</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
</tr>
<tr>
<td>Thomas et al. (2012)</td>
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<td>Adequate</td>
<td>Adequate</td>
<td>Well covered</td>
<td>Adequate</td>
<td>Poor</td>
<td>Adequate</td>
<td>Well covered</td>
<td>Adequate</td>
<td>Good</td>
</tr>
<tr>
<td>Cole &amp; Vaughan (2005)</td>
<td>Very poor</td>
<td>Poor</td>
<td>Adequate</td>
<td>Not addressed</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Well covered</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
</tr>
<tr>
<td>Study</td>
<td>Design</td>
<td>Question</td>
<td>Population</td>
<td>Controls</td>
<td>Intervention validity</td>
<td>Treatment fidelity</td>
<td>Measures</td>
<td>Statistics</td>
<td>Follow up</td>
<td>Overall Rating</td>
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<tr>
<td>Dobkin et al. (2006)</td>
<td>Very poor</td>
<td>Adequate</td>
<td>Well covered</td>
<td>Not addressed</td>
<td>Well covered</td>
<td>Not addressed</td>
<td>Well covered</td>
<td>Not addressed</td>
<td>Poor</td>
<td>Poor</td>
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<tr>
<td>Dobkin et al. (2007)</td>
<td>Poor</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Not addressed</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Poor</td>
<td>Poor</td>
<td>Good</td>
</tr>
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<td>Dobkin et al. (2011a)</td>
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<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Poor</td>
<td>Excellent</td>
<td></td>
</tr>
<tr>
<td>Dobkin et al. (2011b)</td>
<td>Poor</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Not addressed</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Well covered</td>
<td>Poor</td>
<td>Good</td>
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<tr>
<td>Farabaugh et al. (2010)</td>
<td>Very poor</td>
<td>Adequate</td>
<td>Well covered</td>
<td>Not addressed</td>
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<td>Adequate</td>
<td>Adequate</td>
<td>Not addressed</td>
<td>Poor</td>
<td>Poor</td>
</tr>
<tr>
<td>Feeney et al. (2005)</td>
<td>Very poor</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Not addressed</td>
<td>Adequate</td>
<td>Not addressed</td>
<td>Well covered</td>
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For clarity of presentation, the evidence for CBT based therapies in each of the neurological conditions will be examined separately below. It is useful to delineate the conditions as there may be separate clinical implications for conducting therapy.

**Dementia**

*Participants*

The sample sizes of the experimental groups ranged from 1 to 42 participants. The mean ages of the participants ranged from 71 to 80 years. Four of the studies included people with major depressive disorder which was assessed using DSM-IV or ICD-10 criteria. One study (Snarski et al., 2011) comprised participants with mild depression which was rated using the GDS-15.

*Intervention*

Two studies (Scholey & Woods, 2003; Walker, 2004) carried out CBT in a case series format. The remaining three studies were RCTs and they carried out behaviour therapy (Teri et al., 1997), behavioural activation (Snarski et al., 2011) and problem solving therapy (Kiosses et al., 2010). The interventions were carried out by various professionals including a geriatrician, a psychologist, and graduate psychology students. The mean number of sessions ranged from 8 to 16. Follow up measures were taken in two of the studies (6 months: Teri et al., 1997; 12 months: Walker, 2004).
Outcome measures

All of the studies used standardised outcome measures of depression, including the HAM-D and the GDS. Two studies used the CSDD which is specifically designed to assess for depression in people with dementia.

Results

All five studies reported positive effects of the interventions in terms of reducing depressive symptoms. The three studies that were rated highly on methodological quality were RCTs evaluating behavioural therapies. Overall, they reported significant differences between treatment and control groups. Teri et al. (1997) found large effect sizes and reported that 60 per cent of the participants in the treatment conditions no longer met criteria for depression after six months, compared with 20 per cent of the control participants. Kiosses et al. (2010) noted that the problem solving therapy was significantly more effective than supportive therapy at reducing depressive symptoms. Snarksi et al. (2011) showed that for people with mild depression, behavioural activation was more effective than treatment as usual. They reported that 24 per cent of the treatment group demonstrated a clinically significant change, compared with 12 per cent of the control group.

Two papers which used case series or case study designs and were rated lower in methodological quality (Scholey & Woods, 2003; Walker, 2004) reported positive effects of CBT. Scholey and Woods (2003) described a series of eight patients, all of whom showed improvements in depression levels, however, only two of them showed change at a level of clinical significance, as measured by the Reliable Change Index.
In summary, it appears that there is evidence for behavioural therapies in treating depression in people with dementia, as provided by three RCTs. However, despite their robust methodologies, firm conclusions cannot be drawn as there was a lack of consistency regarding the content and delivery of the interventions, the outcome measures used and the homogeneity of the participants. With regard to CBT, it is suggested that it may reduce depressive symptoms, however, the evidence to date has relied on studies of case series design and CBT has not yet been examined empirically in people with dementia.

**Stroke**

*Participants*

Across the five studies examining BT or CBT for depression following stroke, sample sizes ranged from 5 to 51. The mean ages of the participants ranged from 46 to 68 years. Three studies were RCTs with control groups who received treatment as usual (Mitchell et al., 2009; Thomas et al., 2012) or an attention placebo (Lincoln & Flannaghan, 2003). Therapy was conducted with participants who had experienced strokes between 1 and 10 months prior to the intervention. Two studies used DSM-IV or ICD-10 criteria for ensuring diagnoses of depression. Three studies used standardised outcome measures to determine the presence of depression.

*Intervention*

Three of the studies examined CBT (Lincoln & Flannaghan, 2003; Lincoln et al., 1997; Rasquin et al., 2009) and the remaining two examined behavioural therapy
(Mitchell et al., 2009; Thomas et al., 2012). The mean number of sessions ranged from 8 to 10. There was variation in the professional background of the therapists, for example, in two RCTs, the intervention was conducted by Community Psychiatric Nurses (CPNs) (Lincoln & Flannaghan, 2003; Mitchell et al., 2009). In the other studies, the therapy was conducted by Clinical Psychologists or Assistant Psychologists. All but one study (Lincoln et al., 1997) included follow up measures, ranging from 3 to 24 months.

**Outcome measures**

All of the studies used more than one standardised outcome measures of depression. The most commonly used outcome measure was the BDI. Two studies also used measures specifically designed for assessing depression in people who have experienced stroke (CLCE-24: Rasquin et al., 2009; SADQ: Thomas et al., 2012).

**Results**

Among the highest quality studies, an RCT examining CBT by Lincoln and Flannaghan (2003) reported no significant differences between the treatment condition and the two control conditions (treatment as usual and an attention placebo) on any depression measures. Whilst relatively highly rated, several factors may have influenced the null effect. For example, both the intervention and the control conditions were delivered by a CPN whose level of training was not adequately described. Additionally, there was little attempt to ensure treatment fidelity such as ensuring supervision was provided and treatment protocols were adhered to. A good quality pilot study by Lincoln et al. (1997) examined CBT in 19 people with stroke and found an overall significant decrease in BDI scores following
therapy. However, no significant differences were found on the other depression outcome measures, namely the HADS and WDI.

There were two RCTs, also rated highly on quality that examined behavioural interventions (Mitchell et al., 2009; Thomas et al., 2012). These studies reported that both treatment and control groups improved over time, however, the treatment groups made significantly more improvements. Mitchell et al. (2009) also carried out longitudinal follow ups and found that remission rates continued up to rise up to two years after therapy. After 12 months the treatment group demonstrated significantly more remission (48%) compared with the control group (27%). At 24 months, the remission rate rose to 65%, however, at this time the difference between groups was no longer significant.

A case series by Rasquin et al. (2009) was rated as poor on methodological quality. This study found that three of the five presented cases showed clinically significant improvements in BDI-II scores.

In summary, results among the five post stroke studies were mixed. All of the studies reported reductions in depressive symptoms over time, however, differences were not always found between treatment and control groups (Lincoln & Flannaghan, 2003). Of the available evidence, it currently appears that behavioural therapies may be more effective than CBT for treating depression in people with stroke, reasons for which will be considered further in the discussion.
Parkinson’s disease (PD)

Participants
The sample sizes of the studies ranged from 1 to 41 and the mean ages of the samples ranged from 63 to 84 years. Two of the nine studies included a control group receiving clinical monitoring (Dobkin et al., 2011a) or telephone support (Veazey et al., 2009). Seven studies included participants diagnosed with depression according to DSM-IV criteria whereas two studies used standardised outcome measures such as the PHQ-9 and the GDS in order to determine criteria for depression.

Intervention
In all nine studies, CBT was the treatment used, however, two studies examined telephone CBT (Dobkin et al., 2011b; Veazey et al., 2009) and one study examined group CBT (Feeney et al., 2005). In all studies, the interventions were carried out by Clinical Psychologists. The number of sessions provided ranged from 7 to 14. Seven studies administered follow up measures after one month and the remaining two did not take follow up measures (Farabaugh et al., 2010; Richardson & Marshall, 2012).

Outcome measures
Standardised outcome measures of depression were used in all studies: five studies used the HAM-D; six used the BDI; two used the GDS and one used the PHQ-9.

Results
The methodologically stronger studies demonstrated efficacy of CBT for depression, reporting mean reductions in HAM-D scores ranging from 7 to 10 points, which
were shown to be statistically and clinically significant (Dobkin et al., 2007; Dobkin et al., 2011a; Dobkin et al., 2011b). Dobkin et al.’s (2007) trial reported that 80 per cent of PD patients experienced significant reductions in depressive symptoms. Despite lacking a control group, this study was well conducted and provides a compelling suggestion that CBT is effective for people with PD. Following from this study, Dobkin et al. (2011a) conducted an RCT which replicated the previous positive findings. Significant differences in depressive symptoms between the treatment and control group were reported (mean HAM-D reductions of 7 and 0 respectively). Dobkin et al. (2011b) also noted that telephone CBT may be useful for this population due to the likelihood of physical disability which may make travelling to a clinic more difficult. In their uncontrolled trial, they reported significant reductions in depressive symptoms following telephone CBT.

