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Træen, Bente; Hald, Gert Martin; Graham, Cynthia A.; Enzlin, Paul; Janssen, Erick; Kvalem, Ingela Lundin; Carvalheira, Ana; Štulhofer, Aleksandar

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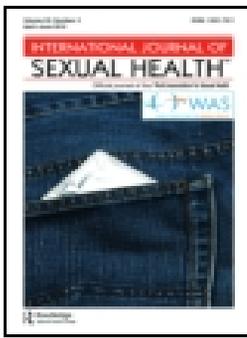
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Sexuality in Older Adults (65+)—An Overview of the Literature, Part 1: Sexual Function and Its Difficulties

Bente Træen PhD , Dr Gert Martin Hald, Dr Cynthia A Graham PhD, Paul Enzlin , Erick Janssen , Dr Ingela Lundin Kvalem, Ana Carvalheira & Aleksandar Štulhofer

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Sexuality in Older Adults (65+)—An Overview of the Literature, Part 1: Sexual Function
and Its Difficulties

Professor Bente Træen PhD (Corresponding Author)

Email: bente.traen@psykologi.uio.no

University of Oslo, Department of Psychology, Oslo, 0317 Norway

Dr Gert Martin Hald

Email: gertmartinhald@gmail.com

University of Copenhagen, Department of Public Health, Copenhagen, Denmark

Dr Cynthia A Graham PhD

Email: C.A.Graham@soton.ac.uk

University of Southampton, Southampton, UK

Professor Paul Enzlin

Email: paul.enzlin@uzleuven.be

ACCEPTED MANUSCRIPT

University of Leuven, Institute for family and sexuality studies, Leuven, Belgium

Professor Erick Janssen

Email: erick.janssen@kuleuven.be

University of Leuven, Institute for family and sexuality studies, Leuven, Belgium

Dr Ingela Lundin Kvalem

Email: i.l.kvalem@psykologi.uio.no

University of Oslo, Department of Psychology, Oslo, Norway

Professor Ana Carvalheira

Email: acarvalheira@ispa.pt

ISPA Instituto Universitário, Department of Clinical Psychology, Lisbon, Portugal

Professor Aleksandar Štulhofer

Email: astulhof@ffzg.hr

University of Zagreb, Department of Sociology, Ivana Lucica 3, Zagreb, 10000 Croatia

Abstract

Aim: The aim of the current paper was to provide an overview of literature on sexual function and sexual difficulties in older adults.

Method: We conducted a narrative review of papers published in English between January 2005 and July 2015 based on an extensive search in PsycINFO.

Results: The review showed that while common biological changes may adversely affect sexual function in old age, sexual experience seems to also be affected by psychological and interpersonal factors.

Conclusions: Greater life expectancy and better medical care will result in older individuals with chronic diseases living longer. The need for help to cope with changes in sexual health is likely to increase in older adults, as sexuality may be negatively affected through several pathways.

Introduction

The population of older adults is sizeable and growing in most Western countries due to increased life expectancy and continually improved health (care) in old age. These trends create challenges for health care providers and policy makers alike (DeLamater & Karraker, 2009), who are increasingly confronted with a new 'old age' reality in which new needs and expectations arise, including expectations related to sexual health.

Research consistently indicates that sexual activity in older adults is associated with important health- and illness-related outcomes (Christensen, Grønbaek, Pedersen, Graugaard, & Frish, 2011a; 2011b; Graugaard et al., 2012). For example, older adults reporting 'fair' or 'bad' health, or who have been diagnosed with a medical condition, are less likely to report being sexually active, more likely to report sexual problems (DeLamater, 2012; Field, Mercer, Sonnenberg, Tanton, et al., 2013; Moreira, Glasser, King, Duarte, et al., 2008), and experience less frequent or more dissatisfying sexual relations (DeLamater & Karraker, 2009). Further, side effects of medication often include adverse sexual side effects such as reduced sexual desire, erectile dysfunction, and delayed orgasm (Field et al., 2013; Graugaard et al., 2012). These side effects are also prevalent among older adults and have been shown to reduce treatment compliance, treatment satisfaction, and quality of life (Krag, Nielsen, Norup, et al., 2004; Lundberg, 2006; Numberg & Hensley, 2003).

