ARTICLE ORIGINAL

Sexual dysfunction in the elderly: Prevalence and impact on quality of life

Dysfonctions sexuelles chez les sujets âgés : Prévalence et impact sur la qualité de vie

Nesrine Bram Khemiri, Sinda Ben Fadhel, Abir Hakiri, Wided Homri, Raja Labbane

Service de Psychiatrie «C» Hôpital Razi. Faculté de médecine de Tunis. Université Tunis El Manar

RÉSUMÉ

Introduction : Le fonctionnement sexuel est une dimension majeure du bien être indépendamment de l'âge. Toutefois, les dysfonctions sexuelles chez les sujets âgés demeurent peu étudiées.

Objectif : Déterminer la prévalence des dysfonctions sexuelles chez 100 sujets âgés tunisiens et évaluer leur impact sur la qualité de vie et la dépression

Résultats : le taux de dysfonctions sexuelles était de 88% sans différence selon le genre. La dysfonction érectile était le trouble le plus fréquent parmi les hommes (84,2%). Les troubles de l'excitation sexuelle et la douleur étaient prédominants chez les femmes. Les dysfonctions sexuelles étaient corrélées à une qualité de vie plus dégradée (p<0,001). Il n'y avait pas d'association significative avec les scores de dépression.

Conclusion : L'amélioration de la qualité de vie des sujets âgés devrait passer par une évaluation systématique de leur fonctionnement sexuel. Une prise en charge médicamenteuse et éducative gagnerait à être mise en place.

Mots clés : Sujets âgés- Dysfonctions sexuelles- Qualité de vie – Dépression

SUMMARY

Background: Sexual functioning is a major component of the overall human wellbeing. However, data on the sexual disorders among the elderly remain few.

Aim: Determine the prevalence of sexual dysfunction among 100 elderly Tunisian subjects and evaluate the impact on quality of life and depression.

Results: The rate of sexual dysfunction was 88% without significant gender differences. Erectile dysfunction was the most common disorder in men (84.2%). Disorders of sexual arousal and pain were the most frequent disorders in women. The presence of sexual dysfunction was correlated with worse quality of life scores (p <0.001). A statistically significant correlation was not found with the depression score.

Conclusion: The improvement of the quality of life among the elderly should include systematic sexual dysfunction assessment and management. Sexual education programs should be carried out.

Key words: Elderly- Sexual dysfunctions- Quality of life- Depression

Correspondance
Nesrine Bram Khemiri
Service de Psychiatrie «C» Hôpital Razi / Faculté de médecine de Tunis - Université Tunis El Manar
E-mail: nesrine.bram@gmail.com

INTRODUCTION

The study of human sexuality has become an important area of scientific research (1). Several recent studies claim that sexuality is an essential aspect of human existence, regardless of age (2, 3,4). Elderly people therefore have “the right to orgasm and desire” (5). This right could run up against male and female sexual dysfunction. However, data on this aspect of the sexuality of the elderly remain few.

In this study, we aimed to determine the prevalence of sexual dysfunction among the elderly and evaluate its impact on quality of life and depression.

METHODS

A descriptive cross-sectional study was conducted in the period between December 2015 and June 2016 among elderly subjects consulting in the basic health center of Mannouba. Patients who are 65 years of age or older, men (M) or women (W) and who consented to participate were included in the study. The non inclusion criteria were: the absence of consent, the presence of mental pathologies, dementia and unstabilized somatic pathologies.

Data were collected through a pre-established semi-structured questionnaire. An evaluation grid was used to explore the sociodemographic, clinical and sex-related data of the participants.

The rate of depression was assessed by the 15-item Geriatric Depression Scale (GDS), a score greater than or equal to 10 indicates the presence of depression (6,7).

The quality of life was explored via the Short Form Health Survey scale (SF36). It is a 36 items scale that explores physical, emotional and social health. Scores tending towards 100 indicate a better quality of life (8).

The following scales were used for the search of sexual dysfunction:

- International Index of Erectile Function (IIEF15), including 15 questions (9). It is a validated scale in the elderly since 2013 (10). This questionnaire assesses five domains of male sexuality during the past month: erectile function, orgasmic function, sexual desire, sexual intercourse satisfaction and overall satisfaction. A score is assigned to each domain (9,10).

- FSFI (Female Sexual Function Index) in its complete form which includes 19 questions (11) and which was validated in older women in 2013 (12). This questionnaire assesses six areas of female sexuality during the past month: sexual desire, sexual arousal, vaginal lubrication, orgasm, sexual satisfaction and orgasm. The overall score ranges from 2 to 36. A score below 26.55 points to female sexual dysfunction (11,12).

The scales used in this study are validated in arabic. The Arabic versions of the scales were used during the interviews.

