THE UNIVERSITY OF HULL

The Role, Impact and Experience of Humour in Later Life and Dementia

Being a thesis submitted in partial fulfilment of the requirements for the
Degree of Doctor of Clinical Psychology
in the University of Hull

By

Helen Irwin
BSc (Hons) Psychology

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Acknowledgements

I would like to dedicate this thesis to the couples that participated in this study who so openly shared their inspiring experiences with me. Without them none of this would have been possible and I would like to thank them for their desire to help the field of research and for generously volunteering their time.

I would also like to thank the staff and volunteers of the dementia support groups I visited who so willingly welcomed me and believed in the work I was doing.

I would like to thank my supervisors Dr Emma Wolverson and Dr Chris Clarke for their continued support and guidance throughout the process. My sincere thanks to them for their unwavering enthusiasm, passion and commitment to the field and for their immense knowledge that has continually motivated me. Thank you also to Dr Tim Alexander for his support and guidance that has helped me navigate the research process.

Thank you to my wonderful family for their unconditional support throughout this journey and for believing in me every step of the way. Finally, thank you to my partner Jon for his unfailing love, support and patience, which has kept me going and enabled me to reach my goal.
Overview

The portfolio thesis is divided into three parts:

Part one is a systematic literature review in which the empirical literature relating to humour interventions in later life is reviewed. The systematic literature review explores the key features of humour interventions and their impact on physical and psychological wellbeing in later life. The findings are discussed in relation to clinical implications and potential future research.

Part two is an empirical paper, which explores how people living with dementia and their partners use, experience and draw meaning from humour in their ongoing relationships. Interviews were conducted with 10 couples and the data was analysed using Interpretative Phenomenological Analysis. Analysis revealed eight subthemes that were subsumed under three superordinate themes. Theoretical and clinical implications are discussed with relation to couplehood and wellbeing in dementia.

Part three comprises the appendices.

Total word count: 18,815 (excluding appendix and references)
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PART ONE

The impact of humour interventions on physical and psychological wellbeing in later life: a systematic literature review

Helen Irwin¹, Dr Chris Clarke¹ & Dr Emma Wolverson¹

¹ Department of Psychological Health and Wellbeing, University of Hull, Hertford Building, Cottingham Road, Hull, United Kingdom, HU6 7RX

* Corresponding Author. E-mail address: h.e.irwin@2012.hull.ac.uk
Telephone number: +44 (0) 1482 464106 Fax: +44 (0) 1482 464093

This paper is written in the format ready for submission to the Journal of International Psychogeriatrics.
Please see Appendix O for Author Guidelines

Word count: 10,700 (including Tables and Figures)
Abstract

Background: Health and social care services across many nations are having to adapt to rapidly ageing populations. Interventions that promote positive affect may be key to helping older people retain resilience and age successfully, thus reducing their reliance on formal support. The benefits of humour on psychological and physical health have long been acknowledged and the therapeutic use of humour has been suggested as a possible method to promote wellbeing. However, little is known about the overall effectiveness of humour interventions in improving wellbeing in the context of the challenges to health and wellbeing that can occur in later life. The purpose of this systematic literature review was to synthesise the existing literature on humour interventions in late life by examining the key features of humour interventions and their impact on physical and psychological wellbeing in later life. Method: Electronic databases were systematically searched (PsycINFO, Medline and CINAHL Complete) for studies matching the inclusion criteria and an assessment of methodological quality of the included studies was conducted. Results: A narrative synthesis of the sixteen included studies suggest that humour and laughter interventions are potentially effective in not only reducing psychological and physical illness but in promoting and maintaining psychological and physical wellbeing in later life. Conclusion: Extant studies have varied extensively in terms of samples, outcome measures and content and format of interventions, therefore making it difficult to draw firm conclusions. Methodological recommendations regarding future research are discussed.

Key words: humour; laughter; later life; systematic literature review
Introduction

Health and social care services in the UK and across the world are having to adapt to the needs of growing numbers of people living well beyond retirement age (Ham, et al., 2012). Sustaining wellbeing in later life may be more of a challenge as older people can be particularly vulnerable to a variety of physical and mental health problems (Berk, 2001). Despite this, older people generally report less negative affect and better emotion regulation and wellbeing than younger people (Aldwin & Yancura, 2010) and it is thus important to explore what contributes to this resilience in ageing. Equally, there is a need to develop and evaluate interventions that are not just effective in treating psychological problems but capable of sustaining and improving positive wellbeing for those older people facing adverse life experiences such as chronic illness, isolation and bereavement. Interventions that promote positive affect may be key to helping people retain resilience and age successfully but these have only been emerging in recent years.

Fry (1986 as cited in Herth, 1993) proposed that humour is a health promoting behaviour that is essential to successful ageing and the therapeutic use of humour has been suggested as a possible method to promote wellbeing. From the perspective of positive psychology, humour is regarded as a broad and multifaceted concept (Martin, 2004) that can be broadly defined as ‘something that is, or is designed to be, comical or amusing’ (Takeda et al., 2010 pg. 3) and which results in behaviour such as laughing and smiling (Walter et al., 2007). Humour is a universally experienced phenomenon (Mireault et al., 2012) but what individuals perceive to be humorous varies extensively according to context and culture. In positive psychology, humour is considered a character strength, regarded as part of the virtue of ‘transcendence’, part of the ability to ‘forge connections to the larger universe and provide meaning’ (Peterson & Seligman, 2004 pg. 412).
Existing literature describes beneficial effects of humour on the body’s physiological system including the immune system (e.g. Pressman & Cohen, 2005) and circulatory system (e.g. Bennett & Lengacher, 2008). Benefits also include decreased production of stress hormones (e.g. Bennett & Lengacher, 2008), and increased pain tolerance (e.g. Stuber et al. 2009). Reported psychological benefits include reduced stress (e.g. Wooten, 1996) anxiety, depression and loneliness and improved self-esteem, confidence (e.g. Overhosler, 1992), and hope (e.g. Herth, 2002). Since humour is a complex phenomenon involving cognitive, emotional and social aspects (Martin, 2007), there may be a variety of mechanisms by which humour exerts these effects. Humour strengthens the individual’s ability to cope with adverse life experiences and is associated with increased positive affect and increased levels of social support (Martin 2007). Simulated laughter i.e. laughter created without a humour stimulus, has also been reported to induce positive affect and physiological changes (e.g. Tse et al., 2010; Hsieh et al., 2015).

Existing literature also indicates that it may be possible for psycho-social interventions to target humour as a way of fostering positive affect, wellbeing and therefore resilience (Noble & McGrath, 2012). However, little is known about the overall effectiveness of humour interventions in improving wellbeing in the context of the challenges to health and wellbeing that can occur in later life. It is important that this is investigated so that such interventions can be developed and tailored to meet the needs of this population and to ensure maximum effectiveness in relation to wellbeing and resilience in ageing. Currently it is unclear how interventions have framed and defined humour and the interventions are not typically standardised. Within the literature there have been some attempts to differentiate humour from laughter interventions but, as will be discussed, definitions vary and they often have overlapping components.
**Aim & Review Questions**

The aim of this review was to systematically review and synthesise the existing literature on humour interventions in late life. The following questions underpinned this review:

1. What are the key features of humour interventions in the context of physical and psychological wellbeing in later life?
2. What is the impact of humour interventions on physical and psychological wellbeing in later life?

**Method**

**Literature search strategy**

A systematic review of the literature was conducted in February 2015. Three online databases were searched via the EBSCOhost service; MEDLINE, PsycINFO and CINAHL Complete. The terms (humor OR laugh* OR mirth* OR wit OR jok* OR comed*) AND (interven* OR therap* OR treatment* OR workshop*) were chosen to access literature related to humour interventions. The terms AND (old* OR elder* OR "late* life" OR geriatric* OR "senior citizen"*) were employed to access the literature relating to older people. The search terms were generated by exploring the key words from the titles and abstracts of existing relevant literature, and keywords from the subject areas used in the online database.

On completion of the first search ‘NOT ("aqueous humor")’ was applied as a limiter as the initial search yielded a large number of irrelevant medical studies. No geographical or temporal limiters were applied as the purpose of the review was to explore fully the findings in the area to date. Duplicates were removed before inclusion and exclusion criteria were applied.
**Inclusion and exclusion criteria**

All titles and abstracts from retrieved articles were scrutinised and the following inclusion and exclusion criteria were then applied. For 29 articles it was not possible to include or exclude based on the title and/or abstract and thus for these full texts were read and the inclusion and exclusion criteria reapplied.

*Articles were included if they were:*

- Peer-reviewed, in order to ensure quality of the studies reviewed.
- Written in the English language, as translation was not available.
- Reporting on an intervention study related specifically to humour i.e. measured the impact of humour on an outcome. As this was an exploratory review of the relevant literature the nature of the intervention was not operationalised a priori for the purpose of this review. The intervention was required to have a focus on humour and/or laughter but articles were not excluded if the intervention was multimodal e.g. humour and exercise, laughter yoga.
- Reporting on a study where participants were 60 years old or over. The definition of old age is inconsistent in the older adult literature. ‘Old age’ is a socially constructed definition and therefore there are different interpretations of it in different cultures. Defining older age by chronological 65 years or older is the accepted definition of an ‘older person’ in many developed world countries. However the UN generally use 60 years or older to refer to the older population (Baldwin, 2003). As the literature concerning humour interventions is not limited to westernised populations, the lower cut off of 60 years was defined as later life for the purpose of this review. The living circumstances of the participants were included in this review but were not an inclusion or exclusion criteria.
Articles were excluded if:

- It was not possible to be certain that the participants were all over the age of 60 years i.e. if mean age was stated without the age range then the study was excluded.

Identification of relevant studies

Of the initial 1618 results, 128 were excluded as they were not journal articles, 125 results were then removed through exclusion of duplicates. 1365 titles and abstracts were scrutinised and papers were rejected if they did not meet the exclusion and inclusion criteria outlined above. Of the 29 abstracts that met these criteria, the full texts were read and the exclusion and inclusion criteria were reapplied, which resulted in 15 papers being included. A hand search of the references lists of the included articles was then carried out to identify studies that had not been captured using the initial search strategy. Following reapplication of the exclusion and inclusion criteria on these studies a further one study was found, resulting in a total of 16 studies included in this review. See figure 1 for a breakdown of the article selection process.
Search of relevant data bases via Ebsco

MEDLINE n = 1115, PsycINFO n= 597, CINAHL Complete n= 122

Limiter applied: not aqueous humour

MEDLINE n = 901, PsycINFO n=597, CINAHL complete n= 120
Total n= 1618

Journal articles
Total n= 1490

Duplicates removed
Total n = 1365

Titles and abstracts reviewed
Total n = 29

Full text reviewed
Total n = 15

Manual search of reference lists in included studies
Total n = 4

Full text reviewed for exclusion/inclusion criteria
Total n = 1

Papers included in review
Total n = 16

Figure 1. Article selection summary
The following data were extracted from each reviewed article: Aim(s) of the study, design, sample characteristics i.e. community or clinical, nature of intervention and outcome measure(s) used. This data is presented in tabular form for comparison and summary (see Table 1).

**Methodological Quality Assessment**

To assess the methodological quality of quantitative studies a modified version of the Downs and Black (1998; see Appendix A) quality assessment tool was used. Several modifications were made to the original checklist:

- Wording was modified such that the word ‘patient’ was substituted for ‘subject’ throughout, as many of the studies under review did not use clinical populations.
- A weighted scoring system was used for question 5 ‘Are the interventions of interest clearly described?’ As the nature of the intervention was of particular importance to address the review questions this question was deemed to be a key determinant of methodological quality and so this question was given greater weighting. The scoring criteria was modified from yes=1 and no=0 to yes=2, partially=1 and no=0.
- ‘Was the study controlled?’ (Question 19) was added because not all of the studies in the review had a control condition and it was deemed that a control condition would be important in answering the second review question about the impact of the intervention condition i.e. whether the outcomes could be attributed to the effect of the intervention.
- Question 12: ‘Were the subjects asked to participate in the study representative of the entire population from which they were recruited?’ was removed from the checklist because it was not relevant in light of the review questions being asked. This review was concerned with the characteristics of the participants who took part in the studies and therefore it was deemed
that differentiating between participants who were asked and who participated was unnecessary to judge the quality of the study.

Only one study included in the review employed a qualitative methodology (Stevens, 2011). The quality of this study was assessed separately using a qualitative framework from the National Institute for Health and Care Excellence (National Institute for Health and Care Excellence, 2009; Appendix B). Although this scale is not scored numerically, in order to enable a comparison of methodological quality ratings across studies, checklist items on the scale were assigned scores for the purposes of this review. The most positive response scored 2, the midline response scored 1, and the negative response scored 0.

Four of the studies were randomly selected and were rated by an independent assessor. The majority of the scores were agreed upon and the few discrepancies in ratings that occurred were discussed until a consensus was reached.

**Data analysis**

A meta-analysis could not be conducted due to the heterogeneity of the designs of the studies, sample characteristics, nature of interventions and outcome measures. Furthermore, one study used a qualitative methodology. Thus a narrative synthesis was used, following the guidelines of Popay et al. (2006), to organise, summarise and explain the findings.
Results

*Characteristics of included studies*

Table 1 shows the data extracted from each of the 16 studies included in the review. The mean number of participants recruited to the studies was 54 (range= 4 -109, standard deviation= 31.45). The participants included in the studies were all over 60 years old. The upper age limit could not be reported as some studies did not include this. The studies were conducted within a range of different settings including the community (10), residential homes (3), nursing homes (2), and inpatient facilities (2). The majority of studies (11) recruited non clinical populations but of those drawing on clinical populations these included participants with dementia (3), clinical depression (2) and chronic pain (1). The studies were conducted across 13 different countries. The methodologies of the studies included; quasi-experimental designs (7), randomised controlled trials (4) pre-post-test controlled design (1) two intervention group design (1), single subject alternating treatment design (1), single pre-and-post design (1), partial crossover (1) and a qualitative study (1). The range of interventions included; humour therapy/programs/groups (9), laughter therapy (3), laughter yoga (1), laughter Qigong program (1), laughter and exercise program (1) and a stand-up comedy workshop (1).
Table 1. Summary of the studies included in the review

<table>
<thead>
<tr>
<th>Study</th>
<th>Aim(s) of study</th>
<th>Sample</th>
<th>Design</th>
<th>Nature of intervention</th>
<th>Outcome measure(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennant (1990) Virginia</td>
<td>Investigate the effect of a humour intervention on the morale of older adults living in an apartment complex designed for older people</td>
<td>Total n= 31, n= 19 participants in experimental group, mean age= 76.7, n=12 participants in control group, mean age= 88.3, Age range = 65-91</td>
<td>Pre-and post-test controlled design</td>
<td>'Humour program' 30-45 minute sessions running twice a week for 3 weeks.</td>
<td>Philadelphia Geriatric Center (PGC) Morale Scale (Lawton, 1975)</td>
</tr>
<tr>
<td>Houston et al. (1998) UK</td>
<td>To investigate the effect of a humour intervention on the psychological wellbeing of older adults living in residential homes</td>
<td>Total n= 61, n= 31 participants in intervention, n= 30 participants in control, Mean age= 83.7 (SD= 6.79)</td>
<td>Quasi-experimental, pre-and post-test controlled design</td>
<td>'Humour intervention' group 1 hour once a week for 4 weeks. Researchers singing and dancing in a comical fashion with props and participants encouraged to join in</td>
<td>General Health Questionnaire (GHQ-28; Goldberg &amp; Hillier, 1979) Hospital Anxiety and Depression Scale (HADS; Snaith &amp; Zigmond, 1994)</td>
</tr>
<tr>
<td>Petzäll &amp; Olsson (2007) Sweden</td>
<td>To investigate the impact of a humour intervention on the subjective wellbeing of older adults living</td>
<td>Total n= 35, n= 16 participants living in sheltered accommodation,</td>
<td>2 intervention groups No control</td>
<td>'Humour intervention' group 2 hours once a week for 10 weeks Each week based on theme</td>
<td>Psychological General Wellbeing Questionnaire (Levine &amp; Croog, 1984; Rasmussen et al.,</td>
</tr>
</tbody>
</table>
in sheltered accommodation and older adults living in the community

mean age= 78 (range 62-89)
n= 19 participants living in the community, mean age= 71.3(range= 64-84)

agreed by members e.g. hunting stories, occupation stories, stories about children and neighbours.

Participants were expected to contribute each session with ‘3 humour stimuli’ related to the theme.

<table>
<thead>
<tr>
<th>Walter et al. (2007)</th>
<th>To investigate the effect of humour therapy on life satisfaction in older adults with depression and older adults with Alzheimer’s Disease in an inpatient setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>Total n= 40 Met criteria for Alzheimer’s Disease or major depressive disorder (DSM-IV)</td>
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<tr>
<td></td>
<td>N= 10 participants with depression and 10 participants with Alzheimer’s Disease in humour therapy group</td>
</tr>
<tr>
<td></td>
<td>N= 10 participants with depression and 10 participants with Alzheimer’s Disease in standard treatment (medication)</td>
</tr>
<tr>
<td></td>
<td>Mean age= 78 (range 62-89)</td>
</tr>
</tbody>
</table>

| Quasi-experimental, pre-and post-test controlled design |
| Humour therapy group 1 hour every 2 weeks |
| Average treatment duration was 15 weeks |
| To generate an atmosphere of mirth the moderator told funny stories and anecdotes. Participants were encouraged to join in. Happy biographical memories were explored and shared with the group (e.g. childhood hobby, first kiss) to encourage participant sense of humour. |

<p>| GDS (Yesavage et al., 1983) |
| MMSE (Folstein et al., 1975) |
| Nurses’ observation scale for geriatric patients (NOSGER; Spigal et al., 1991) |
| Anamnestic Comparative Self Assessment Scale (ACSA; Bernhaim &amp; Buyse, 1983) |</p>
<table>
<thead>
<tr>
<th>Study</th>
<th>Title</th>
<th>Setting</th>
<th>Participants</th>
<th>Design</th>
<th>Intervention</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathieu (2008)</td>
<td>To investigate the impact of a ‘happiness and humour’ program on life satisfaction among older adults living in the community</td>
<td>California</td>
<td>N= 15 older adults (Age range= 65-89)</td>
<td>Single pre- and post-test design</td>
<td>‘Happiness and Humour group’ Once weekly for 10 weeks</td>
<td>Life satisfaction scale (Lohmann, 1976)</td>
</tr>
<tr>
<td>Each week included educational materials about factors that increase happiness and life satisfaction. Participants were encouraged to make jokes and share humorous life stories and playful props were included.</td>
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<tr>
<td>Examples of activities in the sessions included:</td>
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<tr>
<td>- Information on the importance of exercise, nutrition, recreation and attitude</td>
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<tr>
<td>- Sharing ways they can lift pressure from their lives</td>
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<tr>
<td>- Light exercise and dancing to lively music</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Promoting positive attitudes and healthy lifestyle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Ways to cope with loneliness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Viewing humorous videos</td>
<td></td>
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</table>

| Petterson & Loy (2008) | To investigate the impact of visual humour stimulation, animal interaction and music visual relaxation on | California | 4 participants with Alzheimer’s disease (as indicated by scores of 23 or lower on MMSE) | Single-subject alternating treatment design | Visual humour stimulation 10 minutes, once weekly for 4 weeks | Galvanic Skin Response (GSR, Physiological stress response) |
| Participants watched a 10 minute clip of the video titled ‘The 100 |