Five studies, rated lower in quality, used case series designs. Together, they contained a total of 21 participants and overall, symptoms of depression reduced following therapy. However, two of these studies reported mixed results. For example, Richardson and Marshall (2012) found that although participants’ scores improved on the GDS-15 and CORE-10, there was no change on the HADS pre and post therapy. Similarly, Cole and Vaughan (2005) found a reduction in GDS-15 scores in four of the five participants, but only two participants showed clinically significant reductions in BDI-II scores. Although these outcome measures are valid and standardised for use with the general population, it is important to consider their differences and determine the most appropriate measures for using with people with PD. Another lower quality study (Veazey et al., 2009) compared telephone CBT with telephone support and in contrast to the positive results found by Dobkin et al.
(2011b), they found no significant differences between groups. However, this study lacked clarity on the content and delivery of the intervention therefore making it difficult to ensure that the CBT was appropriately conducted. Additionally, their sample comprised male veterans and is therefore not representative of the population of people with PD.

In summary, three higher quality studies and five lower quality studies all reported positive effects of CBT in the treatment of depression and one study (Veazey et al., 2009) found no effect of CBT. Although it has been shown that CBT may reduce depressive symptoms, many of the included studies did not have control groups and the longest length of follow up was only one month. Nevertheless, there is compelling preliminary evidence that CBT may be beneficial for people with PD and this should be examined further by RCTs which include longitudinal follow ups.

**Overall Results**

Three neurological conditions were examined in this systematic review, which included five papers examining dementia, five examining stroke and nine examining PD. Across all conditions, there are suggestions that CBT based interventions are feasible and effective for the treatment of depression. With regard to dementia, there is a lack of evidence for the effectiveness of CBT, though there is more robust evidence for the role of behavioural therapies and adaptations of CBT including problem solving therapy. Similarly, within the stroke literature, there is insufficient evidence for CBT, however, more promising evidence for the role of behavioural interventions. Compared with dementia and stroke, there has been more research examining CBT for people with PD. There was also less variability within the PD
studies included in this review. For example, all nine studies examined CBT, their interventions were similar in terms of number and duration of sessions, content of sessions and therapists’ level of training (all Clinical Psychologists). There is good preliminary evidence to suggest that CBT for depression for people with PD may be effective, however five of the studies were case-series and none of the studies provided follow-up data beyond one month.

**Discussion**

The aim of this systematic review was to examine the evidence for cognitive and behavioural therapies in the treatment of depression in neurological conditions common in older adults. Overall, there are some consistent findings suggesting that CBT and behaviourally based approaches may be effective in the reduction of depressive symptoms. However, to date there has been little attention paid to this area of research and as such, the available evidence is preliminary.

*Methodological Limitations in Reviewed Literature*

There are a number of methodological limitations which must be taken into consideration when examining the results of the studies included in this review. There was heterogeneity regarding the interventions, including the number and duration of sessions. For example, most provided an average of 8 to 10 sessions. CBT can typically require 16 to 20 sessions, particularly for moderate to severe depression (NES, 2011). This may also be the case for people with neurological conditions as individuals’ cognitive impairment may necessitate a slower pace of therapy with more repetition. Some of the papers included in this review noted in
their discussions that the ‘dose’ of therapy might not have been enough to show significant changes (Lincoln & Flannaghan, 2003).

The studies also varied in content and delivery of the interventions. Many studies only partially addressed treatment fidelity, for example, ensuring protocols were followed and that therapists received supervision. In clinical practice it may be that therapists work eclectically, and indeed a core component of CBT is an idiosyncratic formulation thus requiring a degree of adaptation. However, it has been suggested that for research purposes, consistency and structure is needed in order to ensure validity and reliability and therefore accurately assess efficacy of treatment (Firth, 2013).

The use of outcome measures also varied. Some studies only used one measure of depression and of those that used more than one, some studies found mixed results depending on which outcome measure was used. Additionally, ten studies used the BDI, which has been reported to be confounded by medical illnesses due to its presence of somatic symptom items (Thombs et al., 2010). Therefore, the BDI may not be the most appropriate measure for using with older people with neurological conditions, many of whom will be more likely to have co-morbid physical symptoms. Results from self report questionnaires can also be confounded by cognitive impairment therefore some studies, examining stroke and dementia, used objective measures specifically designed for these populations. The studies examining PD did not use outcome measures specifically designed for people with PD and it has been suggested that measures such as the Montgomery-Ashberg Depression Rating Scale (MADRS; Snaith, Harrop, Newby & Teale, 1986) are used
to assess for depression in PD (Yang et al., 2012). Additionally, it has been suggested that higher cut off scores in standardised outcome measures could be used to assess for depression in people with PD (e.g. Visser, Leentjens, Marinus, Stiggelbout & van Hilten, 2006).

There are various other methodological design issues that may affect the quality of the evidence for CBT based therapies in the three neurological conditions. Eight studies used case series designs, which are considered as poor quality evidence due to the high risk of author bias. Small sample sizes also reduce generalisability of results. Longitudinal follow up data is important to gather when conducting research examining efficacy of interventions. Only two studies reported follow up information longer than 12 months: in the case study by Walker (2004) lasting treatment effects were reported at 12 months but in an RCT by Mitchell et al. (2009), no significant differences were found between groups after 24 months. Further research with long term follow-ups will help clarify whether outcomes are maintained and provide important information on cost effectiveness. It may be particularly interesting to examine this in people with neurological conditions, as some of these conditions will be progressive.

**Clinical Implications**

There are important clinical implications with regard to providing psychological therapy to older people with neurological conditions. Given their increased risk of depression and the significant effects that depression can have on the prognosis of the neurological condition, it is essential to find effective treatments. Often, there are more complications associated with anti-depressant medication in this population,
therefore psychological therapies such as CBT have the potential to be applicable and beneficial.

**CBT versus Behaviour Therapy**

From the results of this systematic review, there appears to be stronger evidence for the role of behavioural interventions than CBT in treating depression amongst those with dementia or stroke. Nevertheless, there is evidence indicating that CBT enables reductions in depressive symptoms amongst those with PD, at least at one month post intervention. Several reasons may account for this. Firstly, design issues and heterogeneity of the interventions may have affected the results. There was less variation among the PD papers and the CBT was conducted by Clinical Psychologists. Whereas the studies examining CBT for people with stroke and dementia, the training of the therapist and the use of a treatment protocol was not always clear.

Secondly, researchers may have defaulted to examining the role of behavioural therapies in people with dementia and stroke. Participants with these conditions were more likely to have cognitive impairment, therefore, it may be that behavioural interventions were easier to implement and for participants to understand. Within the stroke literature, effectiveness of CBT has not been fully demonstrated. However, in the research studies, CBT was not adapted to account for cognitive deficits and it has been suggested that augmented CBT that is individualised for post stroke depression ought to be more effective (Broomfield et al., 2011). CBT has yet to be fully evaluated within these conditions.
Thirdly, some researchers have suggested that CBT is no more effective than its behavioural components alone and have thus questioned the need for cognitive modifications (Longmore & Worrell, 2007). This, however, is still up for debate and the underlying mechanisms of change in CBT remain unclear (Hoffman & Smits, 2008).

**Strengths and limitations of current review**

In contrast to previous reviews examining psychological therapies for people with conditions including dementia (e.g. O’Connor, Ames, Gardner & King, 2009), this review is the first to focus on the role of CBT in the treatment of depression. It is also beneficial to obtain an overarching view of the evidence for a range of neurological conditions. Another strength of this review is that the papers were rated independently by two reviewers in order to increase reliability of the quality ratings.

This review is limited by the fact that only published studies were included and they were limited to papers written in English. Publication bias is a common limitation when conducting systematic reviews (Parekh-Bhurke et al., 2011). However, the current review did include several high quality papers that reported non-significant findings. Another limitation is that the inclusion and exclusion criteria, which attempted to reduce heterogeneity and increase ability to compare papers, may have excluded potentially informative research papers.

**Future research**

The emerging evidence for CBT based therapies for people with neurological conditions suggests that BT may be efficacious for dementia and CBT may be
efficacious for people with PD. Insufficient evidence was found for CBT for post stroke depression. However, it would be hypothesised that CBT would be effective for post stroke depression if CBT has shown efficacy for people with dementia and PD, given that there are many similarities among these three conditions.

Further research should include control conditions receiving alternative supportive therapies will also help to ascertain whether there are effects of CBT or whether effects are due to non specific factors such as the therapeutic relationship. Longitudinal follow ups are also essential to determine efficacy over time. Further research could focus on ascertaining how much CBT is affected by mild cognitive impairment. Many of the interventions in the included studies were adapted to suit the needs of the client group. It will be worth determining if and what adaptations are required when conducting therapy with people with neurological conditions.

Overall conclusions

In summary, this systematic review has collated the evidence for the efficacy of CBT based interventions in the treatment of depression in people with dementia, stroke and PD. The evidence to date suggests that behavioural therapies are efficacious in the treatment of depression in dementia and that CBT may be efficacious for people with PD. The evidence for CBT in post stroke depression is currently insufficient, therefore, further research is needed. The available research has several methodological limitations and as such, further high quality randomised controlled trials are required. Despite this, there are preliminary indications that CBT based therapies may be efficacious for people with neurological conditions common in late life.


References


post stroke depression significantly more than usual care with antidepressant.

*Stroke, 40*, 3073-3078.


National Institute of Clinical Evidence. (October 2009). *Depression: The treatment and management of depression in adults*


has increased over time, but there is still much scope for improvement. *Journal of Clinical Epidemiology*, 64(4), 349-357.


PART II – EMPIRICAL RESEARCH STUDY
Chapter 2: Extended Methodology

This chapter presents an extended outline of the methodology, including the design, the participants, ethical considerations, the measures used, and an overview of the statistical analyses used in this study.

Design

This study used a cross-sectional design in order to explore attitudes to ageing in a clinically depressed older adult population. Between subjects analyses were carried out to compare the clinically depressed group with non depressed controls, and correlational analyses were conducted to determine associations among the measures within the clinically depressed sample.

Participants

The study comprised two groups of participants: a clinically depressed group and a control group.

