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Loneliness, social provision and health among older men and women with chronic physical diseases – a mixed methods study

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ABSTRACT

The purpose of the study was to explore loneliness, social provision and perceived health from a gender perspective among older persons with chronic diseases. Loneliness has become one of the main challenges facing an ageing society. It is not only a health concern, but also involves social, cultural and relational issues. A mixed-methods approach was chosen to enable a deeper insight into the participants' experience of loneliness. Perceived social support was assessed by the Social Provisions Scale and self-rated health was reported by 42 older participants with chronic diseases. An interview was conducted with 27 participants who reported feeling lonely. Analysis revealed no gender differences in the survey of social provision, but the association between social provision and self-rated health was much stronger in women than compared to men. In their statements, the female participants expressed missing emotional support, someone to talk to and relationships with their family. The male participants longed for contact and wanted help to get out of the house. Their need for relief strategies against loneliness seems to be closely linked to their previous traditional gender roles. The results indicate that society could improve the health of older persons by promoting safe social contacts, preferably in smaller interest groups, as well as facilitating social contact in society, e.g. social meeting places.

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1. Introduction

This study explores how loneliness is experienced by old people with chronic physical diseases. Loneliness is a risk factor for both physical and mental problems, as well as conditions with serious implications in old age. It has become one of the main challenges facing an ageing society (Valtorta et al., 2018). About a quarter of the population aged 60 years and over experiences loneliness in later life (Chawla et al., 2021). According to the WHO (World Health Organization, 2023), social isolation and loneliness in old age are widespread and have a serious impact on physical and mental health as well as life span. The traditional description of loneliness is from Perlman and Peplau, who define it as an unpleasant feeling that occurs when people perceive their social network and social relationships to be deficient (Perlman & Peplau, 1981). Based on their description, loneliness is a public health concern involving social, cultural and relational issues (Ozawa-de Silva & Parsons, 2020). As a social phenomenon loneliness affects by a feeling of being left behind, a fear of abandonment and social rejection (Ozawa-de Silva & Parsons, 2020). In old age, people are more prone to loneliness due to life span and age-related experiences and are increasingly confronted by the loss of their social network and relationships (Aunsmo et al., 2023; Dahlberg et al., 2015; Holt-Lunstad, 2018; Solmi et al., 2020).

When studying the feeling of loneliness more thoroughly, different dimensions are described in the literature. Emotional loneliness is regarded as a subjective negative feeling related to the absence of close emotional attachment, such as a family member or a best friend, In old age, people become increasingly confronted by the loss of attachment figures, which increases their loneliness (Van Assche et al., 2013). Reduced physical ability and vulnerability are likely to prevent older people from

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sustaining relationships or initiating new ones (Van Assche et al., 2013). However, relationships with others are important because a secure attachment style among older people, i.e. their ability to engage in emotional relationships, is linked to life satisfaction, self-reported well-being and better ability to cope with physical ailments (Kirchmann et al., 2013). Social loneliness is characterized by the absence of a broader group of social contacts, such as friends or work colleagues (Prohaska et al., 2020; Russell et al., 1984). A similar form of loneliness is called collective loneliness, which refers to a person's valued social identities such as being distantly connected to like-minded individuals in the collective space as in voluntary groups (Cacioppo et al., 2015). Social relationship also have great implications for morbidity, as good social relationships have been shown to increase the likelihood of survival (Holt-Lunstad et al., 2010), while social isolation was linked to mental health symptoms and diseases, which was more frequent among older people with functional limitations (Mehrabi & Béland, 2020). Yet another domain is existential loneliness, which is described as an immediate awareness of being fundamentally separated from other people, from the universe and an experience of being mortal (Bolmsjö et al., 2019).