Petterson & Loy (2008) California To investigate the impact of visual humour stimulation, animal interaction and music visual relaxation on 4 participants with Alzheimer’s disease (as indicated by scores of 23 or lower on MMSE) Single-subject alternating treatment design Visual humour stimulation 10 minutes, once weekly for 4 weeks Participants watched a 10 minute clip of the video titled ‘The 100 Galvanic Skin Response (GSR, Physiological stress response)
<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Research Question</th>
<th>Methodology</th>
<th>Sample Size</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tse et al. (2010)</td>
<td>Hong Kong</td>
<td>To investigate the impact of humour therapy on chronic pain, happiness and life satisfaction and loneliness among older adults residing in nursing homes</td>
<td>Total n= 70 older adults who had experienced pain for more than 3 months. n= 36 participants in humour therapy, mean age= 78.35 (range 60-89) n= 34 participants in control, mean age= 79.38 (range 65-92)</td>
<td>Quasi-experimental pre-and post-test controlled design</td>
<td>Humour therapy group 1 hour per week for 8 weeks</td>
</tr>
<tr>
<td>Ko &amp; Youn (2011)</td>
<td>Korea</td>
<td>To investigate the effects of laughter therapy on depression, cognitive function decline, sleep quality and quality</td>
<td>Total n=109 n= 48 participants in intervention, mean age= 76.33(+- 6.44) n= 61 participants in control</td>
<td>RCT ‘Laughter therapy- group’ 1 hour a week for 4 weeks</td>
<td>GDS-15 (Yesavage et al., 1983) Mini Mental State Examination (Korean version; Kwon, 1989; Park &amp; Kwon, 1989)</td>
</tr>
</tbody>
</table>
### Shahidi et al. (2011)

**Iran**  

<table>
<thead>
<tr>
<th>To compare the impact of Laughter Yoga therapy and exercise on depression and life satisfaction among older women living in the community</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=60 older women with a GDS score &gt;10, age range 60-80.</td>
</tr>
<tr>
<td>n= 20 participants in Laughter yoga therapy, mean age=65.5 (+-4.8)</td>
</tr>
<tr>
<td>n= 20 participants in exercise therapy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Randomised Controlled Trial (RCT)</th>
</tr>
</thead>
</table>
| Laughter Yoga group  
10 sessions  
Combination of laughter exercises, deep breathing exercises and stretches. Childlike playfulness is encouraged that helps individuals to laugh without reason. |

<table>
<thead>
<tr>
<th>GDS (Yesavage, n.d.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Satisfaction scale (Diener n.d.)</td>
</tr>
</tbody>
</table>
| **Stevens (2011)** | **Australia** | To explore the effects of stand-up comedy workshops on older people with early stage dementia living in the community | Total n = 15 people with mild dementia | Qualitative design | Stand-up comedy workshops 8 two hour weekly sessions  
At the beginning of each session participants played a ball game, where when they caught the ball they were asked to share 'something you love' or 'something that irritates you’  
- Acting out emotions  
- Role plays of scenarios involving costumes  
- Final week there was a 15-20 minute group public performance | Semi- structured interview with people with dementia and their carers | Observation |
| **Hirosaki et al. (2013)** | **Japan** | To investigate the effects of a laughter and exercise intervention on physical and psychological health among older adults living in the community | Total n = 27 older adults  
n = 14 participants in Immediate treatment group, mean age =68.2 (+/- 6.49) | RCT Partial crossover design | Laughter and Exercise program 2 hour weekly sessions for 10 weeks  
Each session included a 10 minute talk on health relevant health topics e.g. nutrition, medication, and preventative health care, 50 minutes watching | Blood samples  
Bodyweight and height | Total body fat, lean mass and bone density  
GDS-30 (Yesavage et al., 1983) |
<p>| Konradt et al. (2013) | Germany | To investigate the effects of a humour intervention on older adults in an inpatient setting with clinical depression | Total n= 99, met criteria for clinical depression (ICD-10) | n= 49 participants in humour intervention, mean age =73.47 (+- 6.15) | n= 50 participants in control condition, mean age=71.42 (+- 5.17) | Both groups still received personalised treatment plans | Quasi-experimental, pre-and post-test controlled design | Humour group 6-18 weeks, twice weekly for 1.5 hours Slow-open group | In each session there was music, dance and singing together, jokes and anecdotes are shared | Sessions also included: | Primary outcomes measures: | GDS-15 (Gauggel and Birkner, 1999) | Nurses Global Assessment of Suicide Risk (Cutliffee &amp; Barker, 2004) | Beck Depression Inventory (BDI-II; Beck at al., 1996) | Short Form Health Survey (SF-12; Bullinger &amp; Kirchberger, 1998) | Secondary outcomes: | State-Trait-Cheerfulness Inventory (Ruch et al., 1996) | Satisfaction with Life | delayed treatment group, mean age=69.8 (+- 5.93) | comedy programs and 60 minutes of light weight exercise mainly in sitting position | Self-rated health: “how would you rate your current health status?” according to scale 1-4 (1=very poor, 2=poor, 3=good, 4=very good) |</p>
<table>
<thead>
<tr>
<th>Study</th>
<th>Objective</th>
<th>Sample Size</th>
<th>Design</th>
<th>Intervention Details</th>
<th>Measures</th>
</tr>
</thead>
</table>
| Ganz and Jacobs (2014) Israel | To investigate the impact of a humour intervention on psychological and physical health in older adults living in the community | Total n= 92  
n= 50 participants in humour intervention  
n= 42 participants in control condition  
Participants over 60, mean age 76.9 (SD=6.8) | Quasi-experimental pre-and post-test controlled design | ‘Humour as a way of life’ (group) program  
2-3 hours per week, 16 sessions over 5 months  
The groups were conducted by a humourist. Weeks 1-4 involved developing a mirthful atmosphere in the group, and the theme was incorporating humour in their everyday lives.  
In weeks 5-12 participants recorded a video of their humorous life stories or personal funny anecdotes” and these were then viewed. | RAND health status Questionnaire-shortened version (Hays et al., 1993)  
General wellbeing scale (Dupuy, 1987)  
Brief Symptom inventory (Derogatis & Spencer, 1982) |
| Jaya Rani and Vineetha (2014) Mangalore | To investigate the effect of laughter therapy on depression in older adults living in residential homes | Total n=60 older adults ≥ 60 years old  
n= 30 participants in intervention group  
n= 30 participants in control group | Quasi-experimental, pre-and post-test controlled design | Laughter therapy  
30 minutes daily for 10 days                                                                                                                      | Modified Geriatric Depression Scale (n.p. n.d.) |
<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Purpose</th>
<th>Total n</th>
<th>Description</th>
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<tbody>
<tr>
<td>Ghodsin et al. (2015)</td>
<td>Iran</td>
<td>To investigate the effects of laughter therapy on health of older adults living in the community</td>
<td>72</td>
<td>RCT</td>
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<td></td>
<td></td>
<td></td>
<td>36</td>
<td>Intervention: 90 minutes twice weekly for 6 weeks.</td>
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<td>Control group: Performing breathing and physical exercises as well as laughter techniques.</td>
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<td></td>
<td>General Health Questionnaire (GHQ-28; Noorbala &amp; Mohammad, 2009)</td>
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<tr>
<td>Hsieh, Chang, Tsai, &amp; Wu (2015)</td>
<td>Taiwan</td>
<td>To investigate the effect of a Laughing Qigong program on depressive tendencies and mood in older adults residing in nursing homes</td>
<td>66</td>
<td>Quasi-experimental, pre-and post-test controlled design</td>
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<td></td>
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<td></td>
<td>33</td>
<td>Intervention: 50-60 minutes twice a week for 4 weeks</td>
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<td>Control group: Combination of qigong techniques, including particular stretches, and simulated laughter with a focus on the mind and body connection. During one stage participants are encouraged to voice negative emotions in order to transform them.</td>
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<td>The Barthel Index of Activities of Daily Living (Mahoney &amp; Barthel, 1965)</td>
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<td>Mini Mental State Examination (Folstein et al., 1975)</td>
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<td>Faces Scale (Lorish &amp; Maisiak, 1986)</td>
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<td>Geriatric Depression Scale (short-form 15; Yesavage et al., 1983)</td>
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<td>Salivary Cortisol</td>
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Quality Assessment

Within the studies using a quantitative methodology scores on the quality checklist ranged from 10/28 (Mathieu, 2008) to 22/28 (Hirosaki et al., 2013; Shahidi et al., 2011) (see Appendix C for quality checklist). The mean quality score was 17.8 (SD=3.35).

Several quality issues affected the included studies. None of the studies reported adverse events that may have been a consequence of the intervention. It may have been that there were no adverse consequences as a result of the intervention, but, on the other hand the studies may not have made an attempt to measure them. Due to the nature of the intervention it was not possible to blind subjects to the intervention they had received but blinding those measuring the intervention was also not attempted or not reported by any study. This may have resulted in the Hawthorne effect (McCarney et al., 2007) i.e. participants may have changed their behaviour in response to being observed rather than due to manipulation of independent variables, or due to demand characteristics e.g. participants may have answered the self-report measures to confirm the hypothesis of the study. Characteristics of participants lost to follow up were often not reported or taken into account and thus it could not be determined why participants dropped out of the intervention. Eight of the studies did not report whether compliance to the intervention was reliable and only one study reported adherence rates (Ganz & Jacobs, 2014).

Two of the studies were not controlled (Petzäll, & Olsson, 2007; Mathieu, 2008) thus making it difficult to attribute findings to the intervention. Four of the studies were randomised controlled trials and scored relatively highly on the quality assessment (Hirosaki et al. 2013; Shahidi et al. 2011; Ghodsbin et al., 2015; Ko & Youn, 2011) but the majority of controlled studies did not involve randomising subjects to intervention groups. Furthermore, in the majority of studies either purposive or convenience sampling was used and thus the sample may not have been representative of the target population making generalisation of results difficult.
Only 4 of the 15 quantitative studies had sufficient power to detect a clinically important effect (Hirosaki et al. 2013; Shahidi et al. 2011; Ghodsbin et al. 2015; Hsieh et al., 2015). Ganz and Jacobs (2014) calculated required sample size but due to drop out the study did not have enough participants to detect a moderate effect size. The remaining studies did not report power or sample size calculations.

Although a direct comparison cannot be made, Stevens (2011) scored relatively highly in respect to aggregated methodological quality, scoring 82%, only losing marks because a quantitative or a mixed methods approach may have better addressed the research question (see Appendix D for quality assessment).

Only 5 of the 16 reviewed studies attempted to operationalise humour (Tse et al., 2010; Ganz & Jacobs, 2014, Konradt et al., 2013; Walter et al., 2007; Hsieh et al., 2015). There was a common assumption underlying all of the definitions presented that humour is primarily a positive emotional state with laughter commonly being understood as the resulting behavioural expression. There was an attempt by Hsieh et al. (2015) to operationalise laughter as a mechanism that can exert physiological effects without humour. Despite these definitions it was unclear for the majority of these studies how conceptualisations of humour had led to the development of the interventions.

**What are the key features of existing humour interventions in the context of physical and psychological wellbeing in late life?**

Humour was the single component in nine interventions but other interventions comprised different components (see Table 1 for details). Humour components included sharing jokes and humorous stories (Konradt et al., 2013; Ganz & Jacobs, 2014; Walter et al., 2007; Petzäll, & Olsson, 2007; Mathieu, 2008) recalling happy memories (Walter et al., 2007; Konradt et al., 2013) playing with funny materials or props (Konradt et al., 2013; Mathieu, 2008; Houston et al., 1998) watching funny
material including humorous videos and live comedy shows (Tennant, 1990; Mathieu, 2008; Petterson & Loy, 2008) humorous dancing and singing (Ko & Youn, 2011; Konradt et al., 2013; Houston et al., 1998; Mathieu, 2008), performing stand-up comedy, role play (Stevens, 2011; Konradt et al., 2013) and laughter exercises (Shahidi et al., 2011; Ko & Youn, 2011; Hirosaki et al., 2013; Hsieh et al., 2015). Some interventions taught participants how to prioritise and incorporate humour (Tse et al., 2010; Ganz & Jacobs, 2014; Konradt et al., 2013) and positive attitudes (Mathieu, 2008; Ko & Youn, 2011; Hsieh et al., 2015) into their daily lives. Other components included breathing exercises (Shahidi et al., 2011; Ghodsbin et al., 2015; Hsieh et al., 2015) different forms of physical exercise (Hirosaki et al., 2013; Ghodsbin et al., 2015; Mathieu, 2008; Shahidi et al., 2011; Hsieh et al., 2015; Ko & Youn, 2011) and the promotion of healthy lifestyle (Hirosaki et al., 2013; Mathieu, 2008).

The studies reviewed included both humour- and laughter-focussed interventions. Generally, humour interventions aim to develop a humorous environment (Walter et al., 2007) whereas laughter interventions aim to create simulated laughter based on the notion that laughter, even without a humorous stimulus, can also produce positive effects (Shahidi et al., 2011; Ghodsbin et al., 2015; Ko & Youn, 2011). Despite being differentiated in this way, the interventions have overlapping features e.g. some laughter interventions have also incorporated humorous stimuli (Ko & Youn, 2011; Hirosaki et al., 2013) and some of the humour interventions have incorporated laughter exercises and techniques (Tse et al., 2010; Konradt et al., 2013). Thus there is not a clear distinction between them.

The extent to which the participants were actively involved in creating humour varied between the studies. Some interventions required participants to take a more passive role e.g. watching humorous videos and live comedy acts (Tennant, 1990; Mathieu, 2008; Petterson & Loy, 2008). In other interventions participants were required to take an active role in generating humour e.g. telling jokes and humorous stories, and be creative in generating humour through role play (Konradt et al., 2013), stand-up
comedy (Stevens, 2011) and creating portfolios of humorous materials (Ganz & Jacobs, 2014; Tse et al., 2010).

The number and length of the sessions varied extensively, from 4 to 18 sessions carried out over 10 days to 5 months, and session length varied between 30 minutes and 3 hours. The amount of information about the content of the intervention varied and one study did not describe the intervention at all (Jaya Rani & Vineetha, 2014). All but one of the interventions (i.e. Petterson & Loy, 2008) were conducted in a group.

**What is the impact of humour interventions on psychological wellbeing in later life?**

**Depression and Anxiety**

Studies that reported the impact of humour and laughter interventions on levels of depression and anxiety varied with regard to sample setting (e.g. community), the extent of their therapeutic effects and also with regard to methodological quality. More studies have investigated the impact of humour and laughter interventions on depression and most of these studies have used a version of the Glasgow Depression Scale (GDS; Yesavage et al., 1983; Gauggel & Birkner, 1999) to measure depression.

Ko and Youn (2011) carried out an RCT to investigate the effects of laughter therapy on depression in older adults living in the community. As measured by the GDS (Yesavage et al., 1983) there was a significant reduction in depression following laughter therapy in the intervention group but not in the control group. These results suggest that even a short duration of laughter therapy (4 sessions) is effective in reducing depression among both older women and men living in the community.

In contrast, in an RCT conducted by Hirosaki et al. (2013) on the effect of depression on a community sample there was no effect of the intervention on depression (as measured by GDS-30; Yesavage et al., 1983). Authors suggested this may be to do with the community sample and therefore the GDS scores were low at baseline.
meaning there was less scope for improvement. However beneficial effects on depression were reported for older people living in the community by Ko and Youn (2011). Although it received a high quality rating, Hirosaki et al. (2013) study had a smaller sample than Ko and Youn (2011) and therefore may not have been large enough to detect a significant effect. However, it is difficult to make comparisons due to the heterogeneity of the interventions not least because Hirosaki et al. (2013) intervention had a significant exercise component (See Table 1).

In Hsieh et al. (2015) study of older adults residing in nursing homes, mood significantly improved and depression scores significantly decreased following a Laughing Qigong Program (LQP), as measured by the Faces Scale (Lorish & Maisiak, 1986) and GDS-15 (Yesavage et al., 1983) respectively in the intervention group. In comparison, in the control group mood scores significantly decreased and depression scores increased. These results suggest that LQP is an effective intervention in reducing depression and improving mood for older adults residing in nursing homes and that without intervention depression may increase.

Supporting this, Jaya Rani and Vineetha (2014) investigated the effect of laughter therapy sessions among older adults living in residential homes. Following the intervention there was a significant reduction in depression as measured by the modified GDS (n.p. n.d.) in the laughter therapy group at both post-test and 5 days later. There were no significant changes in the control group. Although not a clinical sample, the authors reported that 43.3% of the sample were experiencing a moderate level of depression prior to the intervention. These results indicate that laughter therapy is effective in reducing depression among older people, some of whom were experiencing a moderate level of depression, and that its benefits are maintained for a short period of time afterwards. However, this study received the lowest quality rating. The paper provides very little information about the participants who took part and provides no detail of what the ‘laughter therapy’ entailed.
In an RCT, Shahidi et al. (2011) compared the impact of a laughter yoga group and exercise therapy among older women with depression living in the community. Following the intervention, results showed a significant reduction in GDS (Yesavage et al., 1983) scores for both the laughter therapy and exercise groups and not in the control group. There was not a significant difference between the intervention groups, suggesting that both therapy groups were effective in reducing depression in older women with depression. This study scored one of the highest ratings for quality. The participants were randomly allocated to the treatment groups reducing the impact of confounding variables. However the participants were all women and thus the findings cannot be generalised to men. Depression was defined as a score >10 on the GDS but participants were not necessarily diagnosed with clinical depression.

Two studies have investigated the impact of humour and laughter therapy among older people diagnosed with clinical depression within inpatient settings using the GDS (Gauggel & Birkner, 1999; Yesavage et al., 1983) as a measure of depression. Walter et al. (2007) results suggest that the humour therapy was effective in reducing depression but the humour intervention did not provide additional benefit in terms of reducing depression compared to standard treatment within the inpatient setting. Supporting these findings, using a larger sample, Konradt et al. (2013) also found that a humour intervention was as effective as standard treatment in reducing depression within an inpatient setting. A key limitation of both these studies was that participants were assigned to the humour intervention when they arrived in the inpatient setting and continued until discharge thus leading to large variability in the number of sessions participants attended and it was not reported whether this confounding variable was taken into account in the analysis. Furthermore in Walter et al. (2007) the use of pharmacologic medication in the standard therapy was not controlled for.

Other studies have reported positive effects on mood following humour and laughter interventions using general measures of psychological wellbeing and mood. Scoring relatively highly for quality, Ghodsbin et al. (2015) RCT used the General Health
Questionnaire (GHQ-28; Goldberg & Hiller, 1979) as a measure of psychological health. Among older adults living in the community, participants in the laughter therapy group showed a significant reduction in anxiety. The findings of Houston et al. (1998) study support these results suggesting that following the intervention anxiety scores were statistically lower in the intervention condition than in the control condition as measured also by GHQ-28 (Goldberg & Hiller, 1979) among older adults living in residential settings. This study also suggests a significant reduction in anxiety and depression as measured by the HADS (Snaith & Zigmond; 1994) in the humour group and not in the control group.

Using different outcome measures, Ganz and Jacobs (2014) concur with these findings. Post-humour intervention there was a significant decrease in anxiety and depression as measured by the General Wellbeing Scale (GWB; Dupuy, 1987) and a significant reduction in anxiety measured by the Brief Symptom Inventory (BSI; Derogatis & Spencer, 1982) and these benefits were maintained at a 1 month follow up.

The majority of the evidence reviewed suggests that humour and laughter interventions (singly and as one component of multi-component interventions) are effective in reducing depression among older adults with and without clinical depression and in different living circumstances. However, it may be that humour and laughter interventions provide no additional benefit over standard treatment within inpatient settings (Konradt et al. 2013 & Walter at al. 2007) or alternative therapies i.e. exercise (Shahidi et al. 2011). The one study that did not report an effect (Hirosaki et al. 2013) may have been subject to the effects of low levels of depression reported pre-intervention, thus there may have been less opportunity for a significant reduction. Although more studies have investigated the effect of humour and laughter interventions on depression, three studies also suggest that such interventions also have a positive impact on anxiety among the older adults in both community and residential settings.
**Quality of life and life satisfaction**

Two studies that reported outcomes of humour and laughter interventions on quality of life varied with regard to the extent of their therapeutic effects and also with regard to the way quality of life was conceptualised and measured.

Walter et al. (2007) used the Anamnestic Comparative Self-Assessment Scale (Bernhaim & Buyse, 1983) to measure quality of life. In both the humour intervention group and standard treatment group participants with depression showed improvements in quality of life scores. The participants receiving humour therapy showed the highest quality of life after the intervention but this was not significantly different to standard treatment. Participants with Alzheimer’s disease showed no significant improvement in quality of life scores in neither condition. It may be that the humour intervention was not suitable for people with dementia as it partly relied on memory, or the outcome measure may not have been appropriate for people with dementia. Furthermore it may be that the study was not large enough to detect a treatment effect (n=40).