Clinically depressed group

Inclusion criteria were: aged over 60 years, a diagnosis of depression and a score of five or above on the GDS-15. Participants were also receiving care from a community mental health team (CMHT). Exclusion criteria were: a diagnosis of dementia or other cognitive impairment, substance misuse and psychosis. Participants were recruited through clinicians working in CMHTs, including:
Clinical Psychologists, CPNs, OTs, Social Workers, Support Workers, Guided Self Help Workers and Psychiatrists. Clinicians then offered questionnaire packs to all patients on their caseloads who met the inclusion and exclusion criteria. Questionnaire packs included a participant information sheet (Appendix 6), seven self report questionnaires and a stamped addressed envelope to return the questionnaires to the researcher anonymously. Potential participants were advised to read the information sheet if they were interested in taking part, and if so, complete the questionnaires and return to the researcher anonymously. In total, 220 questionnaire packs were distributed to clinicians working in NHS Highland and 150 were distributed to clinicians working in NHS Grampian. In total, 31 questionnaire packs were returned. It was not possible to determine how many packs clinicians handed out therefore an accurate response rate was not calculated. Of the 31 packs returned, three participants scored under five on the GDS-15 therefore, they were removed from the clinically depressed group as they did not meet the inclusion criteria.

**Control Group**

The sample of control participants was accessed through existing data held from a sample of healthy older adults in the community, who participated in the WHOQOL/AAQ field trial (Laidlaw et al., 2007). Control participants had already completed measures including the AAQ, the GDS-30 and a demographic questionnaire. They also answered two additional questions: Rate quality of life (1-5) and rate satisfaction with health (1-5). Their scores on the GDS-30 were pro-rated to correspond with the scores on the shorter GDS-15. This was done by removing
responses from 15 of the questions on the GDS-30. The remaining 15 questions were identical to those in the GDS-15.

Within the control sample, there were 15 participants who scored above five on the GDS-15, indicating depressed mood. These participants were removed for the initial comparison between clinically depressed and non depressed participants. They were included again for the correlational analyses examining level of depression and attitudes to ageing.

Ethical Approval

Ethical approval was granted by the North of Scotland Research Ethics Committee (Appendix 3). Approval was also granted by the Research and Development Departments in NHS Highland and NHS Grampian (Appendices 4 & 5).

Ethical Considerations

Informed consent

This study only included participants who were able to provide informed consent to take part. Each potential participant was provided with an information sheet and had the opportunity to contact the researcher with any questions. Since participants were provided with questionnaire packs and were able to return them anonymously, informed consent was assumed by the returning of the completed questionnaires. Undue pressure to participate was reduced as neither the researcher nor the clinicians
who distributed the packs were aware as to whether or not their patients returned the questionnaires.

**Potential distress to participants**

It was acknowledged that some of the participants may have found some of the questionnaires distressing as they were asking about their emotions. Participants were aware that they did not have to answer all of the questions and they were able to stop at any time. All participants had a clinician in the CMHT involved in their care and they were encouraged to contact them if they were to become distressed.

**Confidentiality**

All results were anonymous therefore no patient identifiable information was stored as part of this study, ensuring confidentiality. Questionnaire packs that were returned were given a unique identification number and were stored securely.

**Measures**

**Demographic information**

Information was collected by means of a questionnaire on: age, gender, marital status, employment status, living arrangements, educational level and health status. Participants also completed two questions rated on a 5-point Likert scale: rating quality of life and rating satisfaction with health.
Attitudes to Ageing Questionnaire (AAQ; Laidlaw et al., 2007)

The AAQ was developed in collaboration with the World Health Organisation (WHO) as part of an international project on the development of Quality of Life measures for use with older adults. The AAQ comprises 24 self report items which incorporate the concepts of both losses and gains with regard to ageing. Factor analysis and structural equation modelling were used during the development of the AAQ and three distinct subscales were determined: (1) Psychosocial Loss; (2) Physical Change; and (3) Psychological Growth. The psychosocial loss subscale measures the negative experiences of ageing in relation to psychological and social loss. Physical change relates to the experience of ageing in terms of physical health. Psychological growth focuses on the positive aspects of ageing and could be summarised as ‘personal wisdom’.

The AAQ contains questions relating to general attitudes about ageing and also questions that relate to a more personal experience of individuals’ own ageing. The AAQ has several advantages over previous scales. For example, it was specifically designed for use with older people, it has been tested in large samples worldwide, and provides an insight into the subjective experience of ageing, both positive and negative.

The 24 items of the AAQ scale are scored on a 5-point Likert scale (rated from 1= strongly disagree to 5= strongly agree). Scores are totalled and higher scores indicate more positive attitudes to ageing. The minimum score is eight (strongly disagree with all questions) and maximum score is 40 (strongly agree with all questions).
Geriatric Depression Scale – short form (GDS-15; Sheikh & Yesavage, 1986)
The GDS-15 is a widely used standardised measure that was designed for assessing depression in older adults. It is a short version of the 30-item Geriatric Depression Scale (GDS-30; Yesavage et al., 1983). Responses are entered as ‘yes’ or ‘no’ and item scores are totalled to give a minimum of zero and a maximum score of 15. A score of five or above is used as a cut off score to indicate the presence of depression. It has demonstrated high internal reliability (Cronbach alpha 0.75) and good construct validity (Friedman et al., 2005).

Geriatric Anxiety Inventory – short form (GAI-SF; Byrne & Pachana, 2011)
The GAI-SF is a 5-item self report measure of anxiety. It was designed to be a shorter version of the full 20-item GAI and has demonstrated validity and internal consistency (Cronbach’s alpha 0.81). The GAI-SF is not affected by age and it is recommended for use in research studies.

World Health Organisation Quality of Life Questionnaire (WHOQOL-BREF; WHO, 1996)
The WHOQOL–BREF assesses quality of life in four domains: physical health, psychological health, social relationships and environment. It comprises 26 self report items. It was developed as a shorter version of the 100-item WHOQOL measure and has shown good internal consistency with Cronbach’s alpha ranging from 0.62 to 0.82 for the four domains (Skevington et al., 2004). Scores on the WHOQOL-BREF are transformed to scores between 0-100 in order to correlate with the WHOQOL-100. Higher scores indicate higher perceived quality of life. The WHOQOL-BREF is suitable for use with older adults (Lucas-Carrasco et al., 2011).
Prospective and Retrospective Memory Questionnaire (PRMQ; Smith et al., 2000)

The PRMQ is a 16-item self report measure that assesses an individual’s subjective memory. It comprises eight items that measure prospective memory, for example, ‘Do you decide to do something in a few minutes’ time and then forget to do it?’ and eight items that measure retrospective memory, for example, ‘Do you forget something that you were told a few minutes ago?’. Each item is rated on a five point scale (very often, quite often, sometimes, rarely, never). Each item is given a score between one and five therefore the total scores range from 16 – 80. The PRMQ provides a good measure of everyday memory problems and Crawford et al. (2003) demonstrated its reliability (Cronbach’s alpha .89). Additionally, the PRMQ is not affected by age or gender.

Understandability Questionnaire (Law et al., 2010)

The understandability questionnaire was developed to measure the extent to which people endorse the ‘understandability phenomenon’. It comprises three attitudinal statements to which respondents rate their agreement on a 7-point Likert scale. The first statement addresses the belief that depression is understandable in old age; the second statement reflects the belief that depression is normal in old age, and the third statement addresses low expectations of effective treatments of late life depression. Lower scores indicate a greater belief that depression is a normal consequence of old age.

Beck Hopelessness Scale (BHS; Beck & Steer, 1988)

The BHS is a measure of hopelessness, in terms of measuring people’s negative attitudes. It measures three aspects of hopelessness: feelings about the future, loss of
motivation and expectations. It comprises 20 items which are rated true or false. Scores are summed giving a total score ranging from 0 – 20. The BHS has demonstrated internal reliability (Cronbach’s alpha 0.88) in non clinical samples (Steed, 2001).

Analyses, statistical power and sample size calculation

Seven hypotheses were tested in this study and the analysis used for each is presented. SPSS version 19.0 was used to conduct the analyses.

Hypothesis 1: The clinically depressed sample will have significantly more negative attitudes to ageing on the Psychosocial Loss subscale compared to the non depressed control sample.

A one way ANOVA was used to compare the clinically depressed group with the non depressed control group on the AAQ. G*Power (Faul et al., 2007) was used to determine a sample size. Based on a moderate-large effect size (as evidenced in similar studies using the AAQ), with power at 0.8 and alpha at 0.05, G*Power estimated that 32 participants would be required in each group. An ANCOVA was considered to compare groups while controlling for variables that may be influencing AAQ scores. However, significant differences were found between groups on the variables that correlated with the AAQ therefore violating the assumption that the covariates are independent of the experimental effect (Field, 2009). For this reason, an ANCOVA was not conducted.
Hypothesis 2: GDS-15 scores will be a significant predictor of AAQ Psychosocial Loss scores.

A multiple regression model was used to examine how well depression, quality of life and satisfaction with health predict attitudes to ageing. All participants were therefore included in this analysis, including the clinically depressed group (n = 28), the depressed controls (n = 15) and the non depressed controls (n = 42). It is recommended that sample sizes for multiple regression are calculated using the formula: n = 50 + 8k, where k is the number of variables entered (Green, 1991). A multiple regression was conducted using three independent variables, therefore using this formula, a sample size of 74 participants was required to obtain power for this analysis. A total of 85 participants were included in the final analysis.

Hypothesis 3: Negative attitudes to ageing will be correlated with poorer quality of life.

Hypothesis 4: Negative attitudes to ageing will be correlated with increased hopelessness.

Hypothesis 5: Negative attitudes to ageing will be correlated with higher endorsement of the understandability phenomenon.

Hypothesis 6: Negative attitudes to ageing will be correlated with increased subjective memory complaints.

Hypothesis 7: Negative attitudes to ageing will be correlated with increased anxiety.