Does the experience of loneliness differ between males and females? In their 2001 meta-analysis, (Pinquart & Sörensen, 2001) stated that older women tend to experience more loneliness than older men. They explained this by assuming that older women are more willing to admit that they feel lonely. In addition, women have a greater risk of experiencing widowhood because their life expectancy is higher (Chen et al., 2021). However, it is argued that widowhood in later life has a stronger impact on the social life of men than women because men focus on their partner as their main confident (Cooney & Dunne, 2001). Furthermore, people who are married tend to have larger networks compared to the widowed. On the other hand, older women tend to have a larger total number of relationships in comparison to older men (Cicirelli, 2010). However, the feeling of loneliness is not the same as living alone and the quality of social contact is more important than the quantity. In contrast to the studies by Pinquart and Sørensen and Cooney and Dunne, (Maes et al., 2019) found in their meta-analysis of gender differences across the lifespan that the effect sizes were small in most of the domains they investigated and largely stable over time.

Differences in culture have been highlighted in research on loneliness. This concerns whether society is oriented towards an individualistic or collectivist style (Barreto et al., 2021) as well as differences in gender culture (Franklin et al., 2019; Rokach, 1999). As a result, it appears difficult to distinguish between different dimensions of loneliness, differentiate between gender, culture and how loneliness appears during old age. Thus, studies on loneliness are inconclusive regarding gender differences in old age. As stated by Prohaska et al., (2020), there is a need for better understanding of the complexity of loneliness, which requires more research. It might be valuable to discuss how the various forms of loneliness differ and thus have different consequences for each lonely person (Russell et al., 1984). Loneliness is considered a private experience and might differ from one person to another (Bandari et al., 2019). Healthcare staff should examine the underlying conditions and thus be able to recognise the different experiences (Bolmsjö et al., 2019).

The increased prevalence of chronic diseases will underline the need for active interventions in society that can reduce morbidity among the ageing population. Recommendations from the WHO (World Health Organization, 2023) indicate urgent public health and policy concerns, highlighting the necessity to create more age-friendly communities and investments in healthcare. More knowledge on gender, loneliness and healthcare use are required to enable the healthcare services to meet the challenges facing the ageing society (Burns et al., 2021).

The aim was to explore loneliness, social provision and perceived health from a gender perspective among older persons with chronic diseases.

2. Methods and materials

A mixed methods approach was chosen to enable a deeper insight into the participants' experience of loneliness and social support by combining quantitative and qualitative methods. A convergent mixed method design was adopted in which both quantitative and qualitative data were collected, analysed and then integrated in the findings to draw inferences (Fetters et al., 2013; Tashakkori & Creswell, 2016). By using a convergent mixed method approach we combined statistical data from the Social Provisions Scale (SPS) with close descriptions to ensure a more complete and comprehensive description of different dimensions of loneliness.

2.1. Participants

The participants lived in their own house but had a short stay at a geriatric ward in Oslo, Norway, twelve months before the present study. Additional inclusion criteria were aged 65 years or older and suffering from one or more chronic physical diseases, cognitively well-functioning and capable of signing informed consent, no psychosis, stroke or alcoholism, no recent traumatic stress events and able to read and write Norwegian. The recruitment of participants was described in detail in the study by Kvaal et al. (2014).

2.2. Data collection

Background variables, age, gender, education and closest carer were registered. A five-point scale was used to rate their health status, where 1 indicated very poor and 5 very good (Linn et al., 1968).

Perceived social support was assessed using the 24-item Social Provisions Scale (SPS) (Russell et al., 1984). The items are divided into six subscales, each consisting of four items. The six subscales are attachment, social integration, opportunity for nurturance, reassurance of worth, sense of reliable alliance and obtaining guidance. Each subscale had a minimum score of 4 points, a maximum score of 16 points and was treated as described by Kvaal et al. (2014). A total social support score was calculated with a minimum score of 24 points and a maximum score of 96 points. A high score in each subscale and the total sum score indicate high social provision, while a low score indicates loneliness.

The qualitative data were collected during the interview by one of the authors (KSK). The participants were asked if they felt lonely with response alternatives 'yes' and 'no'. Those who answered yes were then asked to describe the meaning they attributed to loneliness. Based on their own expressions of loneliness, they were asked to condense their descriptions into shorter statements. During this self-analysis process, the interviewer repeated their statements to ensure validity. Patient involvement was emphasized by giving the participants time to reflect on their statements and the fact that the researcher did not add her assumptions or opinions.

2.3. Analysis

2.3.1. Quantitative analysis

The description of the population and the descriptive results were stratified by gender.