Using a larger community sample (n=109) Ko and Youn (2011) used the SF-36 (McHorney et al., 1993) to measure quality of life in their RCT of a laughter intervention. Whilst there were no changes in any of SF-36 scores in the control group, in the laughter intervention group mental health, vitality and general health scores increased significantly suggesting that the laughter intervention was effective in improving some aspects of quality of life. Although the study design and sample size lends itself to a greater quality rating than Walter et al. (2007) study, due to different populations and due to different ways of conceptualising and measuring quality of life it is difficult to draw firm conclusions about the effect of humour and laughter interventions on quality of life based on these two studies.

Life satisfaction has also been measured using different outcome measures. Mathieu (2008) investigated the effect of a happiness and humour group on life satisfaction
among older adults living in the community. Results showed a significant increase in scores on the Life Satisfaction Scale (Lohman, 1976) following the intervention. This study was the weakest in terms of quality ratings mainly because it was not controlled, had a small sample and participant characteristics were not described. However, participants clearly benefitted from and enjoyed the intervention as it was reported that more people joined the group because they ‘wanted to be happy’.

Subsequent studies have supported these findings in different living contexts. In a controlled study Tse et al. (2010) found significant improvements in life satisfaction compared to controls among nursing home residents experiencing chronic pain as measured by the Revised Life Satisfaction Index-A scale. Using the Satisfaction with Life Scale (Deiner et al., 1985), Konradt et al. (2013) and Shahidi et al. (2011) RCT’s showed evidence that life satisfaction increased following humour and laughter interventions and this beneficial effect was not seen following standard treatment and exercise interventions.

In spite of the use of different samples and outcome measures these studies provide support for the effectiveness of humour and laughter interventions increasing life satisfaction among older people. Furthermore this increase in life satisfaction was not found following other interventions i.e. exercise (Shahidi et al., 2011) and standard inpatient treatment (Konradt et al., 2013).

*General psychological health*

Studies have investigated the impact of humour and laughter interventions on aspects of psychological health but these have been measured in varied ways.

Tennant (1990) investigated the impact of a humour intervention on the morale of older adults residing in semi-supported living using the PGC Morale Scale (Lawton, 1975). Post-intervention results showed no significant effect on morale but showed a significant decrease in agitation scores in the intervention group and a significant increase in agitation scores in the control group. The use of the PGC Morale Scale as a
valid and accurate measure was questionable as one out of three of the scales was deemed to have poor construct validity, stability and internal consistency. Furthermore participants rated the live comedy act as their most favourable, followed by the live puppet show and these sessions only comprised 2 of the 6 sessions and thus the lack of significant findings on other measures may be due to the lack of humour experienced in the majority of the sessions.

In a qualitative study whereby participants with Alzheimer’s disease were taught how to perform stand-up comedy (Stevens, 2011) there was a perceived positive impact on confidence, sociability and communication skills of the participants with dementia. In Mathieu’s (2008) study researchers similarly observed that participants grew in confidence and were engaging in more positive thinking. In both of these studies, these effects were not able to be rigorously measured but other studies have measured the impact of humour interventions on psychological health. Investigating the impact of a humour intervention on older adults with chronic pain Tse et al. (2010) results suggest a significant improvement in subjective happiness and a significant decrease in loneliness as measured by the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) and the UCLA loneliness Scale (Russell, 1996) respectively.

Petterson and Loy (2008) studied the impact of three psychosocial therapies, including humour, on stress as indicated by the galvanic skin response (GSR). Results indicated that the humorous video was only effective in decreasing GSR trend in one of the four participants and that animal interaction was the most calming condition, showing reductions in GSR across 3 of the 4 participants. Due to the small sample, generalisation of the results is difficult. This was the only study where the humour intervention was not conducted in a group setting, and as humour is considered a social phenomenon (Provine, 2004) this may explain why the humour intervention did not exert positive effects. It should also be noted that the animal condition was the only condition that involved interaction with the ‘Therapeutic Recreation Specialist’ and thus positive effects of social interaction could had a positive impact. Nevertheless these
results are somewhat supported by Hsieh et al. (2015) higher quality study that found no significant changes in levels of stress as measured by cortisol levels in a Laughter intervention group. However the control group showed a significant increase in cortisol levels suggesting that without the intervention stress levels may increase.

The positive impact of humour interventions on general psychological health across living contexts has not been consistently supported. One study attempted to compare the impact of a humour intervention between older adults living in the community and older adults living in sheltered accommodation (Petzäll & Olsson, 2007). This study suggests that whilst older adults living in sheltered accommodation showed significant improvements in depressed mood, positive wellbeing and vitality subscales following the intervention (as measured by the Psychological General Wellbeing Questionnaire; Rasmussen et al., 2002) no significant differences were found within the participants living in the community. The authors suggested that a humour intervention provides limited benefit for those who are more physically and socially active. This study scores relatively low on quality and thus drawing conclusions from this study should be done so cautiously.

Collectively these studies suggest that humour interventions can have a positive impact on various aspects of general psychological health. The evidence suggests that such interventions may have a beneficial effect on factors such as agitation, confidence, subjective happiness, and loneliness but may not have a beneficial effect on stress. However, the evidence is limited and the studies vary extensively with regards to the aspects of psychological health measured, sample characteristics and living contexts.

Sleep

In their RCT Ko and Youn (2011) investigated the effect of a humour intervention on sleep quality in older adults living in the community. The results suggest a positive impact of the laughter therapy group on sleep quality (Pittsburg sleep quality index; Buysse et al., 1989) and on insomnia (Insomnia severity index) while these outcomes
worsened or showed no significant change in the control group. Similarly, Ghodsbin’s et al. (2015) RCT within a community sample found a significant reduction in insomnia as measured by the GHQ-28 (Goldberg & Hiller, 1979) in the intervention group.

Cognition

There have been mixed findings with respect to the impact of humour and laughter interventions on cognitive functioning. Using the Mini Mental State Examination (MMSE) to measure cognitive function Ko and Youn’s (2011) RCT found no significant changes in cognitive function post-laughter intervention among older adults living in the community. However, in contrast, Hsieh et al. (2015) found a significant improvement in cognitive function measured using the MMSE following a laughter intervention within a nursing home sample. The study conducted by Hsieh et al. (2015) did not use random sampling and employed a matched group design based on level of activities of daily living (ADL) which may have led to internal validity issues due to selection bias when matching clients based on ADL’s. Despite this, these studies scored relatively highly on quality ratings and therefore the difference in findings may be attributable to the difference in intervention and sample characteristics. Participants in the Hsieh et al. (2015) study had lower levels of cognitive functioning at pre-test and therefore there may have been more chance for significant improvements. In addition, this study had double the number of intervention sessions and thus more sessions may be needed to exert an effect. Steven’s (2011) qualitative study lends support to these findings. In this study the humour intervention led to perceived improvements on memory among people with mild Alzheimer’s disease.
What is the impact of humour interventions on physical wellbeing in older adults?

Objective physical health

Only one study has, to date, investigated the impact of a humour intervention on objective health. In an RCT employing a partial cross over design Hirosaki et al. (2013) investigated the impact of a laughter and exercise intervention on measurements of bone mineral density, which is often associated with hip fractures, and glycated haemoglobin, with elevated levels indicative of diabetes. The results suggest that immediately post-intervention the humour and exercise intervention had positive effects on both of these measures compared to the delayed treatment group. However, this benefit was not maintained longer term and both returned to baseline following the 3 months of no treatment. This study scored the highest on quality ratings and thus provides strong support for the effect of humour on objective physical health. However because this intervention also involved an exercise component it is difficult to draw conclusions of the mechanisms that led to the positive effects in this intervention. The authors suggest that the exercise component played a significant part in improving physical health and they suggested that the enjoyment from the humour component increased adherence rates (100%) to the exercise as adherence to exercise programs are often poor in this population. This study was the only study to report adherence rates and most studies have investigated the short-term effects of a humour intervention however this study benefits from investigating the longer term effects and the design also meant that the participants served as their own controls.

Self-reported health

Hirosaki et al. (2013) also measured self-rated health by asking participants to rate their current health status. Self-rated health increased significantly in the treatment condition and remained stable during the 3 months without treatment. The authors
attributed the positive impact on self-rated health to the humour component and this was maintained longer than objective health benefits.

Other studies have used questionnaires to measure self-reported health. In Ghodsbin’s et al. (2015) study participants in the laughter therapy group showed a significant increase in general health status and a significant reduction in somatic symptoms as measured by the GHQ-28 (Noorbala & Mohammad, 2009). In Konradt et al. (2013) study participants that received the humour intervention reported significantly less physical symptoms as measured by the SF-12 (Bullinger & Kirchberger, 1998) following the intervention compared to the participants receiving the standard inpatient treatment. It is not clear from the results whether this reduction in symptoms was experienced across all health dimensions. Supporting these results, using a longer version of the same outcome measure (SF-36; McHorney et al., 1993), Ko and Youn (2011) found that following a laughter intervention participants reported a significant reduction in body pain scores compared to the control group who reported a significant increase. Although the samples were different (inpatient and community), both studies had large sample sizes and used the same outcomes measure and thus provide some evidence for the effectiveness of humour and laughter interventions in improving self-reported health.

In opposition to the above studies Ganz and Jacobs (2014) found no significant improvements in self-reported physical health of older adults living in the community following a humour intervention. Self-reported health was measured using the RAND Health Status Questionnaire (Hays et al., 1993) which includes the same items as those in the SF-36 but there are scoring differences. A limitation of Ganz and Jacobs’ (2014) study is that it lacked information about confounding factors such as actual physical health status, medical comorbidity, or medications being taken. This study investigated a longer term intervention (5 months). It is difficult however to directly compare the studies due to diversity of populations and interventions, it may be that different components of interventions exert different effects.
Chronic pain

Tse et al. (2010) investigated the impact of humour therapy on chronic pain among older adults in nursing homes, using the Cantonese Verbal Pain Rating Scale (Chung et al., 2003) to measure perception of pain. Results suggest a significant reduction in perceived pain post-intervention in the humour intervention group but not in the control group. A criticism of this study is that the intervention and control group were from different nursing homes and although pain scores were similar between the groups at baseline, the groups were not similar with regards to past health history which may have been a confounding variable. However these findings have been supported by Ko and Youn's (2011) RCT which suggested reduced pain in a community sample following a laughter intervention.

In summary the majority of these studies suggest that humour interventions have a beneficial effect on objective and self-reported physical health and there is also evidence to suggest that humour and laughter interventions may be effective in reducing and helping older adults manage pain. Considering the diverse nature of the interventions it is difficult to make firm conclusions from these studies.

Discussion

Maintaining and improving wellbeing is an important factor in successful ageing (Aldwin & Yancura, 2010). Literature has long documented the beneficial effects of humour on physical and psychological health (e.g. Pressman, & Cohen, 2005; Bennett & Lengacher, 2008; Stuber et al., 2009; Overholser, 1992) but little is known about the overall effectiveness of humour interventions in improving wellbeing in later life. This review is the first, to our knowledge, to attempt to collate and synthesise the existing literature on humour interventions and their impact on the physical and psychological wellbeing of older people.
The majority of the evidence, strengthened by some of the higher quality studies (e.g. Walter et al., 2007; Shahidi et al., 2011; Ko & Youn, 2011; Hseih et al., 2015), suggests that humour-and laughter-focused interventions are effective in reducing depression among older adults with or without clinical depression. Although limited, there is also evidence to suggest that humour and laughter interventions may have beneficial effects on other aspects of psychological wellbeing including reducing anxiety, improving life satisfaction, increasing confidence, improving sleep and improving cognitive function. Fewer studies have investigated the impact of humour and laughter interventions on physical health however such studies are of relatively high quality. The findings suggest that humour and laughter interventions have a beneficial effect on objective health but also self-reported physical health which is considered an important longitudinal predictor of future health outcomes (DeSalvo et al., 2006).

These results suggest that humour and laughter interventions may be effective in reducing pathological pain or distress. Whilst the evidence base among community samples in less clear, generally the studies suggest that humour and laughter interventions benefit older people who are not experiencing chronic health conditions or mental health problems. Therefore these interventions may also be effective in maintaining and improving positive wellbeing among older adults. Hence humour and laughter interventions may be an effective way of promoting resilience which is important for older people who are more likely to experience adverse life experiences such as chronic illness, isolation and bereavement.

Since humour is a complex phenomenon involving cognitive, emotional and social aspects (Martin, 2007), there may be a variety of mechanisms by which humour exerts these beneficial effects. One of the major barriers to drawing firm conclusions from this review is the lack of standardisation and a clear model concerning how humour contributes to wellbeing in late life and therefore what constitutes an effective humour or laughter intervention. It has been suggested that laughter and humour interventions are distinct and may exert different effects (Hsieh et al., 2015; Ganz & Jacobs, 2014).
However, due to the heterogeneity of the features of the interventions reviewed and the lack of a clear distinction between humour and laughter interventions it was not possible to determine how or what components exert beneficial effects. Furthermore it is difficult to compare the content of the interventions as often the interventions are not described fully and thus replication is problematic.

A lack of a clear distinction between humour and laughter interventions and how they have been designed and implemented may reflect the limited attempts to operationalise humour and laughter. Five studies offered varied definitions of humour and laughter (Tse et al. 2010; Ganz & Jacobs, 2014, Konradt et al. 2013; Walter et al. 2007 & Hsieh et al. 2015) however for the majority of these studies it was unclear how these conceptualisations had led to the development of the intervention. Despite this, both humour and laughter interventions appear to exert a comparable positive impact on psychological and physiological wellbeing among older adults, possibly indicating that they have common components and mechanisms. One likely mechanism relates to the impact of humour on levels of positive affect and the consequent effects of this on aspects of psychological and physical wellbeing in late life. The broaden-and-build theory of positive emotions (Fredrickson, 2004) highlights how positive emotions broaden ones mind-set and encourage a wider repertoire of thoughts and actions which leads to the development of skills and resources that maintain wellbeing. These skills and resources can then be drawn upon later. Humour has also been conceptualised as trait like personal strength and/or a positive coping strategy that people use instrumentally (Martin, 2007). These theories may have particular relevance to explaining how humour and laughter can improve wellbeing and resilience in later life.

Very few studies considered confounding factors and this again may be partly attributable to the lack of clear understanding of humour interventions and thus what would confound them. Some studies incorporated exercise components into the interventions and, as literature suggests that exercise interventions are beneficial for
older adults (Netz et al., 2005), further research is needed to differentiate the effects of exercise from humour. Hirosaki et al. (2013) suggest that a humour component may add to the enjoyment of exercise interventions thus improving adherence.

*Strengths and limitations of the review*

A systematic and transparent approach was taken to this review, lending itself to accurate replication. A proportion of the studies were randomly selected and rated for methodological quality by an independent rater to check the reliability of the modified Downs and Black (1998) checklist.

It may be that articles were missed during the search process. Only one researcher conducted the search process and assessed articles suitability for inclusion and it was difficult to determine whether the search strategy applied was exhaustive. The decision was made to not include grey literature within the review to maximise the quality of reviewed articles however this may mean that the review's results are subject to publication bias (Rothstein, Sutton & Borenstein, 2006).

It is difficult to make generalisations from this review as the studies used different samples and clinical populations, different outcome measures, and the content of the interventions varied extensively. The methodological quality of included studies varied markedly and studies had several common methodological limitations (e.g. lack of power and inadequate blinding of raters). There was also key variation in how well studies controlled for confounding variables. Furthermore the majority of studies involved purposive or convenience sampling methods, thus not lending themselves well to generalisation. These factors must be taken into account when interpreting the overall findings of this review and they point toward important methodological issues that any future studies in this field should address.
Future directions and clinical implications

One of the major barriers to drawing firm conclusions from this review is the lack of standardisation and a clear model concerning how humour contributes to wellbeing in late life. The mechanisms by which humour and laughter interventions exert their effects needs to be further explored. Within included studies there was variability in how much participants were expected to actively participate in the creation of humour, from taking a more passive role e.g. watching humorous videos (Tennant, 1998; Mathieu, 2008; Petterson & Loy, 2008), to taking an active role by performing stand-up comedy (Stevens, 2011). The potential impact of varying degrees of participation on the effectiveness of humour interventions could be explored for different clinical populations.

Humour is generally considered a social phenomenon (Provine, 2004) and all but one of the studies carried out the humour intervention within a group. However, the group setting is a confounding variable as the supportive nature of a group may contribute to positive effects in itself. Therefore, humour and laughter interventions may exert their effects through the effects of social interaction and support. Future research should therefore compare humour interventions to social group meetings to explore whether humour has further beneficial effects over and above that of social interaction.

There is research to suggest that the function and perception of humour changes with age and thus older adults may define humour differently (Herth, 1993). Only one study (Houston et al., 1998) reported conducting pilot work to determine the most humorous intervention and only one study reported asking for feedback on the intervention (Tennant, 1990). Further research is needed to investigate the most appropriate and effective humour stimuli in generating or eliciting humour in the older population, whilst acknowledging cultural aspects of humour.
Studies varied extensively with respect to number, frequency and duration of intervention sessions. Further research could investigate these possible moderating factors on the effects of humour and laughter interventions. Furthermore the longitudinal impact of humour and laughter interventions on physical and psychological wellbeing among older adults could be explored.

Some studies reported attendance rates however the majority of the studies did not measure or report whether there was a correlation between the number of meetings attended and impact on outcomes. Only one study reported adherence rates (Ganz & Jacobs 2014) and this may be because the lack of standardisation of the intervention makes adherence difficult to determine. Methodological quality in the area would be improved if attendance and adherence rates were measured and reported and if participants were randomised to intervention groups to limit the effects of confounding variables.

**Conclusion**

Sustained psychological and physical wellbeing are clearly desirable outcomes for older people. Whilst this review highlights how humour and laughter interventions are potentially effective in not only reducing psychological problems and physical illness but in promoting and maintaining psychological and physical wellbeing amongst older adults, extant studies have varied extensively in terms of samples, outcome measures and content and format of interventions, therefore making it difficult to draw firm conclusions. Due to the adverse effects of pharmacological treatments among this population and potentially poor adherence to physical interventions such as exercise (Shahidi et al., 2011), humour- and laughter-focused interventions may be beneficial alternative interventions. Further research is needed to investigate the mechanisms by which humour and laughter interventions exert their effects in later life.
References


Chi, I., & Boey, K. W. (1992). *Validation of measuring instruments of mental health status of the elderly in Hong Kong.* Hong Kong: The University of Hong Kong.


PART TWO

Humour and Dementia: A qualitative study of the shared experience of humour between people living with dementia and their partners

Helen Irwin†, Dr Emma Wolverson1 & Dr Chris Clarke1

1Department of Psychological Health and Wellbeing, University of Hull, Hertford Building, Cottingham Road, Hull, United Kingdom, HU6 7RX

* Corresponding Author. E-mail address: h.e.irwin@2012.hull.ac.uk
Telephone number: +44 (0) 1482 464106 Fax: +44 (0) 1482 464093

This paper is written in the format ready for submission to the Journal of Dementia.
Please see Appendix P for Author Guidelines

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Abstract

Essential to the understanding of living well with dementia is the growing recognition that dementia is not experienced by an individual in isolation. Humour may be one strength that couples draw upon to live positively with dementia. The purpose of this study was to explore how people with dementia and their partners use, experience and draw meaning from humour in their ongoing relationships. Ten participant dyads i.e. the person with dementia and their partner, took part in a semi-structured interviews together. Data was analysed using Interpretative Phenomenological Analysis. Analysis revealed eight subthemes that were subsumed under three superordinate themes: ‘humour has always been there and always will be’; ‘dementia is a threat to humour’ and ‘humour is important in living with dementia’. The findings suggest that humour plays a significant role in maintaining couplehood and therefore living well with dementia.