Hypotheses three to seven examined correlations between AAQ and other variables within only the clinically depressed group. Correlational analyses were conducted for
the remaining hypotheses. Cohen’s tables (1992) were consulted for obtaining a sample size for this analysis. Assuming a large effect size at power 0.8 and alpha 0.05, a sample size of 28 was required in order to carry out correlations.
Chapter 3: Empirical Research Study

Attitudes to Ageing and Clinical Depression in Older People

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This article has been written in accordance with Psychology and Aging (Appendix 2)

Word Count: 6628 (excluding abstract and references)
Abstract

Background: Negative ageing stereotypes are prevalent in society and can have significant effects on older people’s attitudes towards their own ageing. Late life depression has been shown to be associated with negative attitudes to ageing and poorer quality of life. However, attitudes to ageing have not yet been explored within a clinical population. The aim of this study was to explore attitudes to ageing within a clinically depressed sample of older adults. Method: Twenty eight clinically depressed adults over the age of 65 participated in this study. They were compared with a control sample of non depressed older adults (n = 42). All participants completed self report questionnaires including: Attitudes to Ageing Questionnaire, Geriatric Depression Scale and the WHO Quality of Life assessment – Brief version. The clinically depressed participants completed additional measures, including: Geriatric Anxiety Scale, Beck Hopelessness Scale, Prospective and Retrospective Memory Questionnaire, and the ‘Understandability’ Questionnaire. Results: Attitudes to ageing were found to be significantly more negative in the clinically depressed sample compared with non depressed controls. Increased depressive symptoms are associated with negative attitudes to ageing and depression was found to be a significant predictor of negative attitudes relating to psychosocial loss. Negative attitudes to ageing were also correlated with hopelessness, reduced quality of life and lower satisfaction with health. Conclusion: These findings are of clinical relevance as attitudes to ageing appear to be mood-state dependent. Therefore, they may be amenable to change through psychological therapies which aim to challenge dysfunctional beliefs. Keywords: attitudes, ageing, depression, older people.

Abstract Word Count: 245
Introduction

Demographic changes indicate that life expectancy is rising and birth rates are falling, which is resulting in an ageing population. This unprecedented worldwide demographic change is profound and irreversible (UNFPA, 2012). Currently 1 in 6 of the UK’s population are over the age of 65, however, this is set to rise to 1 in 4 by 2035 (Office for National Statistics, 2012). The population of the ‘oldest old’ (those aged over 85) is projected to rise most quickly, with numbers doubling by 2030 (Laidlaw & Pachana, 2009). There are important implications for this demographic change and this has been reflected in government policies, with recent emphasis on issues regarding the health and well being of older people (Scottish Executive, 2007). This ageing population will present challenges for health care provision (UN, 2009) and it is likely that there will be an increased demand for mental health services for older people. A recent report from the House of Lords stated that the UK is currently underprepared for the ageing population and that changes to societal attitudes regarding ageing are required (HL Paper 140, UK 2013).

Depression in older people

Depression is one of the most common mental health problems in later life (Luppa et al., 2012) and it can have a detrimental impact on an individual’s morbidity and mortality (Covinsky et al., 1999). However, depression is often undiagnosed in older people (Alexopoulos, 2005) and they are less likely to receive psychological support than their younger counterparts (Unutzer et al., 2003). One reason for this may be due to negative ageing stereotypes (Linden & Kurtz, 2009). Given the challenges of
old age, such as poorer physical health and losses, depressive symptoms in late life may be interpreted as understandable and an inevitable consequence of ageing (Law et al., 2010). This has been termed the ‘understandability’ phenomenon (Blanchard, 1992). Such beliefs may result in older people being less likely to seek help for their depression (Sarkisian et al., 2003). Another aspect of this phenomenon is that health professionals may hold these beliefs (consciously or subconsciously). Attributing psychological problems to ageing rather than depression can have a significant impact on the efficacy of psychological treatments. For example, if therapists accept older adults’ erroneous beliefs about ageing such as ‘I’m depressed but what should I expect at my age’, this may increase the therapist’s hopelessness since age is unchangeable, and may result in therapy becoming unfocussed and unhelpful (Laidlaw, 2013).

**Ageing paradox**

Despite an increase in risk factors for depression as people get older, evidence suggests there is a lower frequency of depression in late life than in younger adulthood or middle age (Sadavoy, 2009). Blazer (2010) suggests three protective factors associated with ageing that may explain this apparently paradoxical finding: better emotional regulation skills; increased wisdom; and resilience as older people cope better with stressful life events. Socio-emotional selectivity theory (Carstensen et al., 1999) suggests that as people age, priorities and motivations change with older people placing greater emphasis on goals relating to ensuring current emotional stability such as investing in existing social relationships, rather than on goals relating to the future, such as acquiring knowledge or building new social networks.
As a result, emotional wellbeing and emotional stability improve with age (Carstensen et al., 2011). This is in contrast to previously commonly held beliefs about older people being less likely to benefit from psychotherapy due to being more rigid and ‘set in their ways’. Conversely, it seems that older people are more adept at emotion regulation therefore they may be more or as psychologically minded as younger people and thus, equally able to benefit from psychotherapy.

Another factor that may help explain the ageing paradox is that older adults are thought to have increased wisdom (Laidlaw, 2010; 2013), which may be protective against depression. Using their wisdom and life experience may allow older people to better manage stressful life events. In particular, older people are more adept at anticipating potentially stressful life events and therefore minimising negative emotions associated with them (Scheibe & Carstensen, 2010).

Attitudes to ageing

Research has shown that ageing is often viewed in a negative light, being thought of as a time of deterioration, for example, reduced physical and cognitive functioning (Sarkisian et al., 2005). Despite the stereotypes, there is increasing interest in older people’s actual experiences of ageing. Diehl and Werner-Wahl (2010) suggest that ageing experiences can be understood by individuals’ awareness of age related changes (AARC; Diehl & Werner-Wahl, 2010). They propose that the experience of ageing has less to do with chronological age and more to do with subjective attributions of changes that signify old age. For example, a sense of ageing may
come from the meaning one attributes to noticing a slower processing speed, rather than simply becoming slower.

Levy (2009) suggests that awareness of age related changes may be biased towards the negative aspects of ageing. She proposed that ageing stereotypes are internalised early in childhood due to repeated exposure and societal reinforcement. However, it is only when children become part of the stereotyped group (older adults) that these stereotypes become ‘self stereotypes’. Levy (2003) proposes that negative self stereotypes can have a detrimental impact on older adults cognitive and physical functioning. A series of laboratory experiments were conducted involving subliminal priming of age stereotypes in older adults. Positive or negative age stereotype words were flashed on a computer screen, too quickly to allow conscious awareness but slow enough to be perceived. It was found that older adults who were primed with the negative stereotypes subsequently performed worse on cognitive tasks (Levy, 1996; Hess et al., 2002). It was also found that being primed with negative stereotypes affected subjects’ gait (Hansdorff et al., 1999); their handwriting (Levy, 2000); their will to live (Levy et al., 2002); and their cardiovascular functioning (Levy et al., 2000). Levy et al. (2002) carried out longitudinal studies and discovered that people with more positive self perceptions of ageing lived on average 7.5 years longer that those who had negative self perceptions of ageing. This was after controlling for a range of factors including physical health. Moser et al. (2011) studied the effects of negative self perceptions of ageing on the risk of adverse outcomes and adaptive living skills. They found a strong association between negative perceptions of ageing and future vulnerability to difficulties with adaptive living skills. Negative self perceptions of ageing have also been found to affect the
likelyhood of a person engaging in positive health behaviours (Levy & Myers, 2004; Quinn et al., 2009).

Ageing stereotypes operate both implicitly and explicitly but have been shown to be more negative when operating outwith awareness. Levy (2009) stated that people tend to be unaware and unprepared for negative self stereotypes and therefore do not tend to challenge them when they reach old age. Larzelere et al. (2011) reported that when implicit stereotypes are made explicit (when people become aware that negative self stereotypes have been activated), the effects that Levy and colleagues have shown are not apparent. This is an important finding suggesting that ageism and its effects are preventable and changeable.

**Measuring attitudes to ageing**

Ageing processes are therefore complex and it is important that there are suitable tools for examining attitudes to ageing since attitudes are known to affect a range of health outcomes (Bryant et al., 2012), including changes in mood, behaviour and physical health problems. A range of questionnaires have been developed to assess attitudes to ageing. Some explore attitudes at a societal level, for example, the Facts on Ageing Quiz (Palmore, 1977) and the Ageing Semantic Differential (Rosencranz & McNevin, 1969) which both tap into stereotypes about older people. Others measure attitudes at a personal level. For example, the Reactions to Ageing Questionnaire (Gething, 1994) which is used to assess reactions that individuals have in anticipation of their own ageing. A measure commonly used for exploring attitudes to their own ageing is a five item subscale of the Philadelphia Geriatric
Morale Scale (Lawton, 1975). However, Laidlaw et al.’s (2007) study recently developed the Attitudes to Ageing Questionnaire (AAQ) in order to measure older people’s attitudes to their own ageing. This comprehensive questionnaire comprises three subscales which recognise both positive and negative aspects of ageing and it has demonstrated good psychometrics and cross cultural reliability.

**Previous research using AAQ**

There has been limited research to date using the AAQ. Those studies that have used this measure have shown that negative attitudes to depression are linked to negative attitudes to ageing (Quinn et al., 2009). It has also been shown that having depression (regardless of attitude to depression) has been linked to negative attitudes to ageing (Chachamovich et al., 2008). This effect was still found in people with sub-syndromal depression. In particular, they found that depression was a significant predictor of scores on the Psychosocial Loss subscale of the AAQ. The AAQ has also recently been used in a sample of people with dementia (Trigg et al., 2012) and it was concluded that people with dementia showed more negative attitudes to ageing. Additionally, these negative attitudes had an impact on the quality of life experienced by people with dementia. Bryant et al.’s (2012) study explored attitudes to ageing using the AAQ and its relationship to self reported physical and mental health, and satisfaction with life in a community dwelling sample of 421 people over the age of 60. They found that positive attitudes were linked with increased satisfaction with life and better self reported physical and mental health. They also found lower levels of depression and anxiety in those with more positive attitudes to ageing.
Rationale for current study

Attitudes to ageing have been explored in community dwelling older adults, and links have been found between depressive symptoms and negative attitudes. Other factors have also been shown to correlate with negative attitudes to ageing, including poorer quality of life and poorer subjective physical health (Ron, 2007). It has previously been suggested that feeling older is associated with negative views about cognitive functioning (Schafer & Shippee, 2010). Exploring attitudes to ageing in relation to other factors within a clinical sample will contribute to an increased understanding older people’s views of their own ageing and how this may relate to their wellbeing.