Correlation analysis was employed in the exploration of social provision and health between gender. Statistical analyses were performed with the SPSS statistical program, version 28.

2.3.2. Qualitative analysis

The interviews were processed by the participants, who sequentially coded their own statements with key sentences and concepts, after which they were sorted according to gender by the fourth author (KSK) to identify any gender differences. This was done prior to the analysis and before the four researchers who carried out the analysis had read the key sentences. The analytical process was inspired by Kvale and Brinkmann's three-step phenomenological-hermeneutic analysis of text (Kvale et al., 2015). In the first step of the analysis (self-understanding), after a thorough reading of the entire text to gain an overall impression of the content, the two female researchers (HB, EO) categorized the statements from the female participants independently, while the two male researchers (BB, KRS) categorized the statements from the male participants independently. In the second step (common sense), blinded to the other gender's statements and analytical process, all five researchers had a consensus meeting to compare similarities and differences in the categorization and define the subthemes. In the third step (theoretical interpretation) the researchers jointly formulated one main theme after consensus was achieved. The third step involved discussion of several studies and theories of loneliness and gender.

2.4. Ethical consideration

This study is a follow-up of the study by Kvaal et al. (2014) and was approved by the South-Eastern Norwegian Regional Committee for Medical and Health Research Ethics. Participants were entitled to withdraw their consent at any time during the study. All parts of this study were in line with the Ethical Principles for Medical Research Involving Human Subjects contained in the Declaration of Helsinki.

3. Results

A total of 42 persons (25 women and 17 men) participated in the quantitative surveys. Participants who stated that they were not lonely did not participate in the qualitative part of the study. The 27 (64.3%) persons who stated that they felt lonely (17

women and 10 men) were interviewed further (Table 1).

3.1. Quantitative results

Table 2 shows the distribution of the help they missed by gender. Mostly women missed help with cleaning and care in the home. Among both men and women, about 40% missed social contact or help to get out of the house. Nearly half of the men did not miss any help whatsoever and seven of them had a spouse.

Table 3 shows the participants' report on their best help. An equal proportion of men and women, 24%, reported that the municipal health services gave them their best help.

Table 1. Participants, burden of disorder and carers in a gender perspective.

	Female	Male
Age (ys)	79.8	79.4
Education[a]	2.5	2.8
Self-reported health[b]	3.7	3.5
MMSE short version[c]	11.1	11.6
Lonely %	68	59
Closest caring person	Spouse 4% Children/other relatives 52% Healthcare caregiver's 32%	Spouse 41% Children/other relatives 41% Healthcare caregiver's 12 %

[a]Scale from 1 to 6, where 1 indicates primary school and 6 university or university college. [b]1 indicated very poor health and 5 very good health. [c]Scale from 1 to 12, no cognitive impairment at sumscore between 10 and 12 points.

Table 2. The participants' report of the type of help they miss the most.

What kind of help did the participants miss the most?	Female ($N=25$)	Male ($N=17$)
Cleaning and practical help in the house	9 (36%)	1 (6%)
Social contact	7 (28%)	4 (24%)
Help to get out of the house	3 (12%)	3 (18%)
Medical help	2 (8%)	1 (6%)
Nothing	4 (16%)	8 (48%)

Table 3. The participants' report on their best help, where and by whom.

Where and from whom have you received the best help?	Female ($N=25$)	Male ($N=17$)
Stay in a geriatric department	0 (0%)	3 (18%)
Municipal help at home	6 (24%)	4 (24%)
Spouse at home	0 (0%)	7 (41%)
Social and practical help from other close relatives	14 (56%)	3 (18%)
No answer	5 (20%)	0 (0%)

Twenty-four percent of both men and women reported good or very good health. On a scale between 1 and 5 the mean of their self-rated health was 3.7 among women and 3.5 among men.

Table 4 shows that there is no difference between the total SPS or the six subscales for women and men.

The correlation between total SPS and three of the subscales for SPS and self-reported health in women is moderate. Higher levels of attachment, social integration and reassurance are positively correlated with better self-rated health among women (Table 5).

The corresponding correlations in men are different, with only the subscale 'social integration' having a moderate positive correlation with health.