In this study, sexual dysfunction is defined by the presence of at least one type of sexual dysfunction in both sexes.

The statistical data capture and analysis was carried out by the SPSS software in its twentieth version.

RESULTS

One hundred and four elderly subjects met the inclusion criteria (M= 57, W = 47). Four elderly women discontinued the evaluation and were excluded. Finally, 100 consultants were selected to participate in the study (n = 100, M= 57, W = 43).

Responders had an average age of 71.8 ± 6.3 years and were illiterate or at primary level in 85% of the cases without significant difference by gender (p = 0.58). The majority of participants were married (n = 63, 63%) with no significant difference by gender (p = 0.21). Thirteen percent of the participants (n = 13, M = 11, W = 2) had two or more marriages. The majority of elderly subjects (91%, n=91) were followed for chronic pathologies, mainly arterial hypertension (51%, n=51) and diabetes (46%, n = 46), with no significant difference between men and women (p = 0.4). All women were menopausal at the time of the study. The majority of participants (89%) had regular religious practices with no significant difference between men and women (p = 0.21).

Almost half of the elderly participants (54%, n=54) continued to engage in sexual activity, primarily in the form of heterosexual intercourse. Men were significantly more sexually active than women (p=0,04): 68,4% (n=39) vs 34,9% (n=15).

The average SF-36 score was 60.6 ± 20.1 with extremes of 38.6 and 89.9. There was no significant gender difference in quality of life.

The mean score obtained at GDS was 7.3 ± 2.3 with extremes of 3 and 10 indicating the presence of depression in 41% of cases (n = 41). There was no difference according to gender (p = 0.24).

The rate of sexual dysfunction was 88% (n = 88). At least one sexual dysfunction was noted in 84.2% of men (n = 48) and 95.3% of women (n = 40) without significant gender differences (p = 0.4).

Male sexual dysfunction

Erectile dysfunction was the most common disorder in men (84.2%, n = 48) followed by orgasm disorders (68.4%, n = 39). The data on the exploration of the different phases of sexual function by the IIEF are detailed in Table 1.

Table1. Male sexual dysfunctions in the elderly explored by IIEF15*

IIEF15 items	IIEF15 mean score [min-max]	Presence of sexual dysfunction 84,4% (n=48)	Absence of sexual dysfunction 15,6% (n=9)
Sexual desire	7±3,6 [3-10]	33% (n=19)	67% (n=38)
Erection	14,9±9,6 [5-25]	84,2% (n=48)	15,6% (n=9)
Orgasm	5,3±3,8 [1-9]	68,4% (n=39)	31,6% (n=18)
Sexual intercourses satisfaction	8,1±4 [1-14]	35% (n=20)	65% (n=37)
Overall sexual satisfaction	6,2±3,1 [2-10]	33,4% (n=19)	66,6% (n=38)

IIEF15*: International Index of Erectile Function

Female sexual dysfunction

Disorders of sexual arousal and pain were the most frequent disorders in women. The data on the exploration of the different phases of sexual function by the FSFI are detailed in Table 2.

Table 2. Female sexual dysfunctions in the elderly explored by FSFI*

FSFI Items	FSFI mean score [min-max]	Presence of sexual dysfunctions 95,3% (n=40)	Absence of sexual dysfunctions 4,7% (n=3)
Sexual desire	3±1,2 [1-5]	69,7% (n=30)	30,3% (n=13)
Sexual arousal	4±2,2 [1-6]	90,6% (n=39)	9,4% (n=4)
Vaginal lubrification	3,3±2,6 [1-6]	97,6% (n=42)	2,4% (n=1)
Pain	3,9±2,5 [1-6]	97,6% (n=42)	2,4% (n=1)
Orgasm	3,2±2 [0-6]	69,7% (n=30)	30,3% (n=13)
Sexual satisfaction	4,8±1 [2,3-6]	67,4% (n=29)	32,6% (n=14)

*FSFI: Female Sexual Function Index

The presence of sexual dysfunction was correlated with the absence of a sexual activity (p = 0.001) and worse quality of life scores (p <0.001). A statistically significant correlation was not found with the depression score or with the demographic and clinical characteristics of both male and female participants (Table 3).