Exploring the attitudes of clinically depressed older people will have implications for the treatment of late life depression. Cognitive theory suggests that dysfunctional attitudes are mood state dependent (Laidlaw, 2010) and therefore amenable to change. It has been suggested that challenging attitudes and beliefs about ageing, for example, using standard CBT techniques, may be an effective component for treating depression (Laidlaw, 2010).

Aims

This study aims to compare attitudes to ageing in a clinically depressed sample of older adults and non depressed older adults. It is hypothesised that the clinically depressed sample will show more negative attitudes to ageing than the non depressed control sample. Additionally, this study aims to correlate attitudes to ageing with other factors including anxiety, subjective memory, hopelessness, quality of life, and endorsement of the understandability phenomenon.
Methodology

Participants

Participants in this study included 28 people (15 male: 13 female) over the age of 60 with depression who were receiving input from community mental health teams (CMHTs). Participants were recruited through CMHT clinicians already involved in their care. Inclusion criteria were: a diagnosis of depression, a score of five or above on the GDS-15, and aged over 60 years. Exclusion criteria were: cognitive impairment, substance misuse or psychosis. Clinicians were asked to identify patients on their caseloads who met these criteria. Clinicians then offered potential participants a questionnaire pack, which contained an information sheet, seven self-report questionnaires and a stamped addressed envelope. Potential participants could then decide whether or not they would like to complete the questionnaires and return to the researcher anonymously. In total, 370 questionnaire packs were distributed to clinicians (220 in NHS Highland and 150 in NHS Grampian). In total, 28 questionnaire packs were returned (20 from NHS Highland and 8 from NHS Grampian). Of the packs distributed within the health boards, it was not possible to determine how many packs were distributed to potential participants, thus an accurate response rate was not calculated.

Control group data was accessed through existing data held form a sample of healthy older adults who were recruited in the Lothian and Fife areas as part of the AAQ field trial (Laidlaw et al., 2007). Control participants were healthy adults over the age of 60 years.
Measures

For the depressed participants, demographic information was collected by means of a questionnaire which included information on: age, gender, living arrangements, employment status, education level, relationship status and subjective health status (healthy or unhealthy). Participants also completed seven self report measures, each of which is briefly outlined below.

Attitudes to Ageing Questionnaire (AAQ; Laidlaw et al., 2007)

The AAQ is a 24-item self report measure that was developed to assess older people’s attitudes towards their own ageing, both positive and negative. The items are divided among three domains. Firstly, psychosocial loss, which focuses on the psychological losses associated with old age, for example, ‘old age is a time of loneliness’. Secondly, physical change, which relates to the changes in physical functioning and attitude to health and exercise, for example, ‘I keep as fit and active as possible by exercising’. The third subscale is psychological growth, which focuses on the positive aspects of ageing, for example, ‘wisdom comes with age’. Each item is rated on a 5-point Likert scale and the scores are totalled for each subscale, resulting in a minimum score of eight and a maximum score of 40.

Geriatric Depression Scale – short form (GDS-15; Sheikh & Yesavage, 1986)

The GDS-15 is a widely used standardised measure for assessing depression in older adults. Responses are entered as ‘yes’ or ‘no’ and a score of five or above is used as a cut off score to indicate the presence of depression.
Geriatric Anxiety Inventory – short form (GAI-SF; Byrne & Pachana, 2011)

Anxiety is often co-morbid with late life depression. The GAI-SF is a 5-item self-report measure of anxiety. It has demonstrated validity and is recommended for use in research.

World Health Organisation Quality of Life Questionnaire (WHOQOL-BREF; WHO, 1996)

The WHOQOL–BREF is a 26-item measure that assesses quality of life in four domains: physical, psychological, social and environmental. It was developed from the WHOQOL-100 and has shown good internal consistency. Scores on the WHOQOL-BREF are transformed to scores between 0-100 in order to correspond with the WHOQOL-100.

Prospective and Retrospective Memory Questionnaire (PRMQ; Smith et al., 2000)

The PRMQ is a 16-item self report measure that assesses an individual’s subjective memory (both prospective and retrospective memory). Crawford et al. (2003) demonstrated that the PRMQ has good reliability and scores are not influenced by age.

Understandability Questionnaire (Law et al., 2010)

The understandability questionnaire was developed to measure the belief that depression is a normal consequence of old age. It comprises three attitudinal statements to which respondents rate their agreement on a 7-point Likert scale.
Beck Hopelessness Scale (BHS; Beck & Steer, 1988)

The BHS measures three aspects of hopelessness: feelings about the future, loss of motivation and expectations. It comprises 20 items which are rated true or false.

The control participants had previously completed the AAQ, GDS-30 and a demographics questionnaire as part of the earlier study (Laidlaw et al., 2007). The demographic questionnaire included information on: age, gender, marital status, living arrangements, education level and subjective health status (healthy or unhealthy). The GDS-30 results were pro-rated so that the scores were equivalent to the GDS-15. The GDS-30 contains all 15 questions in the GDS-15, therefore the results for the GDS-30 were examined and the questions that were surplus to the GDS-15 questions were removed.

Both the control group and the clinically depressed group also completed two single item questions that were measured on a five point Likert scale. Participants were asked to rate their Quality of Life (1-5) and their Satisfaction with Health (1-5).
Datasets

There were 31 questionnaire packs returned during the recruitment period. Three of these scored below five on the GDS-15, indicated no presence of low mood. Therefore, there were 28 clinically depressed participants included in this study. An existing dataset was used to collect control participants’ data (n = 116). Within this control sample, participants with missing data were removed. Additionally, participants over the age of 90 and under the age of 65 were removed from the control group in order to ensure groups were more evenly matched on age. This resulted in a sample size of 57 in the control group. Of these control participants, 15 scored five or above on the GDS-15, which indicates depression. Therefore, this resulted in three sets of data that were used in the analyses:

- Dataset 1: Clinically depressed group (n = 28)
- Dataset 2: Non-depressed controls (n = 42)
- Dataset 3: All depressed participants (n = 43; comprising 28 clinically depressed and 15 symptomatically depressed participants from the AAQ field trial Scottish dataset)
Hypotheses

Seven individual hypotheses were tested:

A. Comparing clinically depressed sample (n = 28) and non depressed control sample (n = 42)
   - **Hypothesis 1:** The clinically depressed sample will have significantly more negative attitudes to ageing on the Psychosocial Loss subscale compared to the non depressed control sample.

B. Comprising all participants scoring >5 on GDS-15 with non depressed controls (n = 85)
   - **Hypothesis 2:** GDS-15 scores will be a significant predictor of AAQ Psychosocial Loss scores.

C. Comprising only the clinically depressed sample (n = 28)
   - **Hypothesis 3:** Negative attitudes to ageing will be correlated with poorer quality of life
   - **Hypothesis 4:** Negative attitudes to ageing will be correlated with increased hopelessness
   - **Hypothesis 5:** Negative attitudes to ageing will be correlated with higher endorsement of the understandability phenomenon
   - **Hypothesis 6:** Negative attitudes to ageing will be correlated with increased subjective memory complaints
   - **Hypothesis 7:** Negative attitudes to ageing will be correlated with increased anxiety
Results

Exploratory data analysis

Preliminary analyses were carried out to assess the normality of the distribution of data. Visual inspection of histograms and QQ plots were used to assess for skew, kurtosis and outliers. Kolmogorov-Smirnov tests were conducted to assess for normality and Levene’s test was used to assess for homogeneity of variance. Variables that violated these assumptions of normality included: ‘Quality of Life’ (rated 1-5) and ‘Satisfaction with Health’ (rated 1-5). These variables were analysed using non-parametric tests rather than transforming the data. In preparation for the correlational analyses, scatterplots were also examined. For variables that were normally distributed, Pearson correlations were conducted and for variables that were not normally distributed, the non parametric equivalent was used (i.e. Spearman rank order coefficient). Due to the multiple correlations being made, a more stringent alpha level of 0.01 was used to assess for significance. In relation to multiple regression, assumptions were checked, including multicollinearity, normality, outliers and homoscedacity, none of which were violated.

Sample characteristics

Independent sample t-tests or non-parametric equivalent (i.e. Mann Whitney U test) and chi squared tests were used to compare groups on demographic variables. The depressed group (n = 28) was compared with the non-depressed control group (n = 42). The characteristics are detailed in Table 1.1.
Table 1.1. Characteristics of Sample