3.2. Qualitative results

The qualitative content of the participants' statements was sorted into themes and categories. The analysis revealed one main theme, which entitled: Loss of the sense of belongingness and a feeling of being insignificant. The subthemes consisted of different dimensions of loneliness at the common-sense level where the participants' descriptions matched each other. In addition, the participants' statements revealed differences in how they described their loneliness. Some expressed themselves in keywords and others in sentences and paragraphs. The descriptions of loneliness and the repeated use of terms such as, for example, sad, restless and abandoned, led to the following categories: 1) Emotions, 2)

Table 4. A comparison of the total SPS and subscales stratified by gender (means and 95% CI).

Total SPS and subscales	Female	Male
Social Provision Scale	74.1 (67.6–80.5)	76.9 (66.5–87.2)
Attachment	13.1 (11.7–14.5)	15.8 (11.8–13.8)
Social integration	13.3 (11.8–14.7)	12.2 (9.7–14.7)
Opportunity for nurturance	8.3 (6.5–10.1)	9.9 (7.3–12.6)
Reassurance of worth	12.8 (11.4–14.2)	12.9 (10.7–15.0)
A sense of reliable alliance	15.0 (14.2–15.8)	14.6 (13.1–16.2)
Obtaining guidance	11.7 (9.8–13.5)	13.4 (10.9–15.9)

Table 5. Pearson correlation between SPS and self-rated health stratified by gender.

Total SPS and subscales	Female	Male
Social Provision Scale	0.570	0.406
Attachment	0.487	0.207
Social integration	0.599	0.555
Opportunity for nurturance	0.107	0.228
Reassurance of worth	0.585	0.445
A sense of reliable alliance	0.413	0.270
Obtaining guidance	0.405	0.049

Table 6. Main theme and subthemes of loneliness and categories of female and male participants' statements.

Categories	Emotions	Existential	Social relationships	Physical
Subthemes	Sadness Emptiness Missing Grieve	Worthless Forsaken	Alone and isolated Ignored and forgotten	
Female Statements	Worried Bitterness Despair/despairing On the outside/left out Unable to express the feelings she has	Afraid of dying alone Feeling alive but dead because all her friends are dead. Alone in the world Outside real life	Feeling neglected Filled with longing for company. Miss close people I'm longing for contact and somebody to talk to. Feeling useless, feeling like a fool. Must give to get something. back and she cannot do so, thus children, grandchildren do not care about her[1]	Bored and restless Unease Acts on the unrest. Wants to leave the house
Male Statements	Depressed Anxiety, fright, fear Abandoned, deserted Uncomfortable Unpleasant	Suicidal thoughts Living down in a dark basement - no bright spots Alone, the day is so long. Most of life has passed	Longing for the loved ones who have died (especially his wife) 2 Nothing worthwhile Overlooked Does not want to bother. others	Desperate, not able to pull himself together Muddle-headed, scatter-brained Isolated because unable to keep up with others. Conversation at a 'high' pace Unable to participate outside the flat

[1]Main theme: Loss of the sense of belongingness and a feeling of being insignificant.

Existential, 3) Social relationships and 4) Physical. The main theme, subthemes and categorization of the statements are presented in Table 6.

The statements indicate the participants' emotional state and their reactions to their experience of losing both their belongingness in society and the feeling of being insignificant had a far-reaching impact on their everyday life. This was common to both male and female participants.

The participants' *emotional reactions* to their loneliness were described in dimensions of sadness, emptiness, grief and missing contact with other persons. The statements categorized by the female and male researchers reveal that the female and male participants described their experiences in different terms.

Existential suffering included the experience of being worthless. The differences in their statements revealed that death was a common theme, but while the female participants described being afraid of dying alone, the male participants mentioned suicidal thoughts. 'Alone in the world', 'Feeling alive but dead because all her friends are dead' and 'Outside real life' were predominant in the female statements, which described their social isolation.

The experience of loneliness related to *social relationship* was described by statements about being alone and isolated, ignored and forgotten. Furthermore, both male and female participants described their loneliness related to this theme as missing close people, for the female participants this concerned their children and grandchildren, while the male participants longed for their dead wife. The female participants described longing for company, and 'I'm longing for contact and somebody to talk to' but had experience of 'Must give to get something back and she cannot do so' and 'Feeling neglected'. The female participants described themselves as 'feeling useless' and' feeling like a fool'. The male participants felt 'overlooked' and 'nothing worthwhile', but all the same 'does not want to bother others'.