Key words: dementia; humour; couplehood; Interpretative Phenomenological Analysis

Introduction

The drive towards living well with dementia has become increasingly more important in national policy and clinical practice within health and social care (e.g. National Dementia Strategy for England; Department of Health, DOH, 2009). The prevalence of dementia across nations is increasing in line with ageing populations and the condition can pose serious challenges to the quality of life of those living with and affected by it. Thus, in the absence of fully effective medical treatments, empowering people to find ways to ‘live well’ with dementia has fast become a central clinical and public policy objective (DOH, 2009; DOH, 2015).

Essential to a greater understanding of living well with dementia is the growing recognition that dementia is not experienced by an individual in isolation and that the relationships between a person with dementia and the people around them are key in maintaining personhood, sense of self and wellbeing (Kitwood, 1997; Sabat & Harré,
Accordingly, there has been a significant amount of research focused on the nature of the relationships of people living with dementia and the impact of dementia on these relationships. Within this there has been a growing interest in the experience of couplehood (Hellström, Nolan, & Lundh, 2007), that is the extent to which there is still a sense of couple identity and how this is sustained (Kaplan, 2001). However, there remains very little research exploring what psychosocial factors might sustain couplehood and positive close relationships in living with dementia.

Positive psychology, the empirical study of human strengths, wellbeing and optimal functioning offers a valuable conceptual framework for exploring and understanding these factors and the potential mechanisms behind living well with dementia. Seligman's (2011) model of wellbeing, for example, suggests that relationships are essential to wellbeing and quality of life. As social beings we have a desire to be in relationships with others and by building positive relationships with others we can enhance our wellbeing. Humour is an inherently social experience (Platow et al., 2005; Provine, 2004) and has been linked with positive close relationships and wellbeing (Lauer, Lauer & Kerr, 1990). Additionally, a recent literature review of positive experience in dementia suggested that humour may be a noteworthy positive lived experience in dementia (Wolverson, Clarke & Moniz-Cook, in press). In positive psychology humour is considered a character strength, regarded as part of the virtue of ‘transcendence’, the ability to ‘forge connections to the larger universe and provide meaning’ (Peterson & Seligman, 2004, pg.412).

The link between humour and the beneficial effects of humour on both psychological and physical health has long been acknowledged (Pressman, & Cohen, 2005; Bennett & Lengacher, 2008; Wooten, 1996; Overhosler, 1992). There is a growing body of research into the role of humour in chronic and terminal illness. In research exploring coping with cancer, for example, it has been suggested that humour is used by patients and carers to overcome low points, to help them relax, and to deal with difficult situations (Johnson, 2002). In palliative care, research has suggested that humour
increases a person’s sense of control and sense of self (Adamale & Ludwick, 2005) and strengthens care-giving relationships (Dean & Gregory, 2005). Psychotherapeutic interventions aimed at eliciting and enhancing humour in the context of chronic illness in late life have been subject to empirical study in recent years. Collectively, such research indicates that in later life ‘humour therapy’ is capable of improving quality of life and wellbeing and reducing anxiety and depression (Irwin, Clarke & Wolverson, 2015).

Although humour has been considered in a variety of illnesses, there is currently very little literature on the experience of humour in living with dementia. This lack of research may be attributable to three main sentiments. Firstly, the view that it is inappropriate or unethical to connect humour and dementia (Hunt, 1993) and that doing so may trivialise the experience of dementia for those living with it. Secondly, a disagreement as to whether people living with dementia have the capacity and ability to participate in humour, with some proposing that people with dementia lack capacity (Svebak, Martin & Jostein, 2004) and others suggesting that although using humour for social communication may be impaired in the early stages of dementia, laughter as a consequence of pleasant feelings and the release of tension is maintained even in advanced dementia (Takeda et al. 2010). Thirdly, humour has typically been regarded as a coping strategy and until recently it was assumed that people with dementia cannot actively engage in coping strategies because of impaired self-awareness (Dröes, 2007). However research into the subjective lived experiences of people with dementia has highlighted that people living with dementia do engage in active coping strategies and these may include the use and experience of humour. Liptak, Tate, Flatt, Oakley and Lingler (2013) conducted a qualitative study of the humour of people with mild cognitive impairment and Alzheimer’s disease coding instances of humour. They suggested that humour and laughter were present in all focus groups and described the themes of humour as silliness, sarcasm, and commenting about the difficulties of
dementia. The results suggest that people with cognitive impairment can engage in humour and may use it as a coping mechanism.

For the aforementioned reasons lived experience studies to date have not directly examined the use and experience of humour in the person with dementia. Those that have reported on its use and importance have come across it serendipitously (e.g. Smith & Smith, 2012; Snyder, 2001; Langdon, Eagle & Warner, 2007; Van Dijkhuizen, Clare & Pearce, 2006). Snyder (2001) reviewed the lived experience of Alzheimer’s dementia literature and documented one of the commonly occurring themes as how essential it was for the person with dementia and their caregivers to encourage humour in their daily life. The reviewed research suggested that humour is used socially as a way of bringing people together in a shared experience and also to laugh at dementia-related symptoms. Buckwalter et al. (1995) studied case examples of caregiver and person with dementia interactions and reported incidents of humour, revealing their sense of humour at varying stages of the disease. Smith and Smith (2012) wrote about their experience of living with Alzheimer’s disease. They reported that although laughter had always been an important part of their marriage it became more crucial when Dolores developed Alzheimer’s disease. They stated that humour ‘promotes a sense of light heartedness that improves the state of mind’ (pg. 7). To date, no further research has empirically investigated the shared experience and potential function of humour in relation to couple-hood and dementia.

This use of humour has been interpreted as; a personal resource which people draw upon and use as a way to cope with dementia (Kitwood, 1997), a linguistic means used to lighten the subject and to counter the socially-prescribed image of older people being weak and depressed (Mastumoto, 2009) and a way of maintaining identity (Burgener & Dickerson-Putman, 1999) or adjusting the self to adapt to the changes accounted in dementia (Gillies, 2000; Keady & Nolan, 1995).
Interestingly, to date research on humour in dementia has focused mainly on the experience of caregivers. It has been suggested that humour is a useful coping strategy designed to 'escape', 'lift spirits' and 'relieve stress' (Tan & Schneider, 2009, pg. 401), that has a positive impact on carer wellbeing (Buffman & Brod, 1998) and can be an effective strategy to relieve stress and reduce burden (Jathanna, Latha & Bhandary, 2011; Tan & Schneider, 2009).

Thus the dominant trend in research on lived experiences isolates the person with dementia and their caregivers and is therefore not consistent with a relational and social constructionist approach to dementia. Furthermore, many theorists agree that humour is a social phenomenon (Platow et al., 2002; Provine, 2004), suggesting that laughter 'is social in its origin, in its processual occurrence, in its functions and in its effects' (Hertzler, 1970, pg. 28). This highlights the potential value of exploring the experience of humour within the relationship between the person with dementia and their partner.

The aim of this study was to explore the shared experience of humour in the lives of people living with dementia and their partners. As little is known about the experience of humour in living with dementia, an exploratory approach was taken, utilising qualitative methodology to explore and understand couples’ subjective experiences. The primary research question asked ‘how do participants describe their experience of humour in their relationship before and after diagnosis of dementia?’ The second asked ‘what is the role of humour in the relationship between the person with dementia and their partner, in the context of living with dementia?’
Method

Design
An exploratory, qualitative study was conducted whereby data was collected through semi-structured interviews and Interpretative Phenomenological Analysis (IPA; Smith, Flowers & Larkin., 2009) was used to analyse the data in relation to the research questions posed.

Participants
The participants were recruited on a volunteer basis from both the NHS and voluntary sector. The sample consisted of 10 participant dyads; 11 women and 9 men with dementia and their partners whom they were living with. Participants age range was 66-90 years (average age 75.9, SD = 6.74) and all spoke fluent English.

Sampling was purposive in that participants were invited to take part if they were willing and able to talk about humour. Participants were not invited to take part in the study if they were below the age of 65 years, as research suggests that the function and perception of humour changes with age and thus older adults may define humour differently than younger adults (Herth, 1993). Participants were not invited to take part if they had received a dementia of diagnosis less than 12 weeks previously, as this study was interested in the experience of humour in couples living with dementia rather than couples adjusting to the diagnosis. Models of adjusting to dementia suggest that the adjustment phase continues for around 12 weeks following diagnosis (Derksen, Vernooij-Dassen, Gillissen, Olde Rikkert, & Scheltens, 2006; Vernooij-Dassen, Derksen, Scheltens, & Moniz-Cook, 2006). In addition, participants were not invited to take part if both members of the couple had a formal diagnosis of dementia. The existing literature has separated the experiences of people with dementia from their spousal caregivers hence this study aims to explore their shared experiences in line with a relational and social constructionist approach to dementia.
Table 1 outlines participants’ demographic details (pseudonyms are used to preserve anonymity). The average length of time the couples had been in a relationship with each other was 44.5 years (SD = 9.42). In each dyad, one member had a clinical diagnosis of dementia, the types including Alzheimer’s Disease, Vascular Dementia, Lewy Body Dementia and Mixed Dementia. The approximate average length of time since the diagnosis of the dementia was 43.6 months (SD = 42.6). 8 participants reported receiving treatment for at least one other co-existing chronic health condition.
<table>
<thead>
<tr>
<th>Dyad Number</th>
<th>Participant</th>
<th>Age</th>
<th>Gender</th>
<th>Type of Dementia</th>
<th>Approximate Time Since Diagnosis</th>
<th>Approximate Length of Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jim- Husband</td>
<td>79</td>
<td>Male</td>
<td>Vascular Dementia</td>
<td>8 months</td>
<td>57 years</td>
</tr>
<tr>
<td></td>
<td>Marjorie- Wife</td>
<td>78</td>
<td>Female</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Angela- Wife</td>
<td>71</td>
<td>Female</td>
<td>Alzheimer’s Disease</td>
<td>4 years, 3 months</td>
<td>36 years</td>
</tr>
<tr>
<td></td>
<td>Dave- Husband</td>
<td>68</td>
<td>Male</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Val- Wife</td>
<td>72</td>
<td>Female</td>
<td>Vascular Dementia</td>
<td>4 years</td>
<td>53 years</td>
</tr>
<tr>
<td></td>
<td>Roy- Husband</td>
<td>74</td>
<td>Male</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Agnes- Wife</td>
<td>90</td>
<td>Female</td>
<td>Mixed Dementia</td>
<td>5 years</td>
<td>27 years</td>
</tr>
<tr>
<td></td>
<td>Howard- Husband</td>
<td>88</td>
<td>Male</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Iris- Partner</td>
<td>82</td>
<td>Female</td>
<td>Alzheimer’s Disease</td>
<td>5 years</td>
<td>42 years</td>
</tr>
<tr>
<td></td>
<td>Betty- Partner</td>
<td>73</td>
<td>Female</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Raymond- Husband</td>
<td>72</td>
<td>Male</td>
<td>Alzheimer’s Disease</td>
<td>7 months</td>
<td>42 years</td>
</tr>
<tr>
<td></td>
<td>Sheila- Wife</td>
<td>72</td>
<td>Female</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>George- Husband</td>
<td>86</td>
<td>Male</td>
<td>Mixed Dementia</td>
<td>6 months</td>
<td>57 years</td>
</tr>
<tr>
<td></td>
<td>Pat- Wife</td>
<td>80</td>
<td>Female</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dyad Number</td>
<td>Participant</td>
<td>Age</td>
<td>Gender</td>
<td>Type of Dementia</td>
<td>Approximate Time Since Diagnosis</td>
<td>Approximate Length of Relationship</td>
</tr>
<tr>
<td>-------------</td>
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<td>-----------------------------------</td>
</tr>
<tr>
<td>8</td>
<td>Dereck- Husband</td>
<td>79</td>
<td>Male</td>
<td>Lewy Body Dementia</td>
<td>4 months</td>
<td>45 years</td>
</tr>
<tr>
<td></td>
<td>Sue- Wife</td>
<td>69</td>
<td>Female</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Joan- Wife</td>
<td>75</td>
<td>Female</td>
<td>Alzheimer’s Disease</td>
<td>4 years</td>
<td>40 years</td>
</tr>
<tr>
<td></td>
<td>Peter- Husband</td>
<td>75</td>
<td>Male</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Judy- Wife</td>
<td>66</td>
<td>Female</td>
<td>Alzheimer’s Disease</td>
<td>12 years</td>
<td>46 years</td>
</tr>
<tr>
<td></td>
<td>Steven- Husband</td>
<td>69</td>
<td>Male</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Procedure

Ethical approval was obtained from a local NHS Research Ethics Committee (Appendix E) and two NHS sites (Appendix F & G). Participants were recruited on a volunteer basis from both the NHS and voluntary sector. Posters and information sheets (Appendix H) were displayed in reception and patient waiting areas and the researcher attended NHS and voluntary led support groups to give a verbal overview of the study and information sheets were left for further details. People who were interested in taking part contacted the researcher and convenient meeting times and places were arranged. Prior to the interview an information pack including an information sheet and the interview questions was posted to each participant dyad. All of the interviews were conducted at the participant's homes.

Data was collected through semi-structured interviews with the couple (Appendix I). The interview consisted of open-ended questions with prompts, adopting a funnelling approach (Guba & Lincoln, 1981). The schedule was designed in order to elicit information about the place humour had in the relationship now and before diagnosis, examples of times when they used humour, and how humour affects their relationship. Feedback on the interview schedule was obtained from people with dementia who attended a voluntary support group for people with memory loss. Questions were amended following this feedback.

At the time of the interview the researcher obtained written informed consent (Appendix J) from both members of the dyad and participants were asked to complete the demographic data form (Appendix K). The dyad then completed the interview together which lasted on average 48 minutes with a range of 24 to 81 minutes. The interviews were video-recorded and the recordings were transcribed verbatim. Participants were allocated pseudonyms to ensure their anonymity.
**Analysis**

The data was analysed using IPA which aims to understand lived experience and how a person make sense of their experiences (Smith et al., 2009). IPA has previously been used as a useful method for exploring couples experiences of living with dementia and other chronic illnesses (Boland, Levack, Hudson, & Bell, 2012; Seamark, Blake, Seamark & Haplin, 2004, Robinson, Clare & Evans, 2010). The approach recognises the significant part that researchers play in the process of interpretation through the ‘double hermeneutic’ whereby the researcher is trying to make sense of the participants trying to make sense of their experiences. It is important that the researcher is aware of their own views and experiences that they bring to this process. The researchers in the study believe that people can live well with dementia and have experienced laughter between couples previously when working with couples living with dementia. However, the primary researcher is also a clinician and is therefore accustomed to exploring negative or sensitive issues and would not shy away from these discussions. See Appendix L for an epistemological statement explaining the assumptions behind this approach.

Interview data were analysed using the process described by Smith et al. (2009). Initially, the transcripts were carefully read and re-read. Following this the researcher noted initial descriptive, linguistic and conceptual comments in one margin. These initial notes were converted into emergent themes and recorded in the other margin (see Appendix M for a worked example). Patterns in the themes were then identified and grouped together. This process was then repeated for each transcript. Finally the themes from each of the transcripts were then viewed all together and connections and patterns between themes were explored. The overarching themes that reflected all of the transcripts were then identified and formed the basis for the resulting superordinate themes. The researcher reviewed and audited the themes to ensure that they were grounded and well represented in
the transcripts. The co-authors followed this process of analysis and emerging themes were discussed to ensure these were grounded and represented in the transcripts as has been recommended to ensure credibility (Morrow, 2007).

**Results**

The shared interview brought the two members of the dyad together in order to capture co-constructed meanings each dyad gave to their shared experiences of humour. Hence the themes derived from Interpretive Phenomenological Analysis represent a co-constructed narrative developed and expressed by the couples whilst interacting with each other and the interviewer.

Eight themes are subsumed under three superordinate themes: ‘humour has always been there and always will be’; ‘dementia is a threat to humour’; ‘humour is important in living with dementia’. These are presented in table 2.

Table 2. Master table of themes

<table>
<thead>
<tr>
<th>Superordinate theme</th>
<th>Subtheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humour has always been there and always will be</td>
<td><strong>Humour comes naturally</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Still laughing</strong></td>
</tr>
<tr>
<td>Dementia is a threat to humour</td>
<td><strong>Coming to terms with the diagnosis of dementia</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Changing abilities of the person with dementia</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Changing lifestyle</strong></td>
</tr>
<tr>
<td>Humour is important in living with dementia</td>
<td><strong>Realising the value of humour</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Making light of the situation</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Increasing positive emotions</strong></td>
</tr>
</tbody>
</table>
Humour has always been there and always will be

This overarching theme encompasses two subthemes which relates to humour being experienced as an innate and integral part of participants’ relationships. The first subtheme reflects how humour was described as a natural and innate part of the relationship and is a significant factor in maintaining the relationships. The second subtheme reflects the persistent use of humour.

**Humour comes naturally**

When asked directly, it was notable how couples invariably struggled to explicitly define humour in their terms. Humour seemed to be an innate part of the couple’s relationship that came without thought or intention. Some couples explained that humour came so naturally in their relationship they were not consciously aware of it. Despite volunteering to take part in a study on humour couples described how difficult it was to think about humour and it was a struggle for them to separate out instances of humour from their daily lives. Couples described using humour all the time and were surprised at their difficulty in demonstrating concrete examples of humour:

‘It’s natural humour, people don’t think about it, you don’t analyse it, it’s just there’ (George- husband with dementia).

‘It just happens you know, it’s actually hard to describe’ (Steven- husband without dementia)….. ‘It just happens don’t it love?’ (Judy- wife with dementia).

All of the couples felt that humour was present right from the start of their relationship. For some it was a conscious decision to find a partner with a sense of humour and for others this decision was not conscious and the interview enabled the couples to explore how humour may have brought them together:
'If you’d ask me to write down erm before we were courting what sort of young man I was looking for, top of the list would be one with a sense of humour (laughs)’ (Pat- wife without dementia)

‘…..this [humour] might have been some of the attraction between us…we were poles apart on our backgrounds erm but that is possibly thinking about it something that erm we’d got in common’ (Howard- husband without dementia)

As humour has been a part of couples’ relationships throughout the duration of their relationships there was a sense that humour had evolved and developed to meet the needs of the couple. Humour had evolved over the years into a unique and private experience between the couple. There was a feeling that humour not only developed with their evolving relationship but also developed with age. Participants were not used to describing humour and some found it difficult to put into words, partly because of its innate nature but also because it felt like a private and intimate experience and there was a sense that others would not understand or appreciate their humour:

‘I mean we don’t need to say a lot to make each other laugh because we know what we’re talking about before we start (Sheila laughs)’ (Raymond- husband with dementia)

‘We can say things and do things….we find humorous, but other people wouldn’t appreciate’ (Dave- husband without dementia)

‘I mean we are old ladies, our sense of humour is different to what it was when we were young’ (Betty- partner without dementia)

Although couples described humour as something that was ‘just there’ in their relationship, humour was experienced as playing a significant role in the success
and longevity of their relationships. Some couples, in particular Judy and Steven, were very aware of the integral role humour played in keeping them together:

‘Yeah we were saying humour’s kept us together’ (Judy - wife with dementia)… ‘Together’ (Steven - husband without dementia)…. ‘Throughout, like you know’ (Judy)….. ‘Yeah’ (Steven).

‘……people who don’t seem to have humour, don’t seem to last long’ (Judy - wife with dementia).

‘…..and that’s what’s been great in our marriage really, I’ve always appreciated George’s sense of humour, I don’t always readily see the funny side, but George will’ (Pat - wife without dementia).

Other couples seemed to imply that humour was an important mechanism in maintaining a happy relationship however did not seem consciously aware of this:

‘We’ve always had banter’ (Howard - husband without dementia) ‘Yeah we’ve never had a good fall out have we?’ (Agnes - wife with dementia) ‘Well I don’t think that’s particularly relevant to humour’ (Howard - husband without dementia).

Others couples, particularly Raymond and Sheila, seemed to realise the value of humour in maintaining their relationship during the interview when they were prompted to think about it. Raymond and Sheila described humour as a way of bonding with the other:

‘I think it’s a bonding process as well if we are both laughing at the same thing’ (Raymond - husband with dementia).
Still laughing

Couples described how humour continues to play a part in their relationship and that they have still got things in their life to laugh about. Often couples talked about holidays and occasions they were looking forward to. This humour was evident in the interviews as couples shared humorous stories and jokes. Some couples laughed throughout the interviews and it was clear that this was no different from their everyday lives.

