Prevalence of Loneliness, Anxiety, and Depression among Older People Living in Long-Term Care: A Review

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ABSTRACT

Objective: The aim of this paper was to review prevalence rates of loneliness, anxiety, and depression among older people living in long-term care settings such as residential aged care facilities, nursing homes and assisted living facilities. Method: A systematic search of the literature was conducted using several electronic databases including Medline, CINAHL, PsycINFO, and the Cochrane library. Results: In total, 18 articles met the inclusion criteria for this review. The results indicated that the prevalence rates of loneliness (56% to 95.5%), anxiety (3.6% to 38%), and depression (11% to 85.5%) in older people living in long-term care settings are generally high. Conclusion: Further research on effective methods of reducing these symptoms is recommended.

KEYWORDS: anxiety, aged, depression, loneliness, prevalence

INTRODUCTION

Loneliness, anxiety, and depression may be more prevalent for older people living in long term care settings due to a range of factors including the move to an unfamiliar environment (1), loss of previous connections and networks (2, 3), and deterioration of physical health (1). Hodgson and Freedman (4) identified that most stress arises within the first four weeks after moving into a residential aged care facility (RACF), and primarily occurs due to the relocation experience.

Loneliness is a subjective and negative feeling that occurs when is a difference between an individual’s expectations and their social network (5, 6). Older people may experience loneliness even if they are surrounded by other people (7). While there are no specific criteria for recognising loneliness in older people, as each person perceives loneliness differently, it is often accompanied by symptoms such as disturbed sleep, reduced satisfaction from social networking, diminished interest in social activities, and weight gain (5, 7).

Anxiety can occur suddenly or increasingly over hours or years. Longer durations of anxiety are more closely related to anxiety disorders. Anxiety disorders can take multiple forms and can be classified into Generalised Anxiety Disorder (GAD), Panic Disorder, Specific Phobia, Separation Anxiety Disorder, and other types. GAD is the most common type of anxiety disorder in older people. The diagnostic criteria for anxiety include difficulty controlling worries and the presence of at least three associated symptoms such as muscle tension, restlessness, irritability, trouble concentrating, fatigue, and insomnia (8).

Depression is a common mental disorder that can present concurrently with loneliness and anxiety (9). Depression in later life can range from mild to major (10). A major depressive disorder is indicated by a broad range of symptoms; these may include prolonged depression, decreased interest and pleasure in activities, significant weight loss or weight gain, insomnia, psychomotor agitation or retardation, loss of energy, feelings of worthlessness, the reduced ability to think or concentrate and suicidal ideation (8).

The aim of this paper was to review prevalence rates of loneliness, anxiety, and depression in order to understand how often older people living in long-term care develop these problems. To the best of the author’s knowledge, this study is the first attempt to identify the prevalence rates of loneliness, anxiety, and depression among older people living in long-term care settings such as RACFs, nursing homes, and assisted living facilities in a single study. Previous reviews of prevalence rates of anxiety involved older people with confirmed anxiety disorders and populations other than those in long-term care settings (7, 11). Previous reviews of prevalence rates of depression in older people living in long-term care settings were also based in developed countries in Europe and North America, and researchers suggested future reviews and collection of data from developing countries (12).

METHOD

A systematic search was conducted to identify relevant articles. The search was conducted using electronic databases including Medline, CINAHL, PsycINFO, and the Cochrane library, with the keywords: prevalence AND loneliness OR anxiety OR depression AND older people OR older adults OR elder AND residential care OR assisted living OR nursing home. Grey literature (Google Scholar) was included in the review. Reference lists of retrieved articles were read to identify additional studies eligible for inclusion. The search was limited to studies published in English and Malay from 2000 to 2017 in order to confine it to the most current studies. Studies were included if they estimated the prevalence of loneliness, anxiety, and depression in long-term care as an outcome measure. This review excluded studies that involved participants younger than 60 years and participants living in the...
community or hospitals. Studies that used mixed populations, such as mixed age groups and mixed settings, were excluded, unless a clear separation between these populations was reported. The search strategy yielded 984 studies in total: Medline (46), CINAHL (256), PsycINFO (106), Cochrane library (433) and grey literature (143) (Figure 1).