In most Western countries, the topic of sexual health is gaining legitimacy and importance (Graugaard et al., 2012). However, knowledge about the interconnections between sexual health, quality of life, and aging is limited, and scientific research in this area is still scarce. This raises the question of how prepared present-day healthcare professionals are to deal

with and respond to the social challenges associated with sexual health among older men and women. Accordingly, this paper aims to provide an overview of sexual function and difficulties among older adults based on more recently available scientific literature. Compared to previous overviews (see e.g., DeLamater, 2012), the present review covered papers published between January 2005 and July 2015 and encompassed more specific topics such as literature on sexual orientation and body image.

Method

To obtain an overview of the literature, a narrative review of the literature was conducted in the database Ovid PsycINFO in cooperation with two librarians at a University library in Oslo (Grant & Booth, 2009; The Norwegian Knowledge Centre for the Health Services, 2016). A narrative review is a less comprehensive method than a systematic review, typically involving a narrower search strategy, and a search of fewer databases. The chosen database, Ovid PsycINFO, has many overlaps with other popular databases, such as Medline. The literature search was conducted following selection criteria set by The Norwegian Knowledge Centre for the Health Services (2016). The search aimed at identifying literature on sexual behaviors and sexual well-being of persons aged 65 years or older published between 1 January 2005 and 1 July 2015 in English language peer-reviewed scholarly journals. Regarding study designs, both quantitative and qualitative studies, as well as review papers and meta-analyses, were included. Studies included epidemiological and clinical research from a medical as well as a psychological perspective.

Initially, each co-author developed a list of keywords related to his/her area of contribution. To systematize the literature search, thematic areas were identified from the list of keywords. In addition to the research question, the thesaurus of Psychological Index Terms and keywords were used to guide the literature search that was performed in July 2015. These keywords and search terms were combined and an age limitation using PsycINFO's filter for the age group 65 years and over. The search was sensitive to different variants and endings of the word "sexual." In addition, the term was also treated as an adjective (sexual function, sexual desire, sexual satisfaction, etc.). At step 2, the selection was limited to studies published in English, from 2005 and onwards. Animal studies on sexuality were removed at steps 3 and 4. The literature search resulted in 4,214 references, that were all made available to the contributing authors, both as Word- and EndNote files. Following the completion of the literature search, a research assistant sorted and categorized the references by topic so that each co-author would receive only the references including abstracts, related to their specific area of contribution (a number of references were classified as reporting on more than one area of interest). Once all authors received the list of references from the research assistant, each was instructed to read the abstracts and select all relevant papers. Based on their reading of abstracts, each co-author made the final selection of papers relevant for his/her area of contribution. Upon closer inspection, many of the listed references were found unrelated to this study topic. There was no record of the number of papers that were rejected or selected.

Results

Aging Women's Sexual Problems

Rising life expectancy has led to an increase in the aging population and aging women in particular comprise a significant, and growing, proportion of the world's population (World Health Organization, 2007). In recent years, there has been a growing awareness of the knowledge gap in our understanding of general physical health issues among older women (Christ & van Soest, 2004) and there is a similar lack of knowledge in relation to aging women's sexuality.

For example, we know less about the prevalence and predictors of sexual problems among older women than we do about younger women's sexual difficulties. One reason for this has to do with the fact that a number of early population-based surveys on sexuality did not include older women (e.g., Laumann, Paik, & Rosen, 1999; Najman, Dunne, Boyle, Cook, et al., 2003; Öberg, Fugl-Meyer, & Fugl-Meyer, 2004). However, more recent surveys such as the third U.K. National Survey of Sexual Attitudes and Lifestyles (Natsal-3) (Mitchell, Mercer, Ploubidis, Jones, et al., 2013) and the U.S. National Social Life, Health, and Aging Project (Laumann, Das, & Waite, 2008) did include women over 65 years. Accordingly, in the Natsal-3 survey, among sexually active women aged 65-74 years, 55.7% reported one or more sexual problem lasting three months or longer in the past year. The most common sexual problem reported in the Natsal-3 survey among this cohort was lack of interest in having sex followed by "uncomfortably dry vagina" (20.0%), and difficulty reaching climax (13.7%) (Mitchell et al., 2013).