‘Oh we don’t stop laughing (both laugh)’ (Val- wife with dementia)

‘We’ve got lots to laugh about and be you know [sic] about. We’re old and yet we’re still having a good life, we can still go on holiday and buy nice things….’ (Betty- partner without dementia)

On initial enquiry the majority of the couples seemed not to think that humour had changed since the diagnosis of dementia. Participants explained that they just keep going as they have always done with humour being a part of their relationship:

‘It’s [humour] always been there and personally I don’t think it has changed’ (Howard- husband without dementia).

‘…..sort of rubbing a long really, making a laugh and a joke about things as you do’ (Sue- wife without dementia)

‘I don’t think humour’s changed since Joan got dementia, we just carry on as we always have done’ (Peter- husband without dementia)

Couples felt that they would continue to laugh at everything and that dementia is no exception:

‘Mainly you get some more material out of it [dementia], to you know have some fun and a bit of a laugh’ (Sue-wife without dementia)
During the interviews couples told numerous stories of times they have laughed together when the person with dementia would do things that would make them both laugh. Couples told drawn out stories of standout experiences that made them laugh at the time. Val and Roy told a story of when Val went to get some eggs from their neighbour whilst Roy waited for her in the car. Half an hour later Val returns without the eggs only to realise that she had been standing at the door for half an hour, without knocking, wondering what she had gone there for in the first place. Jim and Marjorie told a story of a time Jim had lost the white bucket he was using to do the gardening, and the couple explained how they both searched long and hard for this bucket coming to the shared conclusion that someone had taken it. Eventually, Jim realised that he had not been using the white bucket at all. The couples laughed together whilst they retold these stories.

Ageing also provided some new material for humour:

‘…..can be quite funny growing old’ (Betty- partner without dementia)

‘You can get stale can’t you when you get older. You look sometimes around here at couples, they’re walking about (puts on solemn face) you know, and I wonder if there’s any humour in their lives, cos I mean we can laugh at anything’ (Judy- wife with dementia)

In summary humour was considered a natural and innate part of the relationship and consequently some found humour difficult to describe. Some couples described ‘carrying on’ as they always had done with dementia being no exception.

**Dementia is a threat to humour**

To some extent dementia was seen as a threat to humour by the majority of the couples, but the significance and reality of this varied between the couples. For two couples (dyads 1 and 2) it was evident that they had previously reflected on the
impact of dementia on humour within their relationship and for these couples
dementia posed a very real threat to humour. Within other couples accounts there
was a tension between carrying on laughing as they always have done and humour
changing as a result of dementia. It appeared uncomfortable for couples to consider
the impact of dementia on humour and was easier for couples to speak about the
ongoing humour, and how dementia can facilitate humour. Some couples had not
actively reflected on the negative impact of dementia on humour prior to the
interview possibly because humour had not changed or because it was an uneasy
issue to consider. For some couples, particularly dyads 3 and 4, there was a belief
that humour had not been adversely affected by dementia. For others however it
seemed that dementia had, to some extent, changed humour within their
relationship, or there was a fear that it would pose a threat in the future, and they
came to this realisation as they spoke about their experiences in the interview.

**Coming to terms with the diagnosis of dementia**

For some of the participants receiving a diagnosis of dementia was accompanied by
negative emotions including shock, worry and fear. The process of coming to terms
with the diagnosis signified a difficult and challenging time for these couples and as
a result there was less humour because of these overriding negative emotions:

‘There’s not been so much [humour] there because it was a big shock you
know and we are still coming to terms with it’ (Sheila- wife without dementia).

‘….when you’re concerned your concern overrides other things’ (Sue- wife
without dementia).

Despite this, the same couples recognised that although it was harder to use
humour, humour was still present even during these difficult times post diagnosis:
'We are still coming to terms with it but I mean we still do try and laugh at things you know because you have to you know otherwise you would go barmy wouldn't you but' (Sheila - wife without dementia).

‘It’s harder, there’s still humour, but it has been quite hard work adjusting hasn’t it?’ (Sue - wife without dementia).

However this was not the same for all couples and this may reflect the different stages couples were at in the adjustment process. For one couple in particular (dyad 1) since the diagnosis of dementia humour had not been the same, and there was a sense that humour had been lost, and this was particularly felt for the person with dementia:

‘It’s [humour] not what it was’ (Jim - husband with dementia)……‘I don’t think you laugh as much, just things get you down more than anything’ (Marjorie - wife without dementia).

**Changing abilities of the person with dementia**

The progressive nature of dementia appeared to pose a threat to humour. Three couples (dyads 2, 8 and 10) described how they noticed that the cognitive impairments caused by dementia decrease the ability of the person with dementia to understand and appreciate humour. It was clear that these couples had reflected on this previously:

‘…. but many times she’s thought we’d been arguing and we haven’t’ (Steven- husband without dementia)…. ‘and I think that’s may, maybe more since I’ve got Alzheimer’s int it?’ (Judy - wife with dementia)… ‘mm yeah’ (Steven) ‘….the more his dry sense of humour…I’ve taken it the wrong way (Judy).
‘That’s the problem actually, it’s the fact that he does forget and but you’ve got to sort of do it in the moment otherwise it’s not good’ (Sue- wife without dementia).

‘That’s one of the sad things about the illness, all that stuff goes, humour and er cos you need (points to head) to pick up on things’ (Dave- husband without dementia).

Dave spoke about how the changing abilities of his wife meant that it became more difficult for him as a caregiver and this stress and tiredness as a caregiver has had a significant negative impact on his humour:

‘We get depressed, demoralised, demotivated, all this comes in and it’s difficult to keep pulling yourself and keep going… it all impinges on our everyday lives humour’ (Dave- husband without dementia).

Betty and Iris had not experienced a change in humour but feared that humour may be lost in the future as a result of the progression of dementia. This was a view particularly held by Betty and seemed to reflect her own experiences of knowing people with dementia but also may reflect the prominence of the reductionist biomedical view of dementia:

‘I suppose people start having a sense of humour and say we’ve got to laugh about it then some people in about 3 or 4 years can’t laugh very much can they?’ (Betty- partner without dementia).

**Changing lifestyle**

Some couples, in particular couples 1, 2 and 7, felt that as a result of dementia their lifestyles had changed limiting their opportunities for humorous experiences. Participants with dementia explained that due to physical and cognitive decline some activities that they previously enjoyed were more difficult for example,
socialising and going on holiday, which meant there was less opportunities for humorous experiences. However this was not just seen as consequence of dementia but was also related to ageing as well:

‘Well we have such a limited lifestyle erm that there aren’t, there don’t seem to be the opportunities, funny opportunities that come up sort of thing’ (Pat-wife without dementia).

‘We usually like to er [sic] the pub…that’s gone, it’s all gone you know, it’s difficult, we do our best’ (Dave- husband without dementia).

‘As you get older you don’t have so much to laugh about really because we don’t get about so much do we?’ (Betty- partner without dementia). ‘We don’t go out so much yeah’ (Iris- partner with dementia).

Humour is important in living with dementia

This theme encompasses three subthemes related to the value of humour in living with dementia. Humour was considered an important resource in living well with dementia by all of the couples and was particularly valued as a coping strategy. For a few couples this value had previously been recognised and appreciated, however for others this value was only realised and emerged through enquiry during the interviews. Humour was used through difficult times in the couples’ lives. It was experienced actively and deliberately in the face of adversity and struggle throughout their lives, with and without dementia. However, for others, humour was more important now than it had ever been and for some this realisation seemed to be prompted by the real or potential threat of dementia on humour.
Realising the value of humour

A few couples were consciously aware of the increasing importance of humour prior to the interview and for these dementia evoked a heightened appreciation and awareness of humour:

‘I think it’s always been a necessity but even more so now, you’ve got to see the humour in a situation (Sue-wife without dementia).

‘I couldn’t imagine dementia without humour….I think if there wasn’t humour in a dementia situation, the situation must be a lot more sad’ (Peter-husband without dementia).

Interestingly, the majority of participants initially described humour as a natural part of their relationship that was just there, and did not require any thought or analysis, and therefore it seemed that most of the couples had not consciously evaluated the value of humour before the interview. Progressing through the interviews participants revealed how crucial humour is now in their relationship since the diagnosis of dementia and how humour is important in helping them cope with dementia. For some, in particular Raymond, there was a clear moment of realisation within the interview:

‘I never realised how important it was, but now I do. I’ve had a reason to try and analyse it and see what benefit it is’ (Raymond- husband with dementia).

For others the realisation came through talking through their experiences of humour however it did not seem that they were consciously aware of their shifted viewpoint. Agnes and Howard felt that humour had always been important in their relationship and it seemed that humour’s value had not changed:
‘It is just as important now as it used to be’ (Howard - husband without dementia).

However a later quote would suggest that humour was increasingly more important now particularly as a way of coping with dementia:

‘I always felt that a little bit of humour here and there helps everyday but er I think it’s now become a little more so’ (Howard - husband without dementia).

Making light of the situation

All couples reported using humour to see the funny side of a situation. It was evident that this strategy was used by both members of the couple during the interview, sometimes individually and sometimes together. It appeared that this strategy was used to change the perspective of a situation and couples described using humour in this way to avoid an otherwise overwhelming or upsetting situation:

‘You’ve got to see the funny side of it’ (Sue - wife without dementia).

‘We don’t really take anything serious do we?’ (Val - wife with dementia). ‘No’ (Roy - husband without dementia).

‘I sometimes think if we didn’t laugh we’d cry’ (laughs) (Pat - wife without dementia).

There was a sense that there can be some real negative emotions experienced when living with dementia, and humour is a way to avoid worrying about the future. Humour was a way couples could be in the present and enjoy the moment instead of worrying about the future, particularly the future prognosis of dementia:

‘I mean if you take it, if you’re serious about it all the time (pause) then dementia can be awful, always thinking about the result as it were or what’s further down the line’ (Peter - husband without dementia)
‘It makes you come to terms with the presence [sic] because it’s so much in the presence [sic]… I certainly see it as a positive as a positive aspect, one of the few positive aspects that I can come up with at the moment (laughs)……But if it changes me perspective, our perspective I think on that then that will be good for us’ (Raymond- husband with dementia).

‘Whatever worries you may have they disappear with humour don’t they?’ (Raymond- husband with dementia).

Couples described many ways of making light of a situation and some strategies are individually used strategies by the person with dementia or the partner:

Turning a negative into a positive: ‘I can put the same carry on movie on every day (laughs)’ (Dave- husband without dementia)

Joking about dementia: ‘…and we didn’t ask to join [dementia] it just came! (both laugh)’ (Jim- husband with dementia)

Person with dementia masking their difficulties: ‘…age dunt know, month, date, year, dunt know’ (Roy- husband) ‘I never take any notice of those things you see (laughs)’ (Val-wife with dementia).

Person with dementia making fun of themselves: ‘Go get the gun! (both laugh)’ (Val- wife with dementia).

Participants also described that it also helps to lighten up social situations that may otherwise be difficult: ‘helps you feel more comfortable and that helps to be to relax in company’ (Raymond- husband with dementia).

For some couples when they made light of a situation their underlying emotions were apparent and although they laughed or made a joke of it seemed as though they were masking negative affect. However, for other couples, in particular Val and
Roy it was evident that they never took anything seriously and when Val said ‘go get the gun’ it did not feel uncomfortable hearing it, nor did Val appear uneasy saying it.

It was difficult to distinguish between whether couples were laughing about a situation because it was genuinely funny, or whether they were laughing about it to make light of it to avoid the negative emotions attached to it. For example the egg story and white bucket story told by couples 3 and 1 respectively were told to illustrate how dementia can facilitate humour, however it may have been more complex than this and it may have been that at the time the event occurred humour was used to make light of an otherwise potentially upsetting situation.

**Increasing positive emotions**

Couples also recognised that the act of laughing itself increased their experience of positive emotions and improved their mood. Couples felt that it was therefore important to laugh and some described actively trying to make themselves and their partner laugh in order to lift the mood.

‘…..just have a good laugh and you seem to relax and er immediately feel better….it lifts your spirits’ (George- husband with dementia).

‘It’s the best medicine is laughter’ (Roy- husband). ‘It is’ (Val- wife with dementia).

‘….genuine pleasure from having a good laugh’ (Raymond- husband with dementia).

It also seemed that humour as a way of increasing positive emotions was particularly important for the partner without dementia. Some partners described that as caregivers humour and laughter results in a relief from the negative emotions of caregiving:
‘It’s a release, it’s breaking the frustration, the tension, the aggravation, the anger…’ (Dave - husband).

‘….because you’re asking the same questions time and time again….does help to cope with that sort of thing’ (Howard- husband).

Discussion

The aim of this study was to explore the shared experience of humour in the lives of people living with dementia and their partners, exploring whether this had changed since the diagnosis of dementia and exploring the role of humour in the relationship between the person with dementia and their partner, in the context of living with dementia. The shared interview enabled the couples to co-construct meaning and communicate meanings given to their shared experiences of humour and the analysis yielded three superordinate themes: ‘humour has always been there and always will be; ‘dementia is a threat to humour; ‘humour is important in living with dementia’ and there emerged a dynamic process between them in couples’ experiences. The first superordinate theme relates to humour being an innate, constant and integral part of the couple’s relationship which helps maintain the relationship. There is a tension between this superordinate theme and the second as couples oscillate between seeing humour as unchanged and constant versus being changed and under threat by dementia. The third superordinate theme relates to couples realising the increasing value of humour in dementia and in particular as a useful strategy in coping with dementia.

Theoretical and clinical implications

Humour may be one way people with dementia and their partners sustain couplehood. Hellström et al. (2007) state that ‘sustaining couplehood captures the efforts made by both spouses to maintain and where possible enhance their quality
of life together for as long as possible’ and couples may go about this in different ways (pg. 392). One way it has been suggested couples do this is through ‘making the best of things’ though ‘experiencing life’s little pleasures’, ‘searching for the positives’ and ‘living for today’ (Hellström et al., 2007). Findings from this study parallel these themes as couples described actively using humour to experience positive emotions, maintaining a positive perspective, and being in the present not worrying about the future. Therefore humour could be one strategy by which couplehood is sustained in living with dementia.

These findings also support and add to the existing literature regarding humour as a coping strategy in living with a chronic illness. How an individual cognitively appraises a potentially stressful life event can influence whether or not the event will lead to negative psychological and physical outcomes (Lazarus and Folkman, 1984). Humour strengthens the individual’s ability to cope with adverse life experiences by a means of shifting perspective (Martin, 2007). In this study, couples described responding to potentially stressful situations with a humorous outlook as a way to avoid negative affect. As Peter stated: ‘if there wasn’t humour in a dementia situation, the situation would be a lot more sad’. Martin (2007) suggests that humour further benefits wellbeing through inducing positive affect. Couples in the current study clearly described the mood enhancing, feel-good experience of humour, describing humour as ‘the best medicine’. Humour also assists in maintaining and improving wellbeing by increasing levels of social support (Martin, 2007). Couples in this current study described humour as an integral part of their relationship that kept them together, helped reduce conflict and was important for the longevity of relationships.

The findings from this study suggest that humour is especially important in living well and coping with dementia. Humour may be an important way of improving
quality of life for both members of the dyad but also as a way of sustaining personhood of the person with dementia. In positive psychology humour is considered a personal strength. This study suggests that perhaps humour is also a relationship strength that couples are able to draw on together in living with dementia. This study suggests that couples actively attempt to maintain the presence of humour in their relationship despite the diagnosis of dementia because it has great value in helping them maintain wellbeing. However dementia may pose a threat to humour and the loss of humour as a result of dementia is feared. For some, it was because of this real or feared threat to humour that humour became increasingly salient and couples actively engaged in humour.

For some couples the value of humour within their relationship as a way of living well with dementia was not realised prior to the enquiry. Perhaps because there is not a prominent discourse about humour and dementia that prompts this reflection. Therefore initiatives could focus on helping couples reflect on the role of humour within their relationship and investigate ways of maintaining humour in the face of dementia. This process of reflecting on positive resources as a couple perhaps underpins current couple’s reminiscence interventions.

The findings highlight how further work is needed to develop clinical initiatives and interventions for couple’s living with dementia. Three studies have investigated the therapeutic value of humour in dementia (Walter et al., 2007; Stevens, 2011; Hafford-Letchfield, 2013) but have not addressed humour as a shared experience that is potentially key to maintaining couplehood and therefore wellbeing. Additionally humour interventions in dementia could be considered premature considering the lack of research into the meaning, role and experience of humour in living with the condition.
Although the focus of this study was on the experience of humour within the context of dementia, the findings suggest that ageing also has an impact on humour in couples’ relationships. Certainly, some of the themes that arose from the interviews reflected the influence of ageing on humour and couples described how, similarly to dementia, age can be both a facilitator and barrier to humour. Thus future research should not discount the impact of ageing on humour.

Strengths, limitations and future areas of research

The importance of social interactions in understanding the experience of dementia has been increasingly recognised. The majority of the literature to date has isolated the experience of people with dementia from their families and has mainly focused on the experience of dementia from the perspectives of caregivers. This current study therefore benefits from the exploration of the shared experience of the person with dementia and their partner and IPA enables them to co-construct meaning within the shared interview. This study was intended to compliment and not replace individual studies. It does not mean that all meaning of experience was shared by the couple; at times there were discrepancies between the experiences of the person with dementia and their partner, for example in the different ways humour functioned as a coping strategy. This may be worth exploring further in future research.

This study adds to our understanding of what positive experiences and resources people living with dementia and their partners might draw upon to maintain quality of life and live well with dementia. There has been concern that connecting dementia and humour may trivialise the experience of dementia for those living with it (Hunt, 1993) and this perhaps mirrors how positive psychology can be criticised for minimising the struggles of people experiencing real adversity (Schneider, 2011). This research does not overlook difficult experiences but rather provides an insight
into a more balanced view of people’s actual experiences of dementia, by allowing a
different discourse of dementia that focuses on how people draw on strengths and
resources to cope and maintain quality of life.

As this was a cross-sectional study it could not explore the longitudinal experience
of humour. Level of cognitive impairment was not assessed though it was likely that
participants were experiencing mild to moderate stage dementia and the findings
clearly indicate that the participants with dementia had the capacity to appreciate
and engage in humour. However, the experience and function of humour over time,
in particular within the advanced stages of dementia, remains an important future
area to explore not least because couples expressed a fear that humour would be
lost as dementia progresses. Observational methods could be crucial to further
investigation of humour in experience of advanced stage of dementia and in relation
to couplehood and caregiving relationships. Dementia Care Mapping (Kitwood &
Bredin, 1992), an observational framework designed to evaluate the quality of life of
the person with dementia, may be particularly useful as a way of exploring the
experience of humour in the advanced stages of dementia.

The sample represented a fairly homogenous sample as suggested by Smith et al.
(2009). The sample included nine heterosexual couples and one same-sex couple.
Similar themes arose about the role of humour across the couples however the
same-sex couple suggested that ‘gay humour’ can be different to heterosexual
humour and therefore future research could explore this distinction. Moreover
humour is culture specific (Schmitz, 2002) and therefore research may benefit from
exploring whether experienced differently within other cultures.

The sample size was small and there may have been a volunteer bias in that
participants who took part may have had a positive bias towards humour. Therefore
their views may not completely reflect the views of the target population. The results
are not intended to be generalizable due to the qualitative nature of the approach however the approach allowed in depth exploration of the lived experience of humour within couples living with dementia. The themes generated could be explored further within a larger sample to allow for wider applicability.