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Clinically depressed Mean (SD) or N (%)</th>
<th>Non-depressed Mean (SD) or N (%)</th>
<th>t, z or χ² value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDS-15 Score</td>
<td>10.0 (2.8)</td>
<td>2.0 (1.5)</td>
<td>2.2</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Self rated quality of life</td>
<td>2.7 (1.1)</td>
<td>4.1 (0.7)</td>
<td>5.1</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Self rated satisfaction with health</td>
<td>2.8 (1.2)</td>
<td>3.7 (0.9)</td>
<td>2.9</td>
<td>.003</td>
</tr>
<tr>
<td>Age</td>
<td>75 (6.6)</td>
<td>79 (7.1)</td>
<td>2.2</td>
<td>.031</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>15 (53.6)</td>
<td>11 (26.2)</td>
<td>4.3</td>
<td>.038</td>
</tr>
<tr>
<td>Female</td>
<td>13 (46.4)</td>
<td>31 (73.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>10 (35.5)</td>
<td>10 (23.8)</td>
<td>3.2</td>
<td>.202</td>
</tr>
<tr>
<td>Separated/Single</td>
<td>10 (35.7)</td>
<td>11 (26.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td>8 (28.6)</td>
<td>21 (50.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living arrangements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living with family</td>
<td>8 (28.6)</td>
<td>7 (16.7)</td>
<td>19.8</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Living alone</td>
<td>19 (67.9)</td>
<td>12 (28.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential or hospital care</td>
<td>1 (3.5)</td>
<td>23 (54.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective Health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy</td>
<td>15 (55.6)</td>
<td>38 (90.5)</td>
<td>9.4</td>
<td>.002</td>
</tr>
<tr>
<td>Unhealthy</td>
<td>12 (44.4)</td>
<td>4 (9.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary School</td>
<td>15 (53.6)</td>
<td>28 (66.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade Certificate</td>
<td>4 (14.3)</td>
<td>4 (9.5)</td>
<td>1.2</td>
<td>.541</td>
</tr>
<tr>
<td>College diploma or university degree</td>
<td>9 (32.1)</td>
<td>10 (23.8)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As indicated in Table 1.1, there were no significant differences between the clinically depressed group and the non depressed group in relation to marital status ($\chi^2 = 3.2, p = .202$) or education level ($\chi^2 = 1.2, p = .541$). As expected, the clinically depressed group had significantly higher GDS-15 scores than the control group ($t(69) = 2.2, p < .001$, two-tailed). The depressed group rated their quality of life lower than the control group and they were less satisfied with their health. The mean age of the depressed group was 75 and of the control group was 79, and this difference was statically significant ($t(69) = 2.2, p = .03$, two-tailed). There were significant group differences on other demographic variables, including living arrangements ($\chi^2 = 19.8, p < .001$); gender ($\chi^2 = 4.3, p = .04$) and subjective health status ($\chi^2 = 9.4, p = .002$).

**Hypothesis driven results**

*Hypothesis 1: The clinically depressed sample will have significantly more negative attitudes to ageing on the Psychosocial Loss subscale compared to the non depressed control sample.*

A one way ANOVA was conducted to compare groups on the AAQ subscales. The means and standard deviations are shown in Table 1.2. Higher AAQ scores indicate more positive attitudes to ageing.
As shown in Table 1.2, there was a statistically significant difference between groups on the AAQ Total ($F_{(1, 68)} = 13.8$, $p < .001$) and on the Psychosocial Loss subscale ($F_{(1, 68)} = 67.5$, $p < .001$). No significant differences were found between groups on the Physical Change subscale ($F_{(1, 68)} = 0.4$, $p = .546$) nor the Psychological Growth subscale ($F_{(1, 68)} = 0.1$, $p = .811$).

**Hypothesis 2:** GDS-15 scores will be a significant predictor of AAQ Psychosocial Loss scores.

Prior to including all participants in this analysis, independent samples t-tests or chi squared analyses were conducted in order to compare the clinically depressed sample and the depressed controls on demographic variables. There were no significant differences in age, gender, marital status or education level. There was a significant difference in living arrangements ($\chi^2 = 14.6$, $p = .001$) with more of the clinically depressed group living alone. There was also a significant difference in severity of depression with the clinically depressed group reporting higher GDS-15 scores ($M =$
10.0, SD = 2.8) compared with the depressed controls (M = 7.9, SD = 6.9; t(41) = 2.6, p = .014).

Prior to conducting a multiple regression, Pearson correlations were conducted to explore the associations between attitudes to ageing and depression level within the whole sample (n = 85: 28 clinically depressed, 15 depressed controls and 42 non depressed controls). All variables, including demographic variables, were entered into the correlation matrix and three variables were found to significantly correlate with the AAQ, as shown in Table 1.3.

<table>
<thead>
<tr>
<th>AAQ Subscale</th>
<th>AAQ Total</th>
<th>Psychosocial Loss</th>
<th>Physical Change</th>
<th>Psychological Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDS-15 Score</td>
<td>-.577**</td>
<td>-.720**</td>
<td>-.317**</td>
<td>-.213*</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>.497**</td>
<td>.485**</td>
<td>.398**</td>
<td>.174</td>
</tr>
<tr>
<td>Satisfaction with Health</td>
<td>.512**</td>
<td>.377**</td>
<td>.441**</td>
<td>.285**</td>
</tr>
</tbody>
</table>

** significant at p<0.01  * significant at p<0.05

Strong correlations were found between GDS-15 scores and AAQ total (r = -.577, p < .001), and between GDS-15 scores and Psychosocial Loss (r = -.720, p < .001). A medium correlation was found between depression and attitudes on the Physical Change subscale (r = -.317, p = .003). The direction of the associations suggests that as depressive symptoms increase, overall attitudes to ageing and attitudes in relation to Psychosocial Loss and Physical Change become more negative. This analysis also demonstrated that GDS-15 scores were negatively correlated with Quality of Life (r
=.699, p < .001) and negatively correlated with Satisfaction with Health (r = -.487, p < .001).

Multiple Regression

Previous studies have examined the impact that depression has on older people’s attitudes to ageing. Chachamovich et al. (2008) included depression as a predictor variable in their multiple regression model and found that it accounted for the majority of the variance in attitudes to ageing. The current study included participants with clinical depression and aimed to predict attitudes to ageing based on depression level. If clinical depression has an effect on attitudes to ageing then it can be suggested that such attitudes are mood-state dependent. A multiple regression was therefore conducted using depression (GDS-15 scores) as a predictor variable. Quality of life and Satisfaction with Health were also entered into the model as predictor variables as prior Pearson correlations showed significant associations between these variables and the AAQ subscales. The remaining variables were not entered as they showed no significant correlations with the AAQ. The results of the multiple regression are shown in Table 1.4.

Table 1.4 Multiple Regression model

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Psychosocial Loss</th>
<th>Physical Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B (SE)</td>
<td>Beta</td>
</tr>
<tr>
<td>GDS-15 Scores</td>
<td>33.0 (.15)</td>
<td>-.725</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>-.248 (.61)</td>
<td>-.046</td>
</tr>
<tr>
<td>Satisfaction with Health</td>
<td>.237 (.46)</td>
<td>.047</td>
</tr>
</tbody>
</table>
The AAQ was developed to report profile scores (Laidlaw et al., 2007) and the AAQ Total scale is a composite score. For this reason it was not included in the multiple regression. With regard to the Psychosocial Loss subscale, the regression model explained 51.5 per cent of the variance \( (F_{(3,81)} = 28.7, p < .001) \). Depression made the largest unique contribution (Beta = -.725). With regard to the Physical Change subscale, the model explained 23.8 per cent of the variance in attitudes \( (F_{(3,81)} = 8.4, p < .001) \). Of the variables, Satisfaction with Health made a significant contribution (Beta = .333). With regard to the Psychological Growth subscale, the regression model did not reach significance \( (R^2 = .085, p = .06) \).

**Hypotheses 3 – 7 (Correlational Analyses)**

The clinically depressed group completed additional questionnaires to the control group. Hypotheses three to seven therefore relate to correlations carried out within the clinically depressed group (n=28), to assess associations between AAQ subscales and each of the additional measures. Pearson correlations were conducted for data that met the assumptions for parametric tests and Spearman rank order coefficients are reported for data that did not meet assumptions of normality.

**Hypothesis 3: WHOQOL-BREF: Negative attitudes to ageing will be correlated with poorer quality of life.**

As illustrated in Table 1.5, attitudes to ageing were significantly positively correlated with psychological and environmental quality of life, though correlations with physical quality of life were nonsignificant and there was no association between
attitudes to ageing and social quality of life. This indicates that higher environmental or psychological quality of life was significantly associated with more positive attitudes to ageing.

**Table 1.5. Correlation Matrix of main variables (n = 28)**

<table>
<thead>
<tr>
<th></th>
<th>AAQ subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Psychological Loss</td>
</tr>
<tr>
<td>WHOQOL Physical #</td>
<td>.312</td>
</tr>
<tr>
<td>WHOQOL Psychological #</td>
<td>.267</td>
</tr>
<tr>
<td>WHOQOL Social</td>
<td>.212</td>
</tr>
<tr>
<td>WHOQOL Environmental #</td>
<td>.461*</td>
</tr>
<tr>
<td>BHS</td>
<td>-.416*</td>
</tr>
<tr>
<td>Understandability</td>
<td>.221</td>
</tr>
<tr>
<td>GAI #</td>
<td>-.275</td>
</tr>
<tr>
<td>PRMQ</td>
<td>.107</td>
</tr>
</tbody>
</table>

**significant at p<0.01**  **significant at p<0.05**  **Spearman’s rho**

**Hypothesis 4:** Beck Hopelessness Scale: Negative attitudes to ageing on the Psychosocial Loss subscale will be correlated with increased hopelessness.

As hypothesised, a significant and negative correlation was found between Psychosocial Loss and hopelessness ($r = -.416$, $p = .043$) which indicates that increased levels of hopelessness are associated with more negative attitudes to ageing. This effect, however, was not significant at the level of $p < 0.01$. It was also found that increased hopelessness was associated with negative attitudes to ageing on the Psychological Growth subscale ($r = -.558$, $p = .006$).
Hypothesis 5: Understandability Questionnaire: Negative attitudes to ageing will be correlated with higher endorsement of the understandability phenomenon.

No significant correlations were found between negative attitudes to ageing and the understandability phenomenon. However, positive correlations were found between the total AAQ scores and endorsement of the understandability phenomenon ($r = .481, p = .011$). This indicates an association between negative attitudes to ageing and increased belief that late life depression is understandable, though this correlation was not significant after adjusting the alpha level for multiple correlations.

Hypothesis 6: Geriatric Anxiety Inventory: Negative attitudes to ageing will be correlated with increased anxiety.

It was found that as self reported anxiety increases, attitudes to ageing become more negative, however, these correlations were not statistically significant.

Hypothesis 7: PRMQ: Negative attitudes to ageing will be correlated with increased subjective memory complaints.