Although age is a significant predictor of most female sexual problems (Lutfey, Link, Rosen, Wiegel, et al., 2009; Peixoto & Nobre, 2015), some studies have reported either a

negative association (Ishak, Low, & Othman, 2010; Sidi, Puteh, Abdulla, & Midin, 2007) or a U-shaped relationship (Hendrickx, Gijs & Enzlin, 2015) between age and pain-related problems.

Most studies have found a significant positive relationship between age and lubrication difficulties (Laumann et al., 2008; Peixoto & Nobre, 2015). In the Global Survey of Sexual Attitudes and Behaviors, involving a sample of 9,000 women aged 40-80 years across 29 countries, age showed a curvilinear relationship with the likelihood of lubrication difficulties in most, but not all, countries (Laumann, Nicolosi, Glasser, Paik, et al., 2005). Thus, women aged 50-59 years were twice as likely as those aged 40-49 years to report lubrication problems. However, women in the oldest included age group (70-80 years) were no more likely to report lubrication difficulties than the youngest included age group (40-49 years).

Many published surveys report prevalence estimates for “sexual dysfunction” without having assessed distress associated with symptoms. This may be especially striking since the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013), in contrast to the World Health Organization’s International Classification of Disorders (ICD-10), includes 'distress' as a diagnostic criterion for all sexual disorders. Thus, for a diagnosis of a sexual disorder the DSM-5 requires that sexual problems have been experienced for at least six months and is associated with “clinically significant distress in the individual” (American Psychiatric Association, 2013). We know that some women meet the symptom criteria for a sexual disorder but report no associated distress (Ferenidou, Kapoteli, Moisisdis, Koutsogiannis, et al., 2008; King, Holt, & Nazareth, 2007). In fact, because the criteria required for a clinical diagnosis of sexual dysfunction are difficult to impossible to assess in large,

population-based surveys (Graham & Bancroft, 2005), we can likely only determine prevalence estimates of sexual “difficulties” and not sexual “dysfunctions”.

In the studies that have assessed distress about sexual problems, a consistent finding has been that for most sexual difficulties, distress is *less* commonly reported in older women compared with younger women (Hayes & Dennerstein, 2005; Hendrickx et al., 2015; Mitchell et al., 2013). For example, in the U.K. Natsal-3 survey, 9.5% of women aged 65-74 reported being “distressed or worried” about their sex life, compared with 12.7% of women aged 45-54 years. Hendrickx et al. (2015) reported that sexual distress was more common in younger women than in older women in their sample of 15,048 heterosexual women aged 16-74 years living in Flanders. With the exception of sexual difficulties, dyspareunia and lubrication difficulties, sexual symptoms were positively associated with age. In this regard, Hayes and Dennerstein (2005) suggested that age-related changes in distress associated with sexual functioning might explain why the reported prevalence of sexual dysfunction remains constant with age, despite sexual desire, frequency of orgasm, and frequency of sexual activity are decreasing.

Predictors of women’s sexual problems

Regarding predictors of sexual difficulties among older women, most studies have found a strong impact of mental and physical health problems (Field et al., 2013; Laumann et al., 2008; Lutfey et al., 2009) on sexual difficulties (for review, see Hayes & Dennerstein, 2005). For example, in a cross-sectional study of American women aged 61-89 years, poor self-rated health, depressive symptoms, and lower life satisfaction were associated with higher odds of sexual difficulties (Huges, Rostant, & Pelon, 2015). Other studies, however, have reported that relationship factors and attitudinal factors are stronger predictors of level of sexual desire in

older women than medication or physical illness (DeLamater & Sill, 2005). Based on findings from a nationally representative U.S. probability sample of men and women aged 57-85 years, Laumann et al. (2008) concluded that “sexual problems among the elderly are not an inevitable consequence of aging, but instead are responses to the presence of stressors in multiple life domains” (p. 2300). Concerning menopause, surgically menopausal women are at increased risk of experiencing low sexual desire compared both to naturally menopausal and premenopausal women (Dennerstein, Guthrie, Hayes, DeRogatis, et al., 2008). While biological changes such as vaginal dryness may negatively impact sexual functioning and enjoyment, many studies have pointed to the importance of interpersonal factors and psychological factors in how sex is experienced by post-menopausal women (Hinchliff, Gott, & Ingleon, 2010; Hinchliff & Gott, 2011).