Conclusion

To our knowledge this is the first study to explore the shared experience of humour between the person with dementia and their partner. The findings suggest that humour is not only present in the lives of people with dementia and their partners, but plays an integral role in living well with dementia. The findings suggest that, whether consciously or not, couples appeared to actively use humour to maintain couplehood and wellbeing in living with dementia. Further work is needed to develop clinical initiatives and interventions for couple’s living with dementia and there may be value in exploring humour as one potential resource for maintaining couplehood and wellbeing in dementia.
References


Appendix A- Modified Downs and Black (1998) Checklist

Reporting

1. Is the hypothesis/aim/objective of the study clearly described?

   Yes=1 No=0

2. Are the main outcomes to be measured clearly described in the Introduction or Methods section? (If the main outcomes are first mentioned in the Results section, the question should be answered no)

   Yes=1 No=0

3. Are the characteristics of the subjects included in the study clearly described?

   Yes=1 No=0

4. Are the interventions of interest clearly described?

   Yes=2 Partially=1 No=0

5. Are the distributions of principal confounders in each group of subjects to be compared clearly described?

   Yes=2 Partially=1 No=0

   Yes=list of principle confounders

6. Are the main findings of the study (relating to psychological and/or physiological health) clearly described? Simple outcome data (including denominators and numerators) should be reported for all major findings so that the reader can check the major analyses and conclusions. (This question does not cover statistical tests which are considered below).

   Yes=1 No=0
7. Does the study provide estimates of the random variability in the data for the main outcomes? *In non normally distributed data the inter-quartile range of results should be reported. In normally distributed data the standard error, standard deviation or confidence intervals should be reported. If the distribution of the data is not described, it must be assumed that the estimates used were appropriate and the question should be answered yes.*

Yes=1 No=0

8. Have all important adverse events that may be a consequence of the intervention been reported? *This should be answered yes if the study demonstrates that there was a comprehensive attempt to measure adverse events.*

Yes=1 No=0

9. Have the characteristics of subjects lost to follow-up been described? *This should be answered yes where there were no losses to follow-up or where losses to follow-up were so small that findings would be unaffected by their inclusion. This should be answered no where a study does not report the number of subjects lost to follow-up.*

Yes=1 No=0

10. Have actual probability values been reported (e.g. 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001?

Yes=1 No=0

*External validity*

11. Were those subjects who were prepared to participate representative of the entire population from which they were recruited? *The study must identify the source population for subjects and describe how the subjects were selected. Subjects would be representative if they comprised the entire source population, an unselected sample of consecutive subjects, or a random sample. Random sampling
is only feasible where a list of all members of the relevant population exists. Where a study does not report the proportion of the source population from which the subjects are derived, the question should be answered as unable to determine.

Validation that the sample was representative would include demonstrating that the distribution of the main confounding factors was the same in the study sample and the source population.

Yes =1 No = 0 Unable to determine = 0

Internal validity – bias

12. Was an attempt made to blind study subjects to the intervention they had received?

Yes =1 No = 0 Unable to determine = 0

13. Was an attempt made to blind those measuring the main outcomes of the intervention?

Yes =1 No = 0 Unable to determine = 0

14. If any of the results of the study were based on “data dredging”, was this made clear? Any analyses that had not been planned at the outset of the study should be clearly indicated. If no retrospective unplanned subgroup analyses were reported, then answer yes.

Yes =1 No = 0 Unable to determine = 0

15. In trials and cohort studies, do the analyses adjust for different lengths of follow-up of subjects, or in case-control studies, is the time period between the intervention and outcome the same for cases and controls? Where follow-up was the same for all study subjects the answer should be yes. If different lengths of follow-up were adjusted for by, for example, survival analysis the answer should be yes. Studies where differences in follow-up are ignored should be answered no

Yes =1 No = 0 Unable to determine = 0
16. Were the statistical tests used to assess the main outcomes appropriate?
The statistical techniques used must be appropriate to the data. For example nonparametric methods should be used for small sample sizes. Where little statistical analysis has been undertaken but where there is no evidence of bias, the question should be answered yes. If the distribution of the data (normal or not) is not described it must be assumed that the estimates used were appropriate and the question should be answered yes.

Yes = 1 No = 0 Unable to determine = 0

17. Was compliance with the intervention/s reliable?
Where there was non compliance with the allocated treatment or where there was contamination of one group, the question should be answered no. For studies where the effect of any misclassification was likely to bias any association to the null, the question should be answered yes.

Yes = 1 No = 0 Unable to determine = 0

18. Were the main outcome measures used accurate (valid and reliable)?
For studies where the outcome measures are clearly described, the question should be answered yes. For studies which refer to other work or that demonstrates the outcome measures are accurate, the question should be answered as yes.

Yes = 1 No = 0 Unable to determine = 0

Internal validity - confounding (selection bias)

19. Was the study controlled?

Yes = 1 No = 0

20. Were study subjects in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited from the same population?
For example, subjects for all comparison groups should be selected from the same hospital. The question should be answered unable to determine for cohort and case-control studies where there is no information concerning the source of subjects included in the study.

Yes = 1 No = 0 Unable to determine = 0

21. Were study subjects in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited over the same period of time?
For a study which does not specify the time period over which subjects were recruited, the question should be answered as unable to determine

Yes = 1 No = 0 Unable to determine = 0

22. Were the study subjects randomised to intervention groups?
Studies which state that subjects were randomised should be answered yes except where method of randomisation would not ensure random allocation. For example alternate allocation would score no because it is predictable.

Yes = 1 No = 0 Unable to determine = 0

23. Was the randomised intervention assignment concealed from both patients and health care staff until recruitment was complete and irrevocable? All non-randomised studies should be answered no. If assignment was concealed from patients but not from staff, it should be answered no.

Yes = 1 No = 0 Unable to determine = 0

24. Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?
This question should be answered no for trials if: the main conclusions of the study were based on analyses of treatment rather than intention to treat; the distribution of known confounders in the different treatment groups was not described; or the distribution of known confounders differed between the treatment groups but was
not taken into account in the analyses. In nonrandomised studies if the effect of the main confounders was not investigated or confounding was demonstrated but no adjustment was made in the final analyses the question should be answered as no.

Yes =1 No = 0 Unable to determine = 0

25. Were losses of subjects to follow-up taken into account?
If the numbers of subjects lost to follow-up are not reported, the question should be answered as unable to determine. If the proportion lost to follow-up was too small to affect the main findings, the question should be answered yes.

Yes =1 No = 0 Unable to determine = 0

Power

26. Did the study have sufficient power to detect a clinically important effect where the probability value for a difference being due to chance is less than 5%?

Yes =1 No = 0 Unable to determine = 0
## Appendix B- NICE Methodology checklist: qualitative studies (NICE, 2009)

### Section 1: theoretical approach

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<th>1.1 Is a qualitative approach appropriate? For example:</th>
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<td>• Does the research question seek to understand processes or structures, or illuminate subjective experiences or meanings?</td>
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<td>• Could a quantitative approach better have addressed the research question?</td>
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<th>1.2 Is the study clear in what it seeks to do? For example:</th>
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<td>• Is the purpose of the study discussed – aims/objectives/research question(s)?</td>
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<td>• Is there adequate/appropriate reference to the literature?</td>
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<td>• Are underpinning values/assumptions/theory discussed?</td>
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### Section 2: study design

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<td>• Is the design appropriate to the research question?</td>
<td>Defensible</td>
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<td>• Is a rationale given for using a qualitative approach?</td>
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<td>• Are there clear accounts of the rationale/justification for the sampling, data collection and data analysis techniques used?</td>
<td>Not sure</td>
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<td><strong>Section 3: data collection</strong></td>
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<td><strong>3.1 How well was the data collection carried out?</strong></td>
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<td><em>For example:</em></td>
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<td>• Are the data collection methods clearly described?</td>
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<td>• Were the appropriate data collected to address the research question?</td>
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<td>• Was the data collection and record keeping systematic?</td>
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<th><strong>Section 4: validity</strong></th>
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<td><strong>4.1 Is the role of the researcher clearly described?</strong> <em>For example:</em></td>
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<tr>
<td>• Has the relationship between the researcher and the participants been adequately considered?</td>
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<tr>
<td>• Does the paper describe how the research was explained and presented to the participants?</td>
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<td>Comments:</td>
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| **4.2 Is the context clearly described?** *For example:*  |
| • Are the characteristics of the participants and settings clearly defined? |
| • Were observations made in a sufficient variety of circumstances? |
| • Was context bias considered? |
| | Clear | Unclear | Not sure |
| Comments: |

| **4.3 Were the methods reliable?** *For example:*  |
| • Were data collected by more than one method? |
| • Is there justification for triangulation, or for not triangulating? |
| • Do the methods investigate what |
| | Reliable | Unreliable | Not sure |
| Comments: |
## Section 5: analysis

### 5.1 Is the data analysis sufficiently **rigorous**? *For example:*
- Is the procedure explicit – is it clear how the data were analysed to arrive at the results?
- How systematic is the analysis – is the procedure reliable/dependable?
- Is it clear how the themes and concepts were derived from the data?

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<tr>
<th>Rigorous</th>
<th>Not rigorous</th>
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<th>Comments:</th>
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### 5.2 Are the data ‘rich’? *For example:*
- How well are the contexts of the data described?
- Has the diversity of perspective and content been explored?
- How well have the detail and depth been demonstrated?
- Are responses compared and contrasted across groups/sites?

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<th>Rich</th>
<th>Poor</th>
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### 5.3 Is the analysis reliable? *For example:*
- Did more than one researcher theme and code transcripts/data?
- If so, how were differences resolved?
- Did participants feed back on the transcripts/data? (if possible and relevant)
- Were negative/discrepant results addressed or ignored?

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<td>* Are the findings clearly presented?</td>
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<td>* Are the findings internally coherent?</td>
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<td>* Are extracts from the original data included?</td>
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<td>* Are the data appropriately referenced?</td>
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<td>* Is the reporting clear and coherent?</td>
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<th>5.5 Are the findings relevant to the aims of the study?</th>
<th>Relevant</th>
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<th>Partially relevant</th>
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<th>5.6 Are the conclusions adequate?</th>
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<td>* How clear are the links between data, interpretation and conclusions?</td>
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<td>* Are the conclusions plausible and coherent?</td>
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<td>* Have alternative explanations been explored and discounted?</td>
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<td>* Does this study enhance understanding of the research subject?</td>
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<td>* Are the implications of the research clearly defined?</td>
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<td>* Is there adequate discussion of any limitations encountered?</td>
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### Section 6: ethics

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<td>* Have ethical issues been taken into consideration?</td>
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• Are ethical issues discussed adequately – do they address consent and anonymity?
• Have the consequences of the research been considered; for example, raising expectations, changing behaviour?
• Was the study approved by an ethics committee?
### Appendix C - Quality assessment of quantitative studies

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**Note:** The table represents a checklist for the quality assessment of quantitative studies. Each cell indicates whether a criterion was met.
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## Appendix D- Quality assessment of qualitative study

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Appendix E - NHS Ethical Approval

(REMOVED FOR HARD BINDING)
Appendix F- Research governance approval for Humber NHS Foundation Trust

(REMOVED FOR HARD BINDING)
Appendix G- Research governance approval for Leeds and York Partnership NHS Foundation Trust

(REMOVED FOR HARD BINDING)
Appendix H- Information sheet

Information about the research

‘Exploring the Shared Experience of Humour in People Living with Dementia and their Partners’

We would like to invite you to take part in a research study. Before you decide if you would like to take part we would like you to understand why the research is being carried out and what taking part would involve. Please read the following information carefully.

Talk to others about the study if you wish.

Please feel free to contact the researcher if anything is not clear or if you would like more information (contact details are given below).

The purpose of the study

The purpose of this study is to learn more about humour in the lives of people living with dementia and their partners.

Humour has many beneficial effects on your health and has been found to improve well-being and life satisfaction. You may have heard people say laughter is the best medicine. We are interested in finding out more about the role of humour in living with dementia and whether it is important in helping people live well with dementia. We are interested to find out about what things couples might laugh about and whether there are any changes in humour as couples adjust to dementia. Dementia can bring many challenges and we hope that by gaining a better understanding of the experiences of people living with dementia and their families we can continue to develop initiatives that may be used to improve support and interventions for people with dementia and their families.

Why you have been invited to take part

You have been invited to take part because you or your partner has a diagnosis of dementia and you received the diagnosis over 12 weeks ago. You are living with your partner and you are both 65 years old or over and you are fluent in English. We are inviting 10 couples to take part in the research overall.

Do I have to take part?

No, it is up to you to decide if you wish to take part. If you agree to take part, we will ask you to sign a consent form. You are free to stop the interview at
any point and withdraw from the study without giving a reason up to 4 weeks following the interview. Choosing not to take part will not affect the care or services you receive in anyway.

**What will I have to do?**

If you decide to take part in this study, you and your partner will meet with the researcher together on one occasion, at a time and place that is convenient for you, and you will be asked about your experience of using humour in living with dementia. There are no right or wrong answers to any of the questions; we want hear your stories. This interview will last approximately 1 hour and will be video-taped.

The video tapes are to allow the researcher to go back and look through everything that was said and make a record of the interview. Once we have everything that was said written down we can destroy the video. Nobody else will see the video unless you give us your written permission to use your video clips – this is entirely your choice.

**What are the possible disadvantages and risks of taking part?**

The questions require you to think about your experience of humour in living with dementia. If either of you feel that it may be distressing to talk about living with dementia you don’t have to take part. If at any point during the interview you feel uncomfortable in any way you are free to stop the interview.

**What are the possible benefits of taking part?**

We cannot promise the study will help you but you may find it enjoyable to share your experiences and to think about humour. The information we get from this study may increase our understanding of the experience of living with dementia and may contribute to better ways of supporting people living with dementia and their families.

**When the research study stops**

The research stops when you have completed the interview. Unless you have any further questions, this will be your last contact with the researcher.

**Will my taking part in this study be kept confidential?**

Yes. We will follow ethical and legal practice and all information about you will be kept confidential. The data will be collected by the researcher and will be securely stored by the researcher at the University of Hull. A number rather than your name will be used on the data so the information will not be identifiable.
Once the video-recordings have been transcribed they will be destroyed, unless you consent to the use of video-clips outside of analysis then the recordings will be destroyed after 3 years.

The only time we may need to share information is in the unlikely event that we become concerned during the interview about risks relating to either person or others. If such circumstances did arise then the researcher would discuss this with you both first.

**What will happen if I don’t want to carry on with the study?**

You are free to stop the interview at any point and withdraw from the study without giving a reason up to 4 weeks following the interview and if you do so then all of your information will be destroyed. This will not affect the care or services you receive in any way.

**What happens to the results of the research study?**

The results of the study will be written in a report and will be submitted for publication in a scientific journal and in a thesis at the University of Hull. This is so that other professionals and students can read the report. The report may use quotes that you have shared but will not use your names or personal details, so it will not be traceable to you.

**What if there is a problem?**

If you have a concern about any aspect of this study, you should ask to speak to the researcher who will do their best to answer your questions. If you remain unhappy and wish to complain formally, you can do this by sending your complaint to:

The Complaints and PALS Manager  
Humber Foundation NHS Trust  
Trust Headquarters  
Willerby Hill  
Beverley Road  
Willerby  
HU10 6ED

The complaints department can be contacted on 01482 303930  
You can send an email to complaints@humber.nhs.uk
Who is organising and funding the research?

Humber NHS Foundation Trust and the University of Hull are funding the research. It is part of the research requirement for a Doctorate in Clinical Psychology qualification.

Who has reviewed the study?

All research in the NHS is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by NHS Research Ethics Committee and NHS R&D approval.

CONTACT DETAILS

If you would like to take part in this study or if you would like any further information about the study please feel free to contact:

Helen Irwin (Chief Investigator)
Trainee Clinical Psychologist
Department of Psychological Health and Wellbeing
Hertford Building
University of Hull
Cottingham Road
Hull
HU6 7RX

Email: h.e.irwin@2012.hull.ac.uk

Contact number: 07931331249

Thank you for reading this information sheet
Appendix I- Interview Schedule

1. Can you tell me about your sense of humour?
   *Included in this might be: What makes you laugh or smile?*

2. Can you tell me what place humour had in your lives together before the diagnosis of dementia?

3. Does humour play a part in your lives together now since the diagnosis of dementia? If so, in what way?
   *Included in this might be: Has your use of humour changed since the diagnosis of dementia? Has your use of humour changed over time? Has the importance of humour changed over time? Do you use humour as a way of coping with or adjusting to the difficulties in living with dementia?*

4. Can you give me any examples of times when you use humour?
   *Included in this might be: Is this typical? Are there other circumstances when humour is used? Why do you use humour at these times?*

5. Does humour affect your relationship with each other? If so, in what way?
   *Included in this might be: what role does humour play in your relationship? Is humour important in your relationship?*

6. Is there anything else you would like to tell me that I haven’t asked you?
Appendix J- Consent form

Title of Project: Exploring the shared experience of humour in people living with dementia and their partners

Name of Researcher: Helen Irwin

Please initial the boxes

1. I confirm that I have read and understood the information sheet dated…………… (version…… ) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.  

2. I understand that my participation is voluntary and that I am free to stop the interview at any time without giving any reason. I understand that I can withdraw from the study up to 4 weeks following the interview. If I stop taking part in the study all of my information will be destroyed. This will not affect my medical care or legal rights.

3. I consent for my interview to be video-recorded for the purpose of analysis.

4. I agree to take part in the above study.
5. I consent for the researcher to use video-clips from our interview in conference presentations.

6. I would like to receive a copy of the final report.

________________________  ____________  ______________
Name of participant      Date          Signature

________________________  ____________  ______________
Name of person taking consent. Date          Signature
Appendix K- Demographic data form

Participant number:

Please could you tell us some information about yourself? This information will be anonymised and will be kept confidential.

Age:

Gender:

How many years have you and your partner been together?

If you have received a diagnosis of dementia what type of dementia is it and when was the diagnosis given?

Are you currently receiving treatment for any other chronic illnesses?
Appendix L- Epistemology Statement

The way in which the researcher views the world will influence how the researcher conducts research. The epistemological stance adopted by the researcher underlies the whole research process and informs the approach taken to research and the choice of methodology.

Ontology is the ‘nature of reality’ i.e. what is reality? (Guba & Lincoln, 1994) and epistemology is the study of knowledge, how we come to knowing what we know. The aim of this statement is to explore the ontological and epistemological assumptions of the chosen design and methodology of this study.

The researcher was particularly interested in exploring the shared experience of humour of people living with dementia and their partners. The research question came about due to the scarce research about humour in dementia and the limited exploration into the lived experience of dementia, particularly from a shared perspective. A positivist stance usually adopted by quantiative methodology was rejected, which holds the world as external and objective and there is a reality to be found. Research taking a positivist stance holds that there is objective knowledge to be found which can be quantifiably measured through experimental and hypothesis testing. These methods are often employed in dementia research as dementia is seen as being ‘biologically real’. However, this view has been considered too reductionist, with such methods not capturing the complexity of the experience of the person living with dementia.

This research was developed from a constructivist stance. Constructivist research is relativist in that it suggests that there is not an objective truth to be discovered, rather truth is a social reality (Guba & Lincoln, 1994). Constructivism holds that people create their own realities and as such there can many realities which are thus subjective and diverse. Furthermore reality is considered a social construction
constructed through interactions with the world e.g. relationships, culture.
Qualitative methods are often associated with constructivism and this stance holds
that knowledge is co-constructed by the research and research participants.

This approach assumes that the researcher cannot separate themselves from the
object of research thus acknowledging that how the researcher views and
understands the world will impact on how they construct an impression of the
participant’s experiences. Such approaches are fundamental as research and
discourse begins to steer away from the disease process itself and begins to
understand the experience of dementia from the perspective of the people living
with it (Hellström, Nolan, & Lundh, 2007).

Interpretative Phenomenological Analysis (IPA) was chosen as it was deemed most
appropriate to answer the research questions. The method allows in depth
exploration of subjective lived experience, supporting the idea of constructivism that
participants create their own realities and as such there can be many realities which
are thus subjective and diverse. Two other qualitative methodological approaches
were also considered (Grounded Theory and Thematic Analysis) and are discussed
below.

_Interpretative Phenomenological Analysis_

IPA allows an in depth exploration of ‘lived experience’ and is concerned with
individual experience and deems the individual as an expert in the phenomenon
being explored (Smith, Flowers & Larkin, 2009). IPA has been chosen because of
its phenomenological approach in that it enables the study of lived experience and
how the person themselves make sense of their experiences (Smith et al., 2009).
IPA is concerned with the meanings that a particular experience holds for people in
a particular context, so in this case the experience of humour in people living with
dementia and their partners. In order to gather this rich information about subjective experience the methodology of interviewing was chosen.