Negative attitudes to ageing on the Psychological Growth subscale were significantly correlated with increased subjective memory problems ($r = -.460, p = .016$). There were no other significant correlation between subjective memory and the other variables.
Discussion

Main findings

The aim of the current study was to examine attitudes to ageing in a clinical sample of depressed older adults. As hypothesised, participants in the clinically depressed sample reported significantly more negative attitudes to ageing in relation to Psychosocial Loss than the non depressed control group. There were no differences between groups with regard to the other subscales, Psychological Growth and Physical Change, which are positively framed. This is consistent with the ageing paradox; despite challenges associated with ageing, older people tend to report high subjective wellbeing. Kunzmann et al. (2000) reported that the concept of subjective well being was relatively stable in older people, whereas negative attitudes have been shown to be mood-state dependent (Miranda & Persons, 1988). Within the whole sample, significant negative correlations were found between attitudes to ageing (on all three subscales of the AAQ) and level of depression. In particular, depression was found to be a significant predictor of scores on the Psychosocial Loss subscale. The effect was large, with the regression model accounting for 51.5 per cent of the variance in Psychosocial Loss. This finding is consistent with the results of Chachamovich et al.’s (2008) study which showed that both depression and quality of life were significant predictors of attitudes to ageing. The results also confirm other research findings correlating depression and negative attitudes in relation to Psychosocial Loss (Bryant et al., 2012; Quinn et al., 2009).

Negative attitudes to ageing on the Psychosocial Loss subscale are therefore likely to be reflective of depressive attributions about ageing and this is not surprising given
that loss is a key cognitive theme in depression. Beck et al.’s (1979) cognitive theory states that individuals with depression have dysfunctional beliefs about themselves, the world and the future. In a stress-diathesis model, pre-existing vulnerabilities to depression and negative beliefs can be triggered by stressful life events, resulting in depression. The finding that depressed older adults reported more negative attitudes to ageing than non depressed older adults supports the theory that dysfunctional attitudes are mood-state dependent. In late life depression, it may be that stressful life events associated with ageing (such as losses) trigger latent negative ageing stereotypes to become salient, resulting in depressed mood. Ageism, both implicit and explicit, is prevalent in society, and the internalisation of negative ageing stereotypes can have a range of adverse effects on people when they become older (Levy, 2009). It has been shown that older people are generally positive about ageing, therefore society must re-evaluate its erroneous perceptions of ageing in order to promote positive attitudes to ageing.

With regard to the other hypotheses, increased hopelessness was correlated with negative attitudes to ageing in relation to Psychosocial Loss, as expected. Hopelessness was also correlated with the understandability phenomenon, suggesting that beliefs about late life depression being normal are associated with feelings of hopelessness. This may have significant implications for psychological therapies as challenging negative and erroneous attitudes about ageing and depression may increase hope and treatment efficacy.

There were no significant associations between attitudes to ageing and anxiety. This is in contrast to previous research findings indicating that positive attitudes on the
Psychosocial Loss subscale were linked with reduced anxiety (Bryant et al., 2012). The non significant finding in the current study may be due to the fact that the shorter five item GAI was used, while Bryant et al. (2012) used the full 20-item GAI. Anxiety is often co-morbid with depression in older people and it may be more prevalent than depression (Laidlaw, 2013). The link between anxiety and attitudes to ageing should be explored further.

Ageing is often stereotypically thought of as a time of reduced physical and cognitive functioning (Mulley, 2007). Feeling older has been associated with poorer subjective cognitive functioning (Shafer & Shippee, 2010), however, the link between attitudes to ageing and subjective memory functioning has not been fully explored. The current study found no correlation between the AAQ and subjective memory. It may be that older people experiencing subjective memory complaints have more negative ageing beliefs, however, the current sample could have been too small to detect any correlation. Trigg et al.’s (2012) study found that people with dementia reported more negative Psychosocial Loss scores. Interestingly they reported that awareness of memory deficits significantly predicted AAQ scores, whereas actual memory functioning did not.

Strengths and limitations of study

A strength of this study is that it corroborates previous research using the AAQ and provides strong evidence for the role of attitudes to ageing in late life depression. The majority of measures used in this study were designed for older people and demonstrate good psychometric properties. This study is the first to use the AAQ in a clinical sample of depressed people. Given that this is the population that clinicians
within CMHTs will be in contact with, the results provide valuable insight into older people’s own experiences of ageing.

The results of the study must be considered in the context of several limitations. The small sample size of clinically depressed participants limits the generalisability of the results. Despite over 350 questionnaire packs being distributed to CMHTs, only 31 were returned to the researcher (28 of which were suitable for inclusion in the depressed sample). This low response rate is likely to have been affected by the recruitment strategy. The recruitment method was designed to maximise informed consent and minimise the possibly of patients feeling obligated to participate. However, this required a degree of effort and concentration on the part of the patient in order to read the information and complete the large number of questionnaires, which may have affected the accuracy of responses as well as the response rate. The complexity of the target population and the effect that this may have on participants’ ability and willingness to complete the questionnaires accurately may also have contributed to the difficulty recruiting a larger sample size. Additionally, it is likely that clinicians did not hand out the packs to all suitable participants, indicating a possible selection bias. Therefore, this sample may not be an accurate representation of the clinical population of depressed older adults.

The small sample size also affected the choice of statistical analysis that could be used. Multiple regression models would have been more informative in determining what factors are influencing attitudes to ageing. However, correlational analyses have provided an exploration of the data within this population. The cross sectional design also limited the ability to derive inferences about the causality of the results.
Clinical implications

The results of this study highlight the importance of the effect that negative attitudes to ageing can have on a range of physical and mental health outcomes. This study confirmed previous research findings which have indicated that negative attitudes to ageing have a detrimental effect on self reported quality of life (Chachamovich et al., 2008). Psychological therapies such as CBT, which aim to challenge dysfunctional thoughts and beliefs, have been shown to be effective for late life depression therefore improving attitudes may in turn improve quality of life. This has implications for the treatment of late life depression. In an older person with depression, attributing mood to ageing may exacerbate feelings of hopelessness as age is unchangeable. Furthermore, underlying beliefs that little can be done about late life depression may reduce likelihood of individuals seeking help and if they do, it may also significantly reduce expectations for treatment success. Therapists must therefore assess attitudes to ageing in depressed older adults as dysfunctional attitudes may be become obstacles during therapy if left unchallenged. Additionally, clinicians must be aware of their own attitudes about ageing as this too may affect treatment expectations. Charlesworth and Greenfield (2004) stated that therapists’ ageist beliefs can lead to therapeutic nihilism if not addressed. This highlights the necessity of clinical supervision to facilitate therapists’ self reflection.

With the demographic changes indicating a growing older adult population, there will be an increasing demand for psychotherapy for older people. Therapists must be knowledgeable regarding gerontological theories when working with older people in order for therapy to remain effective. Increasing access to psychological therapies for older people has recently become a national priority. The need for specialist services
for older people has been highlighted (NES, 2011) and this is evidenced by increasing training for psychological therapies with older people. Therapy can be augmented using theories of successful ageing such as selective optimisation with compensation (SOC; Baltes, 1997) or by enhancing resilience and wisdom. Comprehensive formulations for older people should consider lifespan development and include factors such as cohort beliefs, physical changes and role changes (Laidlaw et al., 2004).

**Further research**

Further research is required to explore other variables in relation to attitudes to ageing in order to determine potential mediators. Developing an increased understanding of older people’s attitudes towards their own ageing, in relation to depression and other mental health problems, could provide information on how therapy could be augmented for older people and whether there are attitudes that could be targeted. The AAQ comprises three distinct subscales therefore the AAQ may be an optimal tool for researchers to explore ageing attitudes that encompass both the positive and the negative aspects of ageing.

Given that the AAQ appears to be a mood-state dependent measure, it may be useful to carry out longitudinal research which may provide further information on causality. For example, research could examine whether depression is a result of negative ageing stereotypes or whether negative attitudes result from depressed mood. Research could examine therapies which address attitudes to ageing and record measures of attitudes before and after therapy. It would be expected that
attitudes to ageing on the psychosocial loss subscale would improve following psychological therapy, which would be accompanied with an improvement in mood.

Conclusions

The key findings indicate that older people with depression report significantly more negative attitudes to ageing relating to psychosocial loss. Negative attitudes were also associated with poorer self reported quality of life, satisfaction with health and increased hopelessness. These results highlight the importance of addressing attitudes to ageing, both individually and at a societal level. Attitudes are amenable to change and challenging dysfunctional attitudes through psychological therapy may lead to improvements in mood. Therapists working with older people must be trained and knowledgeable in gerontological theories. They must assess for patients’ attitudes to ageing and be prepared to challenge their own beliefs about ageing. There is a need to change societal attitudes towards older people and ageing in order to promote well being in this growing sector of the population, to which we may all eventually belong.
References


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Parekh-Bhurke, S., Kwok, C. S., Pang, C., Hooper, L., Loke, Y. K., Ryder, J. J., et al. (2011). Uptake of methods to deal with publication bias in systematic reviews has increased over time, but there is still much scope for improvement. *Journal of Clinical Epidemiology, 64*(4), 349-357.


Scottish Executive. (2007). *All our futures, planning for Scotland with an ageing population*.


Appendices

Appendix 1: Author Guidelines: Systematic Review (Clinical Psychology Review)

Appendix 2: Author Guidelines: Empirical Research Study (Psychology and Aging)

Appendix 3: North of Scotland REC Approval

Appendix 4: R&D Approval NHS Highland

Appendix 5: R&D Approval NHS Grampian

Appendix 5: Participant Information Street
Appendix 1: Author Guidelines (Clinical Psychology Review)

Article structure
Manuscripts should be prepared according to the guidelines set forth in the Publication Manual of the American Psychological Association (6th ed., 2009). Of note, section headings should not be numbered.

Manuscripts should ordinarily not exceed 50 pages, including references and tabular material. Exceptions may be made with prior approval of the Editor in Chief. Manuscript length can often be managed through the judicious use of appendices. In general the References section should be limited to citations actually discussed in the text. References to articles solely included in meta-analyses should be included in an appendix, which will appear in the online version of the paper but not in the print copy. Similarly, extensive Tables describing study characteristics, containing material published elsewhere, or presenting formulas and other technical material should also be included in an appendix. Authors can direct readers to the appendices in appropriate places in the text.