Another important predictor of sexual function problems and distress is whether a woman has a current sexual partner (DeLamater & Sill, 2005; Hinchliff et al., 2010; Rosen, Shifren, Monz, Odom, et al., 2009) and, among partnered women, whether the male partner has sexual difficulties (Mitchell et al., 2013). In the U.K. Natsal-3 survey, 43.3% of sexually active women aged 65-74 years reported that their partner had sexual difficulties, compared with 23.1% of men in this age group. Of the sexually active women aged 65-74, 23.2% avoided sex because of their own or a partner’s sexual difficulties. This proportion was the highest proportion reported across female age groups and higher than in comparable men aged 65-74 years (Mitchell et al., 2013).

In summary, while there are some similarities in the predictors of sexual difficulties among old and young women such as poor mental and physical health, there are also some issues

that are relatively specific to aging women, i.e., the lack of an available partner. Older women also appear to report less distress about sexual difficulties in comparison with younger women.

Aging Men's Sexual Problems

The prevalence of sexual problems among men tends to increase with age. In a recent representative population-based study conducted in Norway (Træen & Stigum, 2010), reduced sexual desire was reported by 27% and erection problems by 34% of men between the ages of 60 and 67, as compared to 6% and 2%, respectively, of men between the ages of 18 to 29. Similarly, findings from the Danish Health and Morbidity Program (Christensen, Grønbaek, Osler, Pedersen, et al., 2011), also based on a nationally representative sample, showed that the proportion of men who reported experiencing at least one type of sexual difficulty that was perceived as a problem (e.g., difficulties with getting or maintaining an erection, anorgasmia, premature ejaculation, genital pain) increased from 2% for those below the age of 20, to close to 20% of men age 70 years or older. These findings are to a large degree consistent with those of earlier studies and those conducted in other countries. For example, in the U.S. National Social Life, Health, and Aging Project (Laumann et al., 2008; Lindau et al., 2007), 43.5% of men between the ages of 75 and 85 reported erection problems, as compared to 30.5% of men under the age of 65. The inability to climax was also higher in men between the ages of 65 and 74 (22.7%) and those between ages 75 and 85 (33.2%), as compared to men under 65 (16.2%). However, no age differences were found in the prevalence of problems with low desire. Comparable prevalence rates were recently found in the U.K. Natsal-3 survey (Mitchell et al., 2013), with 30% of men over 65 years of age reporting erection problems, as compared to less than 10% of men under 45 years of age.

While older men are more likely to report problems with sexual functioning, particularly erectile dysfunction, most population-based surveys find that about half or more of older men report no sexual difficulties (Laumann et al., 1999). Population-based studies have found that physical health problems and depression are risk factors for erection problems in older men (Laumann et al., 2008). Other studies using representative data have found that the prevalence of erectile dysfunction is higher among men with, for example, a history of cardiovascular disease, diabetes, and lack of physical activity (Selvin, Burnett, & Platz, 2007). In addition to the many physical and physiological changes associated with aging, increased likelihood of comorbidity, and life-style factors, a multitude of social and psychological processes may play a role (Latini et al., 2006; Rosen et al., 2006). However, there is a dearth of research in which, beyond the mere establishment of associations, the relative weight of such factors in the prediction of men's sexual problems is evaluated. For example, the social and psychological challenges that come with aging, including those related to more general deteriorating health or to specific health problems – of oneself and/or of one's partner – as well as reduced independence and mobility, may result in or exacerbate already existing stress, depression, or loneliness, factors that all have been associated with sexual problems in men (Atlantis & Sullivan, 2012; Latini et al., 2006; Martin et al., 2012). Also, sexual dysfunctions in men are not uncommonly associated with problems with sexual function of their partner (Heiman et al, 2007; Jiann et al., 2013). Although individual- as well as dyad-based variability in how well one copes with such challenges and changes can be assumed to influence the likelihood that one may experience problems with one's sexual function (including desire for sex), little research exists on the relevance of dyadic processes and adjustment to (stability or change in) sexual function over the life course.