There are three key theoretical foundations of IPA: phenomenology, hermeneutics and idiography. Phenomenology seeks to explore the essential qualities and structures of experience. The study of phenomena is concerned with individual’s subjective accounts rather than producing an objective record of the event and thus does not attempt to scientifically explain the nature of the experience.

Hermeneutics is the theory of interpretation. IPA suggests that people try to understand their experiences i.e. work through what it means (Heidegger, 1962), thus experience is considered an interpretive process whereby participants try to make sense of their experiences and consequently their accounts will reflect this sense making process. IPA recognises that researchers are involved in a double hermeneutic because the researcher is trying to make sense of the participant trying to make sense of their experience. The researcher brings preconceptions and experiences and will consequently look at the data in light of these (Heidegger, 1962). Thus it is necessary for the researcher to become aware of these and reflexively evaluate how these ‘fore conceptions’ influence the research. (Morrow, 2007).

Idiography is the interest in the particular. IPA is committed to the detailed understanding of the experience through in depth analysis of each account. Furthermore it is committed to understanding how phenomena have been understood within a particular context, in this case, the experience of humour from the perspective of couples living with dementia (Larkin, Watts & Clifton, 2006). General claims can be made, but are done so cautiously, making sure detailed understanding of each case is realised first.
In this current study the aim was to study the shared experience of humour in people living with dementia and their partners. The interview brought the two members of the dyad together in order to capture their co-constructed meaning of their shared experience but also to capture the differences between their experiences i.e. highlighting points of convergence and divergence. Although IPA has not been used extensively to investigate a couples perspective of their shared experience, it has been used previously as a useful way of studying couples experiences of living with dementia and other chronic illnesses (Boland, Levack, Hudson, & Bell, 2012; Seamark, Blake, Seamark & Haplin, 2004, Robinson, Clare & Evans, 2010).

**Grounded theory**

The aim of grounded theory is to not only describe the topic of interest but also to generate new theory based on the findings (Glaser & Strauss, 1967). The sample and methods of collecting the information is not pre-prescribed rather these are directed by the emerging theory. The data is then systematically analysed until theoretical saturation is reached i.e. no longer learning anything new. Grounded Theory was not used for this study because the aim was not to generate new theory but to explore the lived experience of particular people within a particular context using a somewhat homogenous sample to find similarity but also difference. Whereas grounded theory uses a somewhat dissimilar sample aiming to make universal claims. The aim was not to conceptualise or explain the experience, but rather to describe and understand lived experience in rich detail.

**Thematic analysis**

The aim of this method of analysis is to identify and describe patterns i.e. themes within data. It aims to organise and describe rather than interpret the data and thus is limited in its ability to provide in-depth understanding of a phenomenon. This approach was not chosen because the study aimed to understand the meaning of
the experience of humour within dementia rather than merely describe it. Furthermore it may not have captured the process of the couples co-constructing meaning.

References


### Appendix M- Worked example of Interpretative Phenomenological Analysis

<table>
<thead>
<tr>
<th>Emerging themes</th>
<th>Extract from transcript</th>
<th>Initial notes</th>
</tr>
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<tbody>
<tr>
<td>Loss of humour</td>
<td>R: So, can you tell me a bit about your sense of humour?</td>
<td>We haven’t got [sense of humour] at present. (laughs)</td>
</tr>
<tr>
<td>Laughing at loss</td>
<td>1: we haven’t got one at present (both laugh)</td>
<td>Sense of humour is the same. <strong>Contradiction</strong></td>
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<td></td>
<td>2: no I think our sense of humour is pretty much the same isn’t it?</td>
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<td></td>
<td>1: yeah</td>
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<td></td>
<td>2: but er…</td>
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<td></td>
<td>1: it's not what it was</td>
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<td>2: no, I don’t think you laugh as much, just things get you down more than anything don’t it. But then other times it can be funny. With him being, he’s deaf as well, that’s another thing. But er like I can say something to him, what with his memory going, and your deafness</td>
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<td></td>
<td>1: I'm in a hell of a state (laughs)</td>
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<td></td>
<td>2: I get some very funny answers if I'm asking him anything, and I think where on earth has he got that from but it's nothing like what I've said</td>
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<tr>
<td>Loss of humour since diagnosis of</td>
<td></td>
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<tr>
<td>dementia</td>
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<td></td>
<td>Dementia gets you down vs. dementia can be funny</td>
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<tr>
<td>Ageing adds to difficulties</td>
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<tr>
<td>?Laughing at adversity</td>
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<td></td>
<td>R: So, can you tell me a bit about your sense of humour?</td>
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<td></td>
<td>1: we haven’t got one at present (both laugh)</td>
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<td></td>
<td>2: no I think our sense of humour is pretty much the same isn’t it?</td>
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<td>1: yeah</td>
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<td>2: but er…</td>
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<td>1: it's not what it was</td>
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<td></td>
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<tr>
<td></td>
<td>2: I get some very funny answers if I'm asking him anything, and I think where on earth has he got that from but it's nothing like what I've said</td>
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Appendix N- Reflective Statement

Within this reflective statement I aim to reflect on the research process and consider some of the lessons I have learned along the way.

Research area

I found it quite difficult to choose a research topic and although I had some idea of what clinical populations I wanted to research, I wasn’t sure exactly what area to choose. One of my supervisors wisely said to me ‘choose something you will enjoy doing for three years’ and I am really pleased I followed this advice and would definitely recommend this guidance to others. Through all the highs and lows of this research project what has kept me going is my passion for the subject and the enjoyment I have experienced from working in this area.

It was one of my research supervisors, Emma, that brought the topic of ‘humour and dementia’ to my attention. If you had asked me at the start of this course what topic I envisaged doing for my doctoral research, ‘humour’ would not have been one of them. Now 3 years on I think this topic is a perfect choice and reflects enormously my own personality and values and my previous experiences of working within dementia. In previous work as a care assistant in a nursing home and as a volunteer running support groups for people with dementia I learnt and developed a passion for the area and my belief that wellbeing is as important in later life as at any other time. On reflection humour and laughter were really valuable resources in building relationships with the service users and developing a positive, fun and light hearted environment. It was at this point that I started to develop my interest in positive psychology which has steadily grown and my supervisors’ enthusiasm and interest in positive psychology in dementia was and still is infectious!
I guess I wasn’t surprised, but I was slightly concerned about the fact that humour had seldom been studied in dementia despite being researched in other chronic illnesses. Humour has long been acknowledged as beneficial for wellbeing and an effective coping strategy and thus I felt very strongly that dementia research should ‘keep up’ so to speak and explore this area too. The original idea for the study was proposed by a service user group and was therefore clearly an area service users wanted exploring. For these reasons I felt it was a very worthy area to study.

**Methodology**

Despite the strong suggestion in my undergraduate study that ‘quantitative research is the only valid research’ I was very keen to carry out qualitative research, despite knowing very little about it. I just knew that I wanted be around people and to speak to people about their experiences, and given the lack of existing research in the area it seemed an appropriate place to start. Because of my limited knowledge of qualitative research I did feel rather out of my depth at first when considering different types of qualitative methods. On reflection I would have liked to have spent more time reading up on different methods of qualitative research to learn more about different approaches. During the process however I have definitely learned a lot about qualitative research, particularly IPA. With the help of my supervisors I chose IPA as an approach for reasons outlined in my epistemology statement. I am really pleased I used qualitative methodology and now really appreciate the value of such methodology in revealing rich and in depth descriptions of experiences. In future research endeavours I will definitely be drawn back to IPA.

I think one of the main strengths of this piece of research was that it benefited from the exploration of the shared experience of the person with dementia and their partner. Dementia is not experienced in isolation and positive social relations are important in living well with dementia. The majority of the literature to date has
isolated the experience of people with dementia from their families however considering the inherent social nature of humour it seemed imperative to interview couples together to explore their shared experience. Not only does it add to the current literature but couples reported that the experience of being interviewed together was enjoyable to them and was something they could enjoy doing as a couple.

The interviews were video-recorded mainly for practical reasons as with two subjects it was an easier way of telling who was speaking and laughing for example. I think one limitation of IPA is that it does not allow for analysis of non-verbal behaviour. There is likely to be a lot of rich data within the non-verbal interactions between the couples and if I had more time it would have been interesting to analyse this. A benefit of video recording was that during analysis I was able to both hear and see the person speaking and was thus able to see how they had said words which added to the understanding of the meaning of what was being said.

I was really glad I attained service user feedback on my method prior to the study, in particular the semi-structured interview, and would definitely seek this feedback in future research endeavours. I approached service users at a dementia support group and received some helpful feedback on my interview schedule. On reflection I could have developed some more accessible resources about the study for potential participants. At the time I was caught up in developing the necessary information sheets and meeting the specific criteria. However what I learned is that flyers, or something similar, would have been useful to provide participants with a short, concise description of the study that was easy to read and understand. The information sheet was necessary of course but I acknowledge it is a lot of information to take in initially.
Recruitment

Although I had ethics approval to recruit from two local NHS trusts I was disheartened when my application to recruit from the local Alzheimer’s Society was denied due to staffing levels and over-recruitment from this area. I had thought this would have been an obvious organisation to recruit from as I had previously had feedback from staff members to suggest that they thought a lot of couples would be interested.

Recruitment was by no means an easy feat, but it was not as difficult as I had expected considering I needed both members of the couple to want to take part for 1 interview. During the summer following ethics approval I managed to conduct half of my interviews, however after that it became much harder to recruit at which point we had to think more creatively about where to recruit from and search for other local voluntary groups. From this I learnt that recruitment takes time and effort, and patience and perseverance is key.

During recruitment I was aware of the positive focus of my study and at the time was worried that others would not be so enthusiastic about my area of study. I was very aware of the criticisms of positive psychology and I did not want people to think I was trivialising the experience of dementia in any way. Thus when presenting the research I tried to be sensitive about the topic and after each group I attended I reflected on how I described my study, what went well and didn’t go so well, so I could refine the pitch. In actual fact I was pleasantly surprised at the enthusiasm and the positivity towards my study from other professionals, staff members, and service users.

I think one of the most difficult things about recruitment was that I would attend groups and people would say they were very interested in taking part but participants were then required to get in touch with me if they wanted to go ahead
so that they didn’t feel pressured or coerced into taking part in the study. I understand the ethical reasons for this, however it did prove a problem because I was relying on people to remember the study and for them to feel comfortable phoning me. Some participants actually stated that they would have preferred me to phone them. I think for future research I would be more inclined to return to the group maybe at a later date to remind people of the study and to give them the opportunity to sign up if they wanted to.

**Interviews**

It was at the interview stage that I realised the true value of qualitative methodology. I really enjoyed every one of the interviews and I felt so privileged to be allowed into people’s homes and to be told their stories and experiences. It was at this point I fully appreciated the value of interviewing couples as I watched them laugh and joke and construct meaning together.

During this stage I learnt the importance of engaging with the participants and setting the scene for the interview prior to the start of the interview. It was crucial that the participants felt relaxed so that they could express and talk about humour. I feel my skill in this developed throughout the interviews and as I became more relaxed.

During the interviews I could not help but laugh along with the couples and there was a lot of laughter throughout the interviews. There were of course occasions when people would talk about the difficulties of living with dementia. At these times it was difficult for me as a clinician to sit back and listen and to take a researchers stance because I wanted to my clinical instinct was to intervene and explore these issues further.

When interviewing couples there is always a concern that one will speak more than the other and for ethical reasons at the start of the interview I made explicit the
importance of hearing answers from both members of the dyad and I asked permission to interrupt to ensure that both members had equal opportunity to speak. It was important that the voice of the person with dementia was heard in the interview and that partners did not take over the interaction. In reality however this was not the case and, possibly because they were talking about a shared experience, the interviews felt balanced and appeared to reflect the relationship dynamics of the couple.

I laughed along with the participants, and it would have felt unnatural not to do so. I did wonder how this may have impacted on the interviews. However IPA does allow for the impact of the researchers beliefs and experiences on the process and how meaning is co-constructed between participants and researcher.

**Data analysis and write-up**

Data analysis was an enjoyable yet lengthy process. At times I really wished that my interviews had been shorter due to the length of time it took to transcribe the interviews and code the transcripts. At the same time however the videos brought the interviews back to life and I found myself getting engrossed again in the interviews, feeling a wealth of emotions as the couples told their stories and laughing again at the jokes and humorous stories told. It was great to experience the interviews again and to be able to watch the interactions between the couple and I would definitely consider using video-recordings again.

I had set out to transcribe and analyse the data as I went a long however due to time constraints I found this difficult to achieve. I feel there is value in doing this and would endeavour to do so in future research. Whilst transcribing and analysing the interviews I not only learned about the participants experiences but I also learnt lot about my interview style and this would have been useful at the time to reflect upon in preparation for future interviews.
As this was my first attempt at interpretive phenomenological analysis I was anxious to do it ‘right’ and in hindsight I probably spent too long trying to work out the best way of analysis. In future I would definitely approach analysis differently and would encourage others not to get too worked up about it as there isn’t really a ‘right way’ as such.

Discovering themes was really exciting and it was at this point it felt like it was all coming together. The process of coming to a final set of superordinate and subthemes was more difficult and some time was spent rearranging themes and going back to the original transcripts to ensure the themes were grounded within the transcripts. The write-up felt like part of the analysis as this enabled me to really get to grips with the themes and see the relationships between them. It was difficult choosing the quotes to illustrate the themes as there were so many fantastic quotes and I didn’t want to discard them.

**Conferences**

I was privileged to have my empirical paper accepted as an oral presentation to present at the Alzheimer Europe Conference Glasgow October 2014. Although I had not completed my analysis at this time I was pleased to receive some very good feedback from both service users and professionals and it strengthened my belief that it was a worthwhile area of study. Furthermore, the use of video-clips of the interviews in my presentation really strengthened my presentation and made the findings more authentic. Interestingly my presentation was placed in a stream of other presentations including bereavement and intimate relationships and it felt like these were the uncomfortable topics that no one had previously asked about. What’s more this stream was well attended by people with dementia and their families which I think speaks volumes about the interest in these subject areas.
Systematic literature review

Choosing the topic for my systematic literature review was difficult. There were lots of areas I was interested in that were related to my empirical paper, however it was really difficult to find a topic that met the criteria. When I eventually settled on a topic my supervisors and I spent some time coming up with the questions. The article selection process was a long process and I think I had underestimated the systematic nature of the review and the impact my own systematic traits would have on it. Synthesising the data was really difficult particularly because the literature was so heterogeneous for a number of reasons. Despite this I developed a newfound appreciation for literature reviews and really feel mine adds to the empirical paper. The process was lengthy, and was difficult to conduct alongside my empirical research. I would like to be able to say that I learned techniques that would make the process easier and shorter if I was going to attempt another, however because of the very nature of systematic literature reviews I don’t think it is possible nor beneficial to rush it.

Choice of journals

I chose to write my empirical paper for the journal of ‘Dementia’. This is an international peer reviewed journal that aims to present research related to improving quality of life and quality of care for people living with and affected by dementia. This matched the aims of my empirical paper particularly because it is principally concerned with the lived experience of dementia.

I chose to write my systematic literature review for the journal of ‘International Psychogeriatrics’. This journal is a highly respected journal welcoming research related to mental health and ageing and also features literature reviews. As my review is concerned with reviewing the literature related to humour interventions,
exploring the benefits related to psychological and physical wellbeing in ageing, I felt this journal was an appropriate choice.

**Final reflections**

My previous experience of undertaking research was not very inspiring or particularly clinically relevant and was undertaken very much because it was required rather than because I found it interesting. However my view of research has radically changed throughout the process of my research project and despite the difficulties I have encountered I have really enjoyed carrying out this piece of research that I feel has real clinical relevance. Throughout my doctorate training I have come to understand the integral role of research in clinical psychology and the importance of innovation to development of the field.
Appendix O- Author Guidelines for the Journal of International Psychogeriatrics

International Psychogeriatrics

Please read these instructions carefully before submitting articles. Articles which are not prepared in accordance with these guidelines will be returned to authors unreviewed. in accordance with these guidelines will be returned to authors unreviewed.

Scope and contributions
International Psychogeriatrics is written by and for those doing clinical, teaching, and research work with elderly people. It is the official journal of the International Psychogeriatric Association (IPA) and is published by Cambridge University Press, Cambridge, UK. Although it is concerned primarily with psychogeriatrics, the journal welcomes contributions from all concerned with the field of mental health and aging. Original research papers are particularly sought.

Contributions include original research articles, reviews of the literature, “for debate” articles, case reports, letters to the editor, book reviews and editorials. Apart from editorials, “for debate” articles and book reviews, which are commissioned, contributions to International Psychogeriatrics are spontaneously written and submitted by authors. Papers are reviewed by at least two expert reviewers selected by the Editor-in Chief. At present about half of the papers submitted are accepted for publication in this journal which is published twelve times per annum. The journal’s Science Citation Index Impact Factor (2013) is 1.892. Submission of a paper implies that it is neither under consideration for publication elsewhere, nor previously published in English. Manuscripts must be formatted double-spaced with ample margins on all sides and the pages should be numbered. Please leave a spare line between paragraphs to enable typesetters to identify paragraph breaks without ambiguity.

International Psychogeriatrics uses the spelling of American English. Manuscripts written by those whose primary language is not English should be edited carefully for language prior to submission. International Psychogeriatrics has a Language Advisory Panel of English speakers willing to check manuscripts for style prior to submission. Details can be found at both the journal website (http://journals.cambridge.org/ipg) under the related links icon and the IPA website (http://www.ipa-online.org/).

Submission of manuscripts
Manuscripts should be submitted online via our manuscript submission and tracking site, http://mc.manuscriptcentral.com/ipg. Full instructions for electronic submission are available directly from this site. If you are unsure of the suitability of your manuscript, please e-mail the abstract to the Journal Office before submitting online: ipaj-ed@unimelb.edu.au To
facilitate rapid reviewing, communications for peer review will be electronic and authors will need to supply a current e-mail address when registering to use the system. When submitting your manuscript you will need to supply: A cover letter, the manuscript with the text file in MS Word format, and all figures in TIFF or JPEG format. If the paper reports the results of a randomized controlled trial please ensure that it conforms to our requirements listed below under the heading ‘Submission of randomized clinical trials’ on page 2. If the research was paid for by a funding organization, the cover letter must contain the following three statements (this information does not have to be included in the manuscript itself but only in the cover letter). If the research was not paid for by a funding organization only the third statement is required: 1. That the authors have not entered into an agreement with the funding organization that has limited their ability to complete the research as planned and publish the results. 2. That the authors have had full control of all the primary data. 3. That the authors are willing to allow the journal to review their data if requested.

Submission of a manuscript will be taken to imply that all listed authors have seen the final version and approved it.

All papers will be assessed by two reviewers. If their opinions are too disparate to permit the Editor-in-Chief to make a decision on publication or the reviewers are unable to make clear recommendations, the paper will be assessed by a third reviewer. The Editor-in-Chief’s decision to accept, reject or request revision of the paper for publication will be final.

The abstract and author details will be seen by prospective reviewers of the manuscript. Authors can suggest the names and contact information of experts qualified to review the work, but the Editor-in-Chief is not obliged to follow these suggestions. Papers must bear the authors’ names, titles (e.g., Dr, Professor, etc.), affiliation(s), and address(es). This information will be seen by reviewers. Reviewers’ names will not be supplied to authors unless a reviewer asks to be so identified. Authors will be provided with a copyright transfer form to sign after acceptance of the manuscript, consenting to publication of the paper in International Psychogeriatrics.