The analysis revealed there were no subordinate expressions of *physical dimensions* when male and female investigators categorized the statements and searched for subthemes in accordance with loneliness.

4. Discussion

4.1. Discussion of the results

The gender stratifications revealed small differences between female and male. Nearly 65% of the included 42 persons reported being lonely and were asked to further describe their feeling of loneliness. The questionnaires revealed nearly half of the participants described their loneliness related to missing social contact or help to get out of the house. The female participants missed social contact with their children and grandchildren, while the male participants longed for their dead wife. Further, more than half of the female participants reported receiving the best help from close relatives, while the male participants received the best help from their spouse.

The male participants favoured contact with their spouse and expressed emotional loneliness and

longing the most for the spouse who had died. As noted by Bergland et al. (2016), men who do not have any close family members felt a great loss. This corresponds well with the study by Prieto-Flores et al. (2011), who found marital and health status influenced the experience of loneliness. According to Kitzmüller et al. (2018), loss and loneliness are closely related. They found that the experience of loss and loneliness called evoked aching feelings of grief and longing. They described fear as a common companion to loneliness, which is also reflected in our study, but most especially for the men who expressed emotional loneliness.

Attachment was positively associated with self-rated health among the female participants. Attachment style has implications in old age as it activates in times of danger and loss. When associated with good health, the closeness and emotional support in relationships with intimate partners, children, or close family members play a central role in the participants' lives. In ageing, life goals change from instrumental achievements to the importance of secure and emotional fulfilment by close family members and good friends. Older persons with a secure attachment style may cope with their loneliness and chronic diseases, while older persons with an insecure attachment style may experience emotional and social loneliness (Shunqin, 2015; Van Assche et al., 2013). In the qualitative statements, many of the women felt neglected, missed close persons, longed for contact and somebody to talk to, all statements that suggest an insecure attachment. In the ageing process, people experience that contact with peers, close friends and colleagues diminishes and attachment figures need to be replaced. A person with a secure attachment style can be activated by having support from new attachment figures (Shunqin, 2015; Van Assche et al., 2013). Such support might help the participants to cope with physical complaints (Kirchmann et al., 2013).

The female participants associated their 'Reassurance of worth' with better health. Traditional gender inequality implies that men and women have different roles, responsibilities and sometimes different values. Women might be aware that in many circumstances, society treats men better, such as the health system and economically (Zuckerman et al., 2016). This may be the reason why this link does not appear among the male participants. In a study by Bell and Gonzalez (1988) loneliness was strongly associated with Attachment and Reassurance of Worth only among women, while Social integration was associated with loneliness for both women and men. In the qualitative descriptions, both male and female participants described their loneliness as a lack of belongingness corresponding to an existential suffering where they felt worthless and abandoned. The male participants experienced that everything was perceived as darkness with no bright spots. This can be compared to Kitzmüller et al. (2018), who found that the feeling of loneliness led to a sense of entrapment. Another theme that occurred was the female and male participants' descriptions about thoughts of death. While the female participants described being afraid of dying alone, the male participants mentioned suicidal thoughts. The different ways of expressing their loneliness demonstrated that men made more fearful statements, while the female participants described their loneliness with greater emotional expressions like being worried. This fits well with the study by Badal et al. (2021), who found that the difference in female and male expressions of loneliness, even by using linguistic features, could predict differences in loneliness in old age.

Women also reported what they missed the most was to obtain good quality practical help in the house. It seems that their need for strategies to cope with loneliness may be closely linked to their previous experiences, current attributions and overall preference of social contact which is in accordance with Cacioppo et al. (2015), who included 'Collective loneliness' as a type of loneliness.