Regarding the role of physical factors and processes, still less than desirable is known about causal mechanisms. Diseases such as diabetes may influence sexual function directly or indirectly through their impact on well-being and other aspects of psychological and physical functioning (cf., Andersson et al., 2015). Thus, at an individual basis, careful and preferably differential diagnostic procedures are required to determine underlying causes. This applies to conditions such as diabetes or (cardio)vascular disease, but also to other factors, including hormonal ones. The relationship between hormones and sexual function is complex and, like the role of most other physical and physiological processes, not well understood. Variations of androgens within normal limits – which differ substantially from man to man (Buvat & Bou Jaoude, 2006) – are not associated with variations in sexual desire, responsiveness, or behavior in a straightforward manner (Bancroft, 2005). In older men, testosterone seems to be more important for sexual desire than for erectile function. It seems that testosterone therapy does not improve erectile function in older men, even if low levels of serum testosterone are observed (Andrea, Isidori, Buvat, Corona, et al., 2014; Buvat, Maggi, Guay, & Torres, 2013). One of the putative explanations of the low success rate of testosterone therapy in older men is that in such patients, low testosterone levels may be a consequence rather than a cause of the erection problems (Buvat et al., 2013). Also, as androgen replacement is effective in restoring sexual function in young but not older hypogonadal men, aging may be associated not only with changes in androgen levels but also with underlying physiological mechanisms.

Variability in sexual function in aging men – even in those with poor health or with chronic conditions such as diabetes, which for substantial numbers of men are *not* associated with sexual problems (cf., Lindau et al., 2007) – seems to mirror, in degree and range, the

variability found in younger men. Erection problems, occasionally or more frequently experienced, are reported by men of all ages, even those without any obvious physical or mental health problems. This raises questions about the importance, beyond the role of hormonal and other physiological factors, of basic variability in men's sexual responsiveness and its impact on sexual function over time. Studies conducted in North America and a number of European countries (including Finland, Germany, Belgium, The Netherlands, and Portugal) have found substantial variation, in men of all ages, in their propensity for sexual excitation and inhibition (Bancroft & Janssen, 2000). A low propensity for sexual excitation has been associated with low sexual desire and general responsiveness, whereas a high propensity for sexual inhibition is related to an increased vulnerability for the development of sexual arousal and erection problems (Bancroft, Graham, Janssen, & Sanders, 2009). Also, similarity, or the lack thereof, in sexual excitation and inhibition among couples has been associated with sexual problems and satisfaction (Lykins, Janssen, Newhouse, Heiman et al., 2012).

Aging, Chronic Health Disturbances, and Sexuality

As can be seen in older adults who are in love, older age *per se* is not the cause of a decrease of the quantity or quality of sexual activity in a couple. Aging is, however, characterized by (normal) physiological changes such as hormonal changes due to menopause, decreased elasticity of the skin, suppleness of joints and these physiological changes may all impact expressions of intimacy and sexuality.

Moreover, aging is associated with an increase in the incidence and prevalence of chronic illnesses such as diabetes, breast cancer, prostate cancer, coronary heart disease, stroke, Parkinson's disease, dementia, chronic obstructive pulmonary disease, incontinence (Denton &

Spencer, 2010). Chronic illness may have a differential impact on sexual functioning, sexual experience, and the expression of intimacy in the sexual relationship (Verschuren, Enzlin, Dijkstra, Geertzen et al., 2010). Furthermore, as a consequence of illness or disability a partner may die or become inaccessible, for instance due to dementia or entering a retirement home, which may result in sexual loneliness (Gianotten, Meihuizen-de Regt, & van Son-Schoones, 2008). Taken together, greater life expectancy combined with the fact that chronic illnesses occur at later age may result in a growing population of older adults with a chronic illness in whom sexuality may be adversely affected.