![Search strategy](image)

**Figure 1: Search strategy**

**RESULTS**

Of the 984 studies initially identified, 18 fully met the inclusion criteria, and 966 studies were excluded based on their abstracts. The reasons for excluding these 966 studies included not measuring prevalence, samples younger than 60 years, and full-text articles published in Spanish, Dutch, French and Norwegian. Of the 18 studies included, three measured both anxiety and depression and one measured both loneliness and depression. Two studies measured prevalence rates of loneliness, four measured prevalence rates of anxiety, and 16 measured the prevalence rates of depression (Table 1).

From the retrieved studies, two reported the prevalence rates of loneliness among older people in two different countries: 56% in Norway (13) and 95.5% in Malaysia (3). The search strategy found four studies investigating prevalence rates of anxiety that met the inclusion criteria (14-17). The prevalence rates ranged from 3.6% to 38%. Sixteen studies investigating the prevalence of depression met the inclusion criteria (3, 14-16, 18-30). The results revealed a huge variation in the prevalence rates of depression among older people living in long-term care settings, ranging from 11% to 85.5%. Overall, the results suggest high prevalence rates of loneliness, anxiety, and depression among older people living in long-term care. Malaysia reported the highest rates of loneliness at 95.5% (3), with anxiety at 38% (16) and depression at 85.5% (3). However, it is important to note that Nikmat's (3) study involved older people with cognitive impairment, which is associated with increased risk of loneliness and depression.

**DISCUSSION**

Overall, the researched reports differed in terms of methodology and research design implemented, which may account for the wide variability in findings. For example, the two studies addressing loneliness used distinctive research populations and different old age classifications. The anxiety studies involved different populations drawn from the United States of America (USA) (14, 17), Norway (15), and Malaysia (16). Likewise, the depression studies were conducted in several countries including the USA, Taiwan, Malaysia, Hong Kong, India, Norway, England, and Wales. Six studies were conducted in Malaysia, with sample sizes differing substantially, ranging from 71 to 76735 participants.

The number of settings involved may also have influenced the variation of prevalence rates of depression. The studies reporting the prevalence rates of depression ranged from examining one setting to looking at 1,492 settings. This wide variety of settings may have contributed to the wide range of prevalence rates of depression. Although all the studies on loneliness and anxiety were conducted on more than one site, the range of settings was not too different. Loneliness studies involved four to 30 long-term care settings. Meanwhile, the anxiety studies involved 18 to 30 long-term care settings, except for one study that did not report the specific number of nursing homes involved (16).

The measures used for each of the key constructs differed between studies. For example, the loneliness studies used the Social Provision Scale (31) and the Friendship Scale (32). Similarly, several tools were used to screen for anxiety, including the Clinical Anxiety Scale (33), Beck Anxiety Inventory (34), and the Hospital Anxiety and Depression scale (35). Further, different depression scales were used, such as the 15 item Geriatric Depression Scale (GDS-15) (36), Minimum data set (MDS) assessment (37), 30 item Geriatric Depression Scale (GDS-30) (38), Center for Epidemiological Studies Depression Scale (39), Automated Geriatric Examination for Computer Assisted Taxonomy (AGECAT) (40), and Hospital Anxiety and Depression Scale (35). The studies also used different criteria for depression; for example, Nikmat (3) reported high prevalence rates of depression (85.5%) based on depressive symptoms using the 15 item Geriatric Depression Scale, while Brown (19) reported lower prevalence rates of depression (11%) based on participants who were

**CONCLUSION**

Despite the heterogeneity of the findings, it can be argued that the prevalence rates of loneliness, anxiety, and depression in older people living in long-term care settings is generally high. These high prevalence rates of loneliness, anxiety, and depression among older people living in long-term care settings indicate that these mental health problems need to be taken seriously in this population, as their severity may contribute to a decrease in the quality of life and increased morbidity and mortality of the individual. This is a pressing concern and provides strong motivation for further intervention research.