The receipt of all submitted papers will be acknowledged. Authors who do not receive an acknowledgement of receipt of their paper within three weeks of submission should assume that their paper has not been received and should contact ipaj-ed@unimelb.edu.au, Professor Nicola Lautenschlager. Normanby House, St George’s Hospital, 283 Cotham Road, Kew, Victoria, 3101, Australia, Tel: +61 3 9816 0485, Fax: +61 3 9816 0477. Most authors can expect to receive an initial decision on the fate of their paper together with referees’ reports within no more than 100 days of submission. Authors who have received no further communication 120 days after acknowledgment of receipt of their article should contact ipaj-ed@unimelb.edu.au.
Submission of papers reporting randomized controlled trials

In order to ensure the public availability of the results of randomized controlled trials, the International Committee of Medical Journal Editors has suggested that all such trials should be registered. In common with many leading medical journals International Psychogeriatrics has decided to follow this policy. Since 31 December 2006 we will not review any paper submitted to us reporting a randomized clinical trial unless the trial was registered in a public trial registry from the date it commenced recruitment or, if recruitment started before 30 November 2006, we require that the trial was registered no later than 30 November 2006. For further details on the reasons for this policy see the June 2006 editorial, Ames, D. (2006). Registration of Clinical Trials submitted for publication in International Psychogeriatrics, International Psychogeriatrics, 18, 191-193.

All manuscripts reporting randomized controlled trials should have the following sent with them or they will be returned to the authors.

a. A check list and flow chart in accordance with the CONSORT guidelines which can be found at http://www.consort-statement.org. Please send in the checklist as a supplementary file and include the flow chart as Figure 1 in the manuscript.

b. The trial protocol is to be submitted as a supplementary file. This will not be published but it is needed to appraise and peer review the paper.

C. The registration number of the trial and the name of the trial registry in which it was registered. Please add these to the last line of the paper’s structured abstract. Trials that began enrolment of patients after 31 December 2006 must have been registered in a public trials registry at or before the onset of enrolment to be considered for publication in International Psychogeriatrics. Trials that began enrolment prior to 30 November 2006 must have been registered no later than that date. Our criteria for a suitable public trial registry are: free to access; searchable; identification of trials by unique number; free or minimal cost for registration; validation of registered information; inclusion of details to identify the trial and the investigator within the registered entry (including the status of the trial); research question; methodology; intervention; and funding and sponsorship disclosed.
Organization and style of research articles

Title page and corresponding author: Each article must have a title page with the title of the article, a list of all authors and their titles, affiliations and addresses. Each author must select only ONE country as their location. Author qualifications should not be listed as these are not published in the journal. The title page should explicitly identify the author to whom correspondence about the study should be addressed and that author’s email address, telephone number, fax number and postal address must be clearly stated.

Abstract: Abstracts for original research and reviews should be structured and incorporate 4 sub-headings: background, method(s), results, conclusion(s). Abstracts for protocol only papers should omit the third sub-heading (Results). Abstracts for case reports should have no sub-headings. Abstracts should communicate the primary findings and significance of the research. They should not exceed 250 words in length.

Key words: Under this heading and beneath the abstract, please list up to 8 words for the purpose of indexing.

Running title: This should contain no more than 50 characters including spaces.

Introduction: Briefly state the relevant background to the study to provide the necessary information and context to enable non-specialists to appreciate the objectives and significance of the paper. Most introductions to articles received for review are too long.

Methods: Materials and procedures should be described in sufficient detail to enable replication. Any statistical procedures used should be outlined and their use should be justified here. Results should not be included in the Method(s) section. If statistical procedures are used, they should be described here in adequate detail. Choice of statistical technique should be justified including some indication of the appropriateness of the data for the technique chosen. Adequacy of the sample size for the statistical technique(s) used must be addressed. If appropriate, a description of the statistical power of the study should be provided. If multiple univariate significant tests are used, probability values (p-values) should be adjusted for multiple comparisons, or alternatively a multivariate test should be considered.

Further advice about statistics and International Psychogeriatrics can be found in the following article: Chibnall, J. (2000) Some basic issues for clinicians concerning things statistical. International Psychogeriatrics, 12, 3-7. The following article may also be of assistance to intending contributors: Chibnall J.T. (2004). Statistical audit of original research articles in International Psychogeriatrics for the year 2003. International Psychogeriatrics 16, 389-396. Both of these are available at the International
Results: This section may contain subheadings. Authors should avoid mixing discussion with the results. Sample sizes should be delineated clearly for all analyses. Some indicator of variability or sampling error should be incorporated into the reporting of statistical results (e.g., standard deviation, standard error of the mean). Wherever possible an indicator of effect size (e.g., Cohens d, $\eta^2$, Cramers V, 95% confidence interval) should be reported in addition to p values. If multiple univariate statistical tests are used p values should be adjusted for multiple comparisons or alternatively a multivariate test should be used. Obtained statistical values for tests should be reported with degrees of freedom (e.g., t, F, $\chi^2$).

Discussion: Interpretation of the results with respect to the hypothesis(es) and their significance to the field should be discussed here. Results should be interpreted in the light of the size of the effect found and the power of the study to detect differences. Any methodological weaknesses of the study should be outlined, including limitations imposed by sample size. Careful consideration of the conclusion(s) for accuracy and alternative interpretation, and possible conflicts or resolution of conflicts in the field is encouraged. Limited speculation and directions for future research can be included.

Conflict of interest declaration: This section must be completed. This should follow the discussion and precede the references. Where there is no conflict of interest perceived to be present the heading Conflict of Interest should be included with the single word “none” underneath it. For full details see below.

Description of authors’ roles: This section must be completed if the paper has 2 or more authors. It should contain a very brief description of the contribution of each author to the research. Their roles in formulating the research question(s), designing the study, carrying it out, analysing the data and writing the article should be made plain. For example: H. Crun designed the study, supervised the data collection and wrote the paper. M. Bannister collected the data and assisted with writing the article. N. Seagoon was responsible for the statistical design of the study and for carrying out the statistical analysis.

Acknowledgements: Any acknowledgements other than conflict of interest declarations in regard to sponsorship should be listed briefly here.

References: No more than 30 articles that have been published or are in press should be cited. If authors believe that more than 30 references are essential this must be justified in
the cover letter. Unpublished data, personal communications, and manuscripts submitted for publication should be cited in the text and the supporting material submitted with the manuscript. International Psychogeriatrics uses the Harvard referencing system. Within the text of each paper journal articles should be cited in the style (Smith and Jones, 1999). Where an article quoted in the body of the text has more than two authors the term “et al.” should be employed, i.e., (Smith et al., 1999). Text citations of multiple articles should be separated by semicolons, i.e., (Smith and Jones, 1999; Smith et al., 1999). At the end of each paper, all cited references should be listed alphabetically in the style indicated below. If the Digital Object Identifier (doi) is known, it should be added to the reference.


Where an article or book chapter has more than six authors only the first author’s name should be given followed by the words “et al.”.

For further examples of reference style see papers in recent issues of International Psychogeriatrics.

Figures/Tables: The manuscript should contain no more than five figures or tables. The copies submitted with the manuscript must be of sufficient quality to enable reviewers to evaluate the data. The journal has a small budget to permit some colour to be printed in come issues but authors wishing to publish figures requiring colour to communicate the data may be required to pay some or all the additional cost.

Figure/Table legends: Each caption should begin with a brief description of the conclusion or observation provided in the figure. These should be submitted as a separate section after the References.

Supplementary material: More detail about the submission of supplementary material is available below – see “Supplementary Material for online only publication” and “Instructions for contributors – Supplementary Material” in subsequent pages of this document.
Word limits: At present *International Psychogeriatrics* does not have a fixed word limit for articles, but because of limited space, short articles have a higher chance of acceptance than longer ones of an equivalent standard.

5 Conflict of interest
Conflict of interest occurs when authors have interests that *might* influence their judgement inappropriately, regardless of whether that judgement is influenced inappropriately or not. *International Psychogeriatrics* aims to conform to the policies of the World Association of Medical Editors in regard to conflict of interest. For full details please see the website http://www.wame.org/wamestmt.htm#fundres. To this end all authors must disclose potential conflicts of interest so that others may be aware of their possible effects. Specifically, under the heading conflict of interest, all articles must detail:
The source(s) of financial support for the research (if none, write “none”).
A description of any sponsor’s role(s) in the research (e.g., formulation of research question(s), choice of study design, data collection, data analysis and decision to publish).
Information about any financial relationship between any author and any organization with a vested interest in the conduct and reporting of the study. For example, in a study on the effects of a drug made by Bigpharma which directly competes with another drug made by Megadrug a declaration might say “Jane Smith has received research support and speaker’s honoraria from Bigpharma and has received financial assistance from Megadrug to enable her attend conferences.”

Reviews of the Literature

*International Psychogeriatrics* will publish at least 1 literature review in each issue. Authors intending to submit a literature review should check recent issues of *International Psychogeriatrics* to ensure that no review of the topic they propose to discuss has been published in the journal in recent times. Review articles may have up to 50 relevant references. Authors contemplating the submission of a literature review article are welcome to contact the editor to discuss the appropriateness of the topic prior to submission (ipaj-ed@unimelb.edu). Literature reviews should have an abstract.

“For Debate” Articles

From time to time *International Psychogeriatrics* will publish “For debate” articles on topics of a controversial nature. “For debate” articles will be commissioned by the editor, but readers are welcome to suggest possible topics for debate by contacting the editor at ipaj-ed@unimelb.edu.au. To view recently published debates see journal issues 19(6), 20(2), and 21(2).
Case Reports
Case reports will be accepted for review and considered for publication. They should be of 1200 words or less and should have no more than 10 references. An unstructured abstract of 100 words or less is required. When submitting case reports authors must enclose a letter of consent to publication from each of the patient(s) described or, if the patient(s) is/are deceased or not competent to consent the authors must indicate that they have obtained such consent from the patient's legal guardian(s). These letters will be kept confidential.

Study protocol articles
Any author contemplating submission of a protocol only paper is advised to contact the editor of IPG via ipaj-ed@unimelb.edu.au to discuss the paper’s suitability for submission prior to submitting it.

Qualitative research articles
Authors of qualitative research articles are advised to contact the editor of IPG via ipaj-ed@unimelb.edu.au to discuss the paper’s suitability for the journal before submitting online.

Letters to the Editor
Reader's letters will be considered for publication. Letters should be no longer than 1,000 words and should have no more than 5 references. No abstract is required. Usually tables will not be published in the Letters section of the journal, but may be accepted for online publication as supplementary material at the journal website.

Supplementary Material for online only publication
International Psychogeriatrics has the facility to publish unedited figures, tables, appendices, any non-English sections, and other material which is not suitable for inclusion in papers published in 6 . This renders such supplementary material accessible without clogging the journal with materials that will be of interest to only a small minority of readers. If submitting such supplementary material please follow the instructions below. If referring to supplementary material in a paper the following form of words should be used "see table S1/figure S1/appendix A1 published as supplementary material online attached to the electronic version of this paper at ".

• We accept files in any of the following formats (if in doubt please enquire first):

MS Word document (.doc), Adobe Acrobat (.pdf), Plain ASCII text (.txt), Rich Text Format (.rtf), WordPerfect document (.wpd), HTML document (.htm), MS Excel spreadsheet (.xls), GIF image (.gif), JPEG image (.jpg), TIFF image (.tif), MS PowerPoint slide (.ppt), QuickTime movie (.mov), Audio file (.wav), Audio file (.mp3), MPEG/MPG animation (.mpg)
If your file sizes exceed these limits or if you cannot submit in these formats, please seek advice from the editor handling your manuscript.

**Supply of author-generated artwork**

**Monochrome line subject illustrations supplied as hard copy only**

These should have the author’s name and figure number clearly marked on the back of each piece of artwork. The figures will be scanned at 1200 dpi and compressed using LZW. The scanning process can result in problems with some fine ornaments and with any grey tints used (e.g. tints can fill in; a Moiré interference pattern can be produced; or poor quality, patchy tints result). Illustrations of this kind may be acceptable in a desktop publishing format, but they do not proceed satisfactorily through the several stages before printing. Plain black/white is acceptable, but all other shades/tints should be replaced with distinct PostScript fills or custom fills.

**Monochrome line subject illustrations supplied in digital form**

Macromedia Freehand, Adobe Illustrator and Adobe Photoshop are the preferred graphics packages. Before submitting your artwork, please do the following:

- Where possible, please supply illustrations as TIFF or EPS files (300 dpi). When submitting EPS files you must convert your text within the file to artwork/outlines. If your EPS file contains a scanned image, you must ensure that you supply a full EPS, i.e. binary data. Do not supply PostScript files. PostScript files cannot be included within our integrated page make-up system, or worked on in any way. For best results please save your files as TIFF or EPS files. If files cannot be supplied in this way other formats can be handled (although we do not guarantee to use them).

- Draw or scan line artwork to finished size with appropriate line weights and typefaces.

- Indicate the file format (e.g. TIFF or EPS), the graphics software that you have used in originating the artwork files (e.g. Freehand 7.0, Illustrator 8.0, etc.) and the computer operating system used (e.g. Mac OS 8.6, Windows NT).

- Supply a laser print of all figures. List the name and version of the artwork package used and the names and libraries of fonts used in the artwork or EPS files.

**Pattern fills and tints**

Artwork packages do not always generate pattern fills for output on image/platesetters. Imagesetters will interpret them differently from your Mac or PC and the result often looks pixellated or blocked. Where possible, use PostScript fills, custom fills and conventional tints. PostScript fills frequently do not display well on screen but they do print out correctly. It is best to avoid the use of complex or very detailed tints, patterns and symbols. These seldom reproduce satisfactorily when reduced to fit the page and when used in a caption or legend may be completely illegible when represented on a screen (for example during page
make-up, or on the Web) or when output on low-quality CUP artwork instructions.doc 2 laser
printers. Supplying as TIFF or EPS files (see above) alleviates this problem.
Please therefore:
• Use only the tints, patterns and symbols shown here.

• Use conventional fills: solids, tints, lines or cross-hatching.

• Use a PostScript fill if possible. (at high resolution finer tints do not reproduce satisfactorily
when reduced).

• If possible, use just one kind of screen (line angle or dot shape) and one screen value
throughout the document.

• Do not use pattern fills from a graphics program, as these are usually bitmap patterns,
which do not output adequately to plate/image setters.

• Do not use colour tints, even if the figure is intended for monochrome printing; use
black/white/greyscale.

• Do not use .hairline. line widths in graphics packages.

Monochrome halftone subjects
Figures composed of (hard copy) photographs should be unscreened glossy prints
presented at publication scale; each component part should be named with a lower-case
letter. Photographic artwork is numbered as part of the sequence of figures, not as separate
plates.
If supplying these in digital form, your repro house should follow these instructions:
• Scanning: Scan at a resolution that is around twice the intended screen value; for example
scan at 300 dpi for 133 or 150 screen.

• Dot range (halftones only): This is the term we use to describe the highlight/white area and
shadow/black areas within a printed image. To prevent the heavy or dark areas of your
halftones from filling in or the light areas being washed out we specify a dot range that
allows for gains or losses during the process to lithographic printing. Pre-set the dot range at
1% highlight to 96% shadow where possible, we will check your files before outputting as a
safeguard.

• Data files: Supply data as TIFF files; if you wish to compress them, use lossless
compression software such as the LZW compression package.

• Laser proofs: Supply a good quality laser proof of all figures. List the name and version of
the artwork package used and the names and libraries of fonts used in the artwork. If we are
unable to use your electronic file, we can scan in the laser proof as an alternative until a
revised file can be supplied.
• Line & tone combination: Files scanned as line & tone combination should be scanned at a higher resolution than a standard halftone to ensure better type/line quality, for example, 600 dpi.

**Colour halftone or line subjects**

• Do not submit line subject drawings with coloured tints unless the figure is required as a colour plate; use only black/white/greyscale.

• If supplying colour subjects in digital form, submit as TIFF or EPS files and choose CMYK colour mode when saving your scans. If you supply files as RGB we need to convert them to the CMYK printing process before we can print, this usually results in a slight change of the colour values; therefore all colour correction must be carried out in CMYK mode on your machine.

**Checklists**

• Always supply a printed directory of file names, laser proofs of all the figures, and a list of fonts/typefaces used in labelling artwork.

• Transfer media

• You can supply artwork files in any of the following media:

  Apple Mac/PC:
  □ disks at 3.5 inch
  □ 100/250 Mb Floppy ZIP drive
  □ CD-ROM

**9 Virus check**

Before dispatching your disks please run them through a virus checker program. If possible, also check Word and Excel files for viruses.

**General notes**

Following acceptance of a manuscript the contact author should receive proofs within 1-12 weeks. They also will be required to complete and forward a copyright form and authors’ checklist both of which will be forwarded to the corresponding author by email when the article is accepted.

The average time from an article being accepted to being e-published ahead of print as a First View article is 35 days, provided authors return proofs promptly. E-publication generates a doi number and counts as full publication for citation purposes.

Editorials, “For Debate” articles and book reviews are commissioned by the editor. Reviewers who reviewed papers in the previous calendar year will be acknowledged in the journal each year. International Psychogeriatrics no longer publishes an annual index as modern computerised search techniques have rendered annual hard copy indices obsolete.
Contributors should refer to recent issues of the journal for examples of formatting (abstracts, headings, references, tables, etc.).

**Author Language Services**

Cambridge recommends that authors have their manuscripts checked by an English language native speaker before submission; this will ensure that submissions are judged at peer review exclusively on academic merit. We list a number of third-party services specialising in language editing and/or translation, and suggest that authors contact as appropriate. Use of any of these services is voluntary, and at the author’s own expense. **Office of the Editor-in-Chief**

Professor Nicola Lautenschlager
Professor of Psychiatry of Old Age
Editor-in-Chief, International Psychogeriatrics,
Normanby House, St George’s Hospital
283 Cotham Rd
Kew, Victoria 3101
Australia
Email: ipaj-ed@unimelb.edu.au
Tel: + 61 3 9816 0418
Fax: + 61 3 9816 0477

**For book review submissions:**

Professor David Ames
Normanby House
St George’s Hospital
283 Cotham Road
Kew, Victoria 3101
Australia
Email: dames@unimelb.edu.au
Tel: +61 419378455
Fax: +61 3 9816 0477

**For business matters:**

Susan M. Oster
Managing Editor, International Psychogeriatrics
International Psychogeriatric Association
550 Frontage Road
Suite 3759
Northfield, IL 60093
USA
Email: ipa@ipa-online.org
Tel: +1 847 501 3310
Fax: +1 847 501 3317
Web: www.ipa-online.org
Appendix P- Author guidelines for Journal of Dementia

Dementia: The International Journal of Social Research and Practice: Manuscript submission guidelines

1. Peer review policy

*Dementia* operates a strictly anonymous peer review process in which the reviewer’s name is withheld from the author and, the author’s name from the reviewer. Each manuscript is reviewed by at least two referees. All manuscripts are reviewed as rapidly as possible.

2. Article types

*Dementia* welcomes original research or original contributions to the existing literature on social research and dementia.

*Dementia* also welcomes papers on various aspects of innovative practice in dementia care. Submissions for this part of the journal should be between 750-1500 words.

The journal also publishes book reviews.

3. How to submit your manuscript

Before submitting your manuscript, please ensure you carefully read and adhere to all the guidelines and instructions to authors provided below. Manuscripts not conforming to these guidelines may be returned.

*Dementia* is hosted on SAGE track a web based online submission and peer review system powered by ScholarOne Manuscripts. Please read the Manuscript Submission guidelines below, and then simply visit [http://mc.manuscriptcentral.com/dementia](http://mc.manuscriptcentral.com/dementia) to login and submit your article online.

IMPORTANT: If you are a new user, you will first need to create an account. Submissions should be made by logging in and selecting the Author Center and the 'Click here to Submit a New Manuscript' option. Follow the instructions on each page, clicking the 'Next' button on each screen to save your work and advance to the next screen. If at any stage you have any questions or require the user guide, please use the 'Online Help' button at the top right of every screen.

All original papers must be submitted via the online system. If you would like to discuss your paper prior to submission, please refer to the contact details below.

**Innovative Practice** papers must be submitted via the online system. If you would like to discuss your paper prior to submission, please email Jo Moriarty jo.moriarty@kcl.ac.uk.

**Books for review** should be sent to: Book Review Editor Dementia, Heather Wilkinson, College of Humanities & Social Science, University of Edinburgh, 55-56 George Square, Edinburgh, EH8 9JU, UK. Email: hwilkins@staffmail.ed.ac.uk
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