While there is an abundant literature on the association between chronic illness and sexuality, literature covering that association in older adults is scarce. Although we cannot provide an overview of the literature on different chronic illnesses or diseases, there are some general principles and multifaceted and diverse mechanisms by which illnesses may cause sexual problems. The underlying physiological processes and psychological impact of diseases and illnesses, their possible complications as well as their (medical) treatments, may impact sexuality directly or indirectly, including through iatrogenic mechanisms (Bancroft, 2009; Stevenson & Elliott, 2007; Verschuren et al, 2010). Chronic diseases such as cancer in the breast, vulva, or penis can have direct effects on genitals and on central and peripheral sexual physiology that underlie sexual functioning (Basson, Rees, Wang, Montejo & Incrocci, 2010). Indeed, since vasocongestion and myotonia have been found to be basic physiological processes in sexuality, at least theoretically, every chronic disease that affects the arteries, central or peripheral nerves, musculoskeletal function, and hormones may impact sexual functioning or sexual well-being (Bancroft, 2009; Basson et al., 2010; Schover, 2000).

Some chronic diseases do not directly interfere with sexual functioning, but affect sexual functioning or sexual well-being indirectly (Verschuren et al, 2010). An indirect impact on sexual functioning can be exemplified by chronic diseases characterized by (second-order or long-term) neurologic, vascular or hormonal complications (Bancroft, 2009; Basson et al., 2010). An indirect impact on sexual experience may stem from more general comorbid consequences of a chronic disease, such as chronic pain, fatigue, tremor, stiffness, bladder and bowel incontinence (Bancroft, 2009; Basson et al., 2010). The iatrogenic effects of the treatments of a chronic disease, its complications, or its psychological comorbidity can also affect sexual functioning and sexual well-being (Verschuren et al, 2010). This category of effects includes preventive or curative surgical procedures that unintentionally induce sexual dysfunction, for instance radical prostatectomy or hysterectomy, or negatively impact sexual well-being due to the psychological effects of mastectomy (Verschuren et al, 2010). Iatrogenic effects include side effects of prescribed medications or therapy that may inhibit sexual function such as antidepressants, anti-hypertensive medication, beta-blockers, chemotherapy, or radiation therapy. Some medications, however, such as dopamine agonists in the treatment of Parkinson's disease may also enhance sexual functioning (Basson et al., 2010). Sexual well-being may also be affected through indirect effects of changes in body image, general physical discomfort, and mood or mental state fluctuations (Bancroft, 2009).

Limitations, Gaps, and Directions for Future Research

The current review revealed several limitation and gaps in the existing literature and confirms that more research from a multi-dimensional perspective is needed to better examine sexual function in aging women and men. Such research, preferably using longitudinal designs,

should include attention to the role of individual differences, physical/physiological factors, psychological factors, dyadic processes such as couples' coping, communication and interaction styles, expectations, including the partner's sexual function, and contextual factors. Ideally, such research would be cross-cultural, use quantitative and qualitative methods, and include both self-report measures and clinical assessment of sexual problems. Future studies should not be restricted to heterosexuals but also explore the impact of aging on the expression of sexuality in gay, lesbian, bisexual, and transgender populations (Peixoto & Nobre, 2015) and include women and men of different races and ethnicities (Laumann et al., 2006). Further, to advance our understanding of the intra- and inter-individual processes that play a key role in the etiology of sexual health over time, future research should study how sexual function and response change over the life course and how and for whom such changes are most likely to become a source of distress and/or a problem requiring treatment. Finally, more research on normative changes in sexuality related to aging (Carpenter & DeLamater, 2012) and on sexual problems experienced by sexual minority individuals (Slevin & Mowery, 2012) is badly needed.

The epidemiological and clinical studies on sexual dysfunctions and sexual problems included in this review had a number of limitations. These include narrow age ranges, restrictive inclusion criteria (Hayes & Dennerstein, 2005), unrepresentative samples, and an absence of longitudinal designs enabling the mapping of mediating mechanism of sexual health. Further, and as discussed above, relatively few large-scale population-based surveys have included women over the age of 65 years (Laumann et al., 2008) and few have assessed older women's distress about sexual difficulties. As well, most studies to date have only included sexually active individuals. Thus, we have little understanding of the sexual experiences, difficulties, and

concerns of older women who are without a partner or those who avoid sexual activity because of these difficulties and concerns.