**ACKNOWLEDGMENTS**

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**CONFLICT OF INTEREST**

The authors have no conflict of interest to declare with regard to this work.
Table 1: Prevalence rates of loneliness, anxiety and depression among older people living in long-term care settings

<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Total Participants/Gender(N)</th>
<th>Minimum Age (Years)</th>
<th>Number Long-term Care</th>
<th>Prevalence Rate (%)</th>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drageset, Kirkevold, and Espehaug (2011)</td>
<td>Norway</td>
<td>227 F: 164 M: 63</td>
<td>65</td>
<td>30 NHs</td>
<td>56</td>
<td>SPS</td>
</tr>
<tr>
<td>Nikmat et al. (2015)</td>
<td>Malaysia</td>
<td>110 F: 55 M: 55</td>
<td>60</td>
<td>4 RACFs</td>
<td>95.5</td>
<td>FS</td>
</tr>
<tr>
<td>Jayasinghe, Rocha, Sheeran, Wyka, and Bruce (2013)</td>
<td>USA</td>
<td>249 F: 152 M: 97</td>
<td>65</td>
<td>30 NHs</td>
<td>3.2</td>
<td>CAS</td>
</tr>
<tr>
<td>Khairudin, Nasir, Zainah, Fatimah, and Fatimah (2011)</td>
<td>Malaysia</td>
<td>100 F: 49 M: 51</td>
<td>65</td>
<td>Not reported</td>
<td>38</td>
<td>BAI</td>
</tr>
<tr>
<td>Neville and Teri (2011)</td>
<td>USA</td>
<td>148 F: 124 M: 24</td>
<td>-</td>
<td>18 ALF</td>
<td>11 (RAID) 18 (CAS)</td>
<td>RAID CAS</td>
</tr>
<tr>
<td>Brown, Lapane, and Luisi (2002)</td>
<td>USA</td>
<td>42901 F: 32275 M: 10626</td>
<td>65</td>
<td>1,492 NHs</td>
<td>10.9</td>
<td>MDS</td>
</tr>
<tr>
<td>Drageset et al. (2013)</td>
<td>Norway</td>
<td>227 F: 164 M: 63</td>
<td>65</td>
<td>30 NHs</td>
<td>32</td>
<td>HADS</td>
</tr>
<tr>
<td>Goud and Nikhade (2015)</td>
<td>India</td>
<td>80 F: 51 M: 29</td>
<td>60</td>
<td>2 RACFs</td>
<td>53.8</td>
<td>GDS (no information about the total items)</td>
</tr>
<tr>
<td>Khairudin et al. (2011)</td>
<td>Malaysia</td>
<td>100 F: 49 M: 51</td>
<td>65</td>
<td>Not reported</td>
<td>64</td>
<td>GDS-15</td>
</tr>
<tr>
<td>Khaw, Teo, and Rashid (2009)</td>
<td>Malaysia</td>
<td>155 F: 82 M: 73</td>
<td>60</td>
<td>1 RACF</td>
<td>20.6</td>
<td>GDS-30</td>
</tr>
<tr>
<td>Ku, Liu, and Tsai (2006)</td>
<td>Taiwan</td>
<td>947 F: 1 M: 946</td>
<td>65</td>
<td>4 RACFs</td>
<td>35.5</td>
<td>GDS-15</td>
</tr>
<tr>
<td>Levin et al. (2007)</td>
<td>USA</td>
<td>76735 F: 57627 M: 19108</td>
<td>65</td>
<td>921 NHs</td>
<td>48</td>
<td>MDS</td>
</tr>
<tr>
<td>Lin, Wang, and Huang (2007)</td>
<td>Taiwan</td>
<td>138 F: 74 M: 64</td>
<td>65</td>
<td>8 NHs</td>
<td>81.8</td>
<td>CESD-S</td>
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<tr>
<td>Nikmat et al. (2015)</td>
<td>Malaysia</td>
<td>110 F: 55 M: 55</td>
<td>60</td>
<td>4 RACFs</td>
<td>85.5</td>
<td>GDS-15</td>
</tr>
<tr>
<td>Shahar et al. (2011)</td>
<td>Malaysia</td>
<td>71 F: 25 M: 46</td>
<td>60</td>
<td>1 RACF</td>
<td>71.8</td>
<td>GDS-15</td>
</tr>
<tr>
<td>Tsai (2006)</td>
<td>Taiwan</td>
<td>174 FB: M: -</td>
<td>65</td>
<td>9 NHs</td>
<td>55</td>
<td>GDS-15</td>
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</tbody>
</table>
REFERENCES


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