It is authors’ responsibility to ensure their reviews are comprehensive and as up to date as possible (at least through the prior calendar year) so the data are still current at the time of publication. Authors are referred to the PRISMA Guidelines (http://www.prisma-statement.org/statement.htm) for guidance in conducting reviews and preparing manuscripts. Adherence to the Guidelines is not required, but is recommended to enhance quality of submissions and impact of published papers on the field.

Appendices
If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Abstract
A concise and factual abstract is required (not exceeding 200 words). This should be typed on a separate page following the title page. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separate from the article, so it must be able to stand alone. References should therefore be avoided, but if essential, they must be cited in full, without reference to the reference list.

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, ‘and’, ‘of’). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations
Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

Acknowledgements
Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Figure captions
Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables
Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

References
Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Sixth Edition, ISBN 1-4338-0559-6, copies of which may be ordered from http://books.apa.org/books.cfm?id=4200067 or APA Order Dept., P.O.B. 2710, Hyattsville, MD 20784, USA or APA, 3 Henrietta Street, London, WC3E 8LU, UK. Details concerning this referencing style can also be found at http://humanities.byu.edu/linguistics/Henrichsen/APA/APA01.html

Citation in text
Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Reference style
References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters "a", "b", "c", etc., placed after the year of publication. References should be formatted with a hanging indent (i.e., the first line of each reference is flush left while the subsequent lines are indented).
Appendix 2: Author Guidelines (Psychology and Aging)

Length

Manuscripts should not exceed 8,000 words (approximately 27 double-spaced pages in 12-point Times New Roman font). Shorter manuscripts are equally welcomed.

The word count does not include references, tables, and figures. If you feel that you need extra space, please contact the editor. For example, you may have a complex methodology or statistical approach or a new theoretical framework that requires more text.

Please include the word count for the main text below the keywords.

Brief Reports

The Brief Report format is designated for particularly "crisp," theoretically noteworthy contributions that meet highest methodological standards. Use 12-point Times New Roman type and 1-inch (2.54-cm) margins; include an abstract of 75–100 words; do not exceed 265 lines of text, not including references; and typically include no more than two tables or figures.

Manuscript Preparation

Prepare manuscripts according to the Publication Manual of the American Psychological Association (6th edition). Manuscripts may be copyedited for bias-free language (see Chapter 3 of the Publication Manual).

Review APA's Checklist for Manuscript Submission before submitting your article.

Double-space all copy. Other formatting instructions, as well as instructions on preparing tables, figures, references, metrics, and abstracts, appear in the Manual.

Below are additional instructions regarding the preparation of display equations and tables.

Abstract and Keywords

All manuscripts must include an abstract containing a maximum of 250 words typed on a separate page. After the abstract, please supply up to five keywords or brief phrases.
References

List references in alphabetical order. Each listed reference should be cited in text, and each text citation should be listed in the References section.

Examples of basic reference formats:

- **Journal Article:**

- **Authored Book:**

- **Chapter in an Edited Book:**
Appendix 3: North of Scotland REC Approval

4 December 2012

Ms Alison Raeburn
Department of Psychological Services
Dumossie Unit
New Craigs Hospital
6-16 Leachkin Road
INVERNESS
IV3 8NP

Dear Ms Raeburn

Study title: Attitudes to ageing and clinical depression in older people
REC reference: 12/NS/0097

Thank you for your letter which we received on 3 December 2012. I can confirm the REC has received the documents listed below and that these comply with the approval conditions detailed in our letter dated 28 September 2012.

Documents received

The documents received were as follows:

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<tr>
<td>Letter of invitation to participant</td>
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<td>26 October 2012</td>
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<tr>
<td>Sample Size Calculation</td>
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Approved documents

The final list of approved documentation for the study is therefore as follows:

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* date received

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor’s responsibility to ensure that the documentation is made available to R&D offices at all participating sites.
Yours sincerely

Mrs Carol Irvine
Acting Scientific Officer

Copy to: Frances Hines, NHS Highland
Appendix 4: NHS Highland R&D Approval

10 January 2013

Ms Alison Raeburn
Trainee Clinical Psychologist
Department of Psychological Services
Drumossie Unit
New Craigs Hospital
6 – 16 Leachkin Road
Inverness
IV3 8NP

Dear Miss Raeburn,

Management Approval for Non-Commercial Research

I am pleased to tell you that you now have Management Approval for the research project entitled: ‘Attitudes to Ageing and Clinical Depression in Older People’. I acknowledge that:

- The project is sponsored by NHS Highland.
- The project does not require external funding.
- Research Ethics approval for the project has been obtained from the North of Scotland Research Ethics Committee, (Reference Number: 12/NS/0097).
- The project is Site-Specific Assessment exempt.

The following conditions apply:

- The responsibility for monitoring and auditing this project lies with NHS Highland.

Headquarters:
NHS Highland, Assynt House, Beechwood Park, Inverness, IV2 3HG

Chairman: Mr Garry Coutts
Chief Executive: Elaine Mead

Highland NHS Board is the common name of Highland Health Board
• This study will be subject to ongoing monitoring for Research Governance purposes and may be audited to ensure compliance with the Research Governance Framework for Health and Community Care in Scotland (2006, 2nd Edition), however prior written notice of audit will be given.
• All amendments (minor or substantial) to the protocol or to the REC application should be copied to the NHS Highland Research and Development Office together with a copy of the corresponding approval letter.
• The paperwork concerning all incidents, adverse events and serious adverse events, thought to be attributable to participant's involvement in this project should be copied to the NHS Highland R&D Office.
• Monthly recruitment rates should be notified to the NHS Highland Research and Development Office, detailing date of recruitment and the participant trial ID number. This should be done by e-mail on the first week of the following month.

Please report the information detailed above, or any other changes in resources used, or staff involved in the project, to the NHS Highland Research and Development Manager, Frances Hines (01463 255822, frances.hines@nhs.net).

Yours sincerely,

[Signature]

Professor Angus Watson
NHS Highland Research and Development Director

cc Frances Hines, R&D Manager, NHS Highland Research & Development Office, Room S101, The Centre for Health Science, Old Perth Road, Inverness, IV2 3JH
Dear Ms Raeburn

Management Permission for Non-Commercial Research

REC Ref: 12/NS/0097
NRS Ref: NRS13/MH93
Project title: Attitudes to ageing and clinical depression in older people

Thank you very much for sending all relevant documentation. I am pleased to confirm that the project is now registered with the NHS Grampian Research & Development Office. The project now has R & D Management Permission to proceed locally. This is based on the documents received from yourself and the relevant Approvals being in place.

All research with an NHS element is subject to the Research Governance Framework for Health and Community Care (2006, 2nd edition), and as Chief or Principal Investigator you should be fully committed to your responsibilities associated with this.

It is particularly important that you inform us when the study terminates.

The R&D Office must be notified immediately and any relevant documents forwarded to us if any of the following occur:

- A change of Principal Investigator, Chief Investigator or any additional research personnel
- Premature project termination
- Any amendments - substantial or non-substantial (particularly a study extension)
- Any change to funding or any additional funding

We hope the project goes well, and if you need any help or advice relating to your R&D Management Permission, please do not hesitate to contact the office.

Yours sincerely

Susan Ridge
Non-Commercial Manager

c.c. NRS Permissions CC

Participant Information Sheet – Version 2

Study title: Attitudes to ageing and clinical depression in older people.

You are being invited to take part in a research study. Please take time to read this information sheet carefully before you decide whether or not you would like to take part.

Thank you for your time.

Why are we doing this research?

The aim of this research project is to explore attitudes to ageing in people who have depression. Depression is a common problem for older people, however, it is often undiagnosed and older people may not receive the help and treatment that they need. Depression can cause a range of symptoms including sleep disturbance, fatigue and sadness. When people feel depressed, they also tend to think more negatively. This study aims to explore attitudes, particularly relating to ageing. It also aims to explore whether there are any links between attitudes and other factors including anxiety and quality of life. Since attitudes and beliefs can be changed through psychological therapy, having a greater understanding of them may lead to improved interventions for depression in later life.

Why have I been chosen?

We would like to you take part in this study because you are over the age of 60 and have a diagnosis of depression.

Do I have to take part?

You do not have to take part in this study. It is up to you to decide whether or not to take part. You can withdraw from taking part at anytime during the study, without giving a reason, and your current or future treatment will not be affected.

What is involved?

If you would like to take part, you can complete the enclosed questionnaires and return in the stamped addressed envelope. If you have any queries about the questionnaires, you can phone the researcher for further assistance. All questionnaires will be anonymous.

Will there be any harm in participating in this study?

There will be no harm to you if you participate in this study. If there is anything raised in the questionnaires which you find upsetting, the researcher will be available to discuss this with you. You can also speak to your GP or other health professional about this.
**Will there be any benefits to taking part in the study?**

There will be no direct benefits to you taking part in the study. However, your taking part will help us learn more about attitudes to ageing and depression in older people. This may then lead to developing more effective psychological treatments for depression in later life.

**Will my taking part be kept confidential?**

All information collected in this study will be kept strictly confidential. Your name and address will not appear on the questionnaires you complete therefore there will be no identifiable information on any of the results. You will not be able to be recognised from the results of your questionnaires.

**What will happen to the results of the study?**

This study will be written up as part of the researcher’s Doctorate in Clinical Psychology qualification. The results may also be published in a scientific journal. No participant identifiable information will be used in any report.

If you would like to receive a summary of the results following completion of the study, you can contact the researcher, Alison Raeburn.

**Who has organised and reviewed the study?**

The study is being funded by the University of Edinburgh. It has been reviewed by researchers based in the University and by clinical supervisors in the NHS.

With regard to ensuring participants’ rights, safety and confidentiality, the North of Scotland Research Ethics Committee has reviewed the study.

**What if there is a problem?**

If you have any concerns or if you would like further information, you can speak to the researcher, Alison Raeburn, on 01463 253697 and she can answer any questions you have.

If you would like to speak to an independent person about this study, you can speak to Dr Brigid Walker, Consultant Clinical Psychologist on 01463 253697.

*Thank you for considering taking part in this study.*