The literature reviewed on aging, chronic health disturbances, and sexuality also revealed a number of limitations and gaps. While there is a growing interest from researchers in the impact of chronic diseases on sexuality, the research in the field is generally characterized by a lack of appropriate control conditions and groups and a reliance on convenience samples in which older adults are not well represented (Enzlin, 2014; Verschuren et al., 2010). Also, as research samples are often limited in size, participants with different diagnoses tend to be lumped together and differentiation, in terms of illness severity, duration, progress, prognosis, and psychological adjustment, is often minimal or absent. Moreover, a lack of longitudinal studies precludes making inferences about temporal and causal relationships between determinants and sexuality. The ongoing debates about the classification and the standardized definitions of sexual dysfunctions (Hendrickx, Gijs, & Enzlin, 2013), and the lack of good validated instruments have also hindered progress in the field (Meston & DeRogatis, 2002). Much of the existing research literature has focused on the impact of illness on sexual functioning in men, although there have been more recent efforts to better understand sexual function and well-being of older women. Qualitative as well as quantitative research is needed in this area. There is also an over-emphasis on the impact of physiological factors on sexual functioning, in men as well as women, neglecting psychological, relational, and social determinants of sexuality (Enzlin, 2014). The general lack and limited scope of research on the connection between illness and sexuality in older adults may in part be due to cultural taboos,

which tend to assert and reinforce the notion that older people are asexual beings or that sexuality is not important in old age.

As compared to younger men and women, little research has been carried out on the use of sexual pharmacology and other medical interventions in aging female populations. This may change with the advent of sexual pharmacology to treat lack of female sexual desire (Moynihan, 2014). Another area which has been largely ignored is sexuality-related opportunities and restrictions associated with older individuals' institutionalized care (de Vries, 2015; Villar, Faba, Serrat, & Montserrat, 2015). Systematic, in-depth assessment of both topics would substantially improve our understanding of sexual experience and sexual functioning of aging men and women.

Apart from the limitations of the literature reviewed, some limitations of the current review should also be noted. First, the current review is a narrative account of a selection of the available literature and does not represent a more comprehensive overview, such as that obtained with a systematic review of the literature. Second, the literature search conducted relied on only one database. Although this is common in narrative reviews, it also means that we may have missed some relevant studies. However, as Ovid PsycINFO, has many overlaps with Medline, we do not consider that this is a major shortcoming. Moreover, the current review not only presented an overview of the recent literature, it also revealed some important gaps and limitations that need to be addressed in future research.

Conclusions

In current Western societies, greater life expectancy in combination with a higher incidence of chronic illnesses in older adults, and continuously improving medical care for

individuals with chronic disease, result in a growing population of older adults (with a chronic illness) for whom sexuality is still important but possibly negatively affected. The effects of chronic illness on sexuality could be direct, for example, through neurophysiological and vascular processes, physical pain or discomfort) or indirect, for example, through couple processes, depression. Cultural factors such as stigmatization of sexual activity in older age or iatrogenic factors, such as consequences of medication or surgical procedures may also be relevant.

This review confirms that population-based prevalence estimates of certain sexual problems among men and women increase with age. The association between normal physiological changes or chronic illnesses and sexual function in older adults is very complex and still not well understood. As the diagnosis of a sexual dysfunction necessitates the presence of distress, research focusing on distress has found that older women with sexual difficulties report commonly *less* distress than younger women. It seems that in women, important predictors of sexual problems and distress are whether they are currently partnered and whether the partner experiences sexual difficulties. The finding that younger women are distressed by eventual sexual difficulties does not suggest that sexual problems of older adults can be neglected by health professionals. On the contrary, health professionals should address/discuss how individuals cope with these aged-related changes and how their coping influences the likelihood that they experience such changes as distressing. In this respect, research is lacking on the relevance of individual differences, but especially dyadic processes, to the prevention, etiology, and experience of sexual problems and to the adjustment of changes in sexual function over the life course. This points to the importance of health professionals assessing sexual

function at both the level of individual and the couple in older adults. Moreover, the rapidly growing aging population in highly developed countries, combined with the growing expectations about staying sexually vital and active well beyond middle age, underscore the need for more research on sexual well-being in older individuals and couples. Future research can make contributions not only to our understanding of how sexual function, sexual experience and sexual satisfaction change over the life course, but also of how and for whom such changes are most likely to become a source of distress and a problem requiring professional treatment. Taking into account the growing population of older adults in highly developed countries, future research should not only strive to gain insight into typical processes of aging and their effects on sexuality, but also inform clinical practice and the development of novel sexual health interventions and services for older adults .

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