Nearly half of the participants stated that they missed social contact with others, while few people lacked medical assistance. In the development of an age-friendly society, social support and facilitation of social contact in society will be of great importance (World Health Organization, 2023). One must take a much broader view of health care than purely medical treatment. Health care may involve treatment of loneliness and can include the facilitation of green social spaces (Sugiyama et al., 2023), organized social support in groups (Lindsay-Smith et al., 2018; Walton & Collins, 2022) and organized groups where one can perform joint activities, e.g. music therapy (Zhang et al., 2017). These measures may counteract loneliness and secondly reduce morbidity in older people (Holt-Lunstad et al., 2010).

4.2. Strengths and limitations

The challenges involved in exploring the phenomenon of loneliness might be due to a lack of consensus in definition and measurement. As discussed in the scoping review by Courtin and Knapp (Courtin &

Knapp, 2017), broad and general descriptions of loneliness make it difficult to distinguish between different dimensions of loneliness. Variations of feeling loneliness may therefore be reported differently among women and men, e.g. Pinquart and Sörensen (2001), Djukanović et al. (2015) and La Grow et al. (2012). Research on loneliness has distinguished between different types of loneliness: emotional and social loneliness (Prohaska et al., 2020) and intimate – or emotional, relational – or social and collective loneliness (Cacioppo et al., 2015). Collective loneliness is linked to the individual's social identity and lack of contact with groups with the same identity. There has been little focus on collective loneliness in the research (Maes et al., 2019). Our analysis process revealed two additional types, namely physical and existential loneliness. Reacting physically to an emotional feeling of loneliness is quite common. In addition, reacting emotionally to one's physical health status in the case of a chronic condition is common. An existential reaction to loneliness is regarded as a lived experience and should be separated from other kinds of loneliness as discussed by Bolmsjö et al. (2019), where loneliness is considered an awareness of being fundamentally separated from other people.

In the quantitative part of this study, only 42 people, 25 women and 17 men participated. Quantitative results are presented only descriptively, and no statistical testing has been carried out. However, the quantitative results are in accordance with earlier research (Hajek & König, 2020).

One major advantage with a convergent design is the possibility to compare findings from quantitative and qualitative data sources to see if they confirm or disconfirm each other. In addition, the two types of data can validate each other or reveal contradictions (Hill et al., 2018). Another advantage of such side-by-side comparison that jointly displays both forms of data is that it allows us to discuss the quantitative findings considering personal lived experiences, which provide a more close-up, in-depth view. Thus, this design can contribute a deeper understanding of the phenomenon of loneliness, ensure that it is grounded in experience and as such strengthen confidence in the conclusion (Vedel et al., 2019).

The results from the qualitative part of the study revealed that there were similarities in the short statements made by male and female participants when dividing their statements into the dimensions of emotional, physical, existential and relationship loneliness. As far as we know, this is the first study in which female researchers analysed the female participants' statements and male researchers analysed the male participants' statements in order to emphasize the gender perspective. This way of analysing revealed that the researchers differed in relation to their way of judging the statements, especially with the lack of similar descriptions in the physical dimension. A weakness may be that the interviews were performed by a female and in the future, it might be better for a male to conduct the interviews with men.

Further recommendations for qualitative research entail informants analysing themselves, which might be a better way of understanding the study participants' experiences of loneliness.

5. Conclusion

The survey of social provision through the SPS revealed small differences between women and men. However, the associations between SPS and self-rated health were much stronger in women than in men. The female participants missed emotional support in relationships with their family, expressed a feeling of being neglected and longed for contact and someone to talk to. The male participants who had a spouse were not lonely. Forty percent of the participants with chronic conditions report that they lack help to get out of the house or to have better social contact. The results of the study point towards the need to distinguish between healthcare directed towards men and women. Further studies are needed in accordance with the WHO's recommendations on creating more age-friendly communities and investments in healthcare. In this context, one should have a broad understanding of healthcare where one also includes social support in smaller groups and social meeting places in society.

Authors contributions

Conceptualization, design, and data collection, KSK; Methodology, HB, KRS, EO, BB and KSK; Formal Analysis, HB, EO, KRS and BB. Writing – Original Draft Preparation, HB, KRS. Writing – Review and Editing, HB, KRS, EO, BB and KSK. All authors have read and agreed the final version of the manuscript for publication.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

The data presented in this study are available on request from the corresponding author. The data are not publicly available due to the privacy of the people who took part in this research

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