Table 3. Associations of sociodemographic, clinical and sexual variables with sexual dysfunctions

Variables	Presence of sexual dysfunctions (n=88)	Absence of sexual dysfunctions (n=12)	Total (n=100)	P
Sociodemographic variables				
Mean age	72,6±3,5	69,5±4,9	71,8	0,11
Marital status				
- Married	52 (59%)	11 (91,6%)	63 (63%)	0,09
- Not married	36 (40,9%)	1 (8,3%)	37 (37%)	
Number of marital beds	6 (6,8%)	0	6 (6%)	
- 0	70 (79,5%)	11 (91,6%)	81 (81%)	0,74
- 1	12 (13,6%)	1 (8,3%)	13 (13%)	
- More than 2				
Education				
- Yes	53 (60,2%)	9 (75%)	62 (62%)	0,61
- No	35 (39,7%)	3 (25%)	38 (38%)	
Religious practice				
- Yes	79 (89,5%)	10 (83,3%)	89 (89%)	0,79
- No	9 (10,2%)	2 (16,6%)	11 (11%)	
Clinical variables				
Somatic diseases				
- Yes	79 (89,7%)	12 (100%)	91 (91%)	0,5
- No	9 (10,2%)	0	9 (9%)	
Arterial hypertension				
- Yes	44 (50%)	7 (58,3%)	51 (51%)	0,1
- No	44 (50%)	5 (41,7%)	49 (49%)	
Diabetes				
- Yes	40 (45,5%)	6 (50%)	46 (46%)	0,6
- No	48 (54,5%)	6 (50%)	54 (54%)	
GDS* score	7,3±1,9	7,4±2,4	7,3	0,69
SF36* score	55,1±1,6	64,6±4,9	60,2	***<0,001***
Sexual variables				
Sexual activity				
- Yes	42 (47,7%)	12 (100%)	54 (54%)	***0,001***
- No	46 (52,2%)	0	46 (46%)	

GDS*: Geriatric Depression Scale

SF36*: Short Form Health Survey scale

DISCUSSION

The issue of sexual functioning in the elderly is topical because of the increase in life expectancy, with enhanced preservation of physical and mental capacities. The purpose of this study was to evaluate the prevalence of male and female sexual dysfunction in an elderly Tunisian population and to determine their impact on depression and quality of life.

The presence of at least one sexual dysfunction was noted in 88% of participants with no significant difference between men and women. The most common sexual dysfunction in men was erectile dysfunction (84.2%). In women, disorders of sexual arousal (vaginal lubrication and pain) were the most represented (97.6%). The presence of sexual dysfunction was associated with the no sexual activity and worse quality of life scores. Scores of depression were not significantly associated to sexual disorders.

Similar to the results of this study, several authors found that disorders of sexual function in the elderly were dominated in men by erectile dysfunction and decreased desire and in the elderly woman by the decrease of sexual desire, the occurrence of pain, difficulties of vaginal lubrication as well as orgasm disorders (13,14,15).

In our series, sexual desire was preserved in 67% of men and 30.3% of women. The follow-up of a male cohort of 31,742 health professionals indicated that 60% of people in their sixties, 42% of participants in their seventies and 26% of those who are in their eighties had a preserved sexual desire (16). Specific analysis of the evolution and factors influencing sexual desire noted a significant correlation with age in both genders with a clearer decrease in women (17). Some studies suggest that it is only at the age of 75 that the level of desire is low for the majority of men and almost all women (18). After 85 years old, no male or female reported high desire, although more than half of men after age 90 reported having an interest in “sex” (18). These data highlight the large difference between popular stereotyped perception and the results of specific studies. Sexual desire, or at least sexual interest, seems to be preserved in old age, contrasting with the social stigma that denies any form of sexual expression among the elderly.

Regarding erectile dysfunction, which is the most studied sexual dysfunction in men, age is the main independent risk factor found in all studies regardless of country (16,19,20).

As in our study where the majority of participants had high blood pressure and / or diabetes, a study conducted in 2002 by Giuliano on 7689 men with high blood pressure and / or diabetes showed a rate of erectile dysfunction in 40% of men aged between 60 and 69 years and in 55% of men between 70 and 80 years old (21). Biologically, erectile dysfunction in men appears to be the most vulnerable process of sexual aging (22, 23,24).

A study of 1009 women using FSFI was realized in Istanbul in 2008 , and results showed a rate of sexual dysfunction of 83% between 60 and 64 and 88% over 65 years old (25).

Several studies have shown that, despite a decline in the sexual response with age, the curve of sexual function in women decreases much more slowly than in men (26). In fact, by comparing the sexually active group of women aged 65-74 with women aged 75 and over, differences in sexual functioning were not statistically significant (12). In contrast, for men, significant differences in sexual functioning were found between older and younger men groups (10).

Sexual aging is globally marked in both sexes by: a decrease in the excitation and plateau phases, an increase in the resolution phase by lengthening the refractory period (much clearer in men) (27). But, despite the statistical sexual decline, sexual aging remains entirely compatible with the pursuit of sexual activity (5), at least in apparently healthy individuals until a fairly advanced age (80 years) (28).

This study noted that 48% of participants were not satisfied with their sex life. Although they had less sexual desire and were not sexually active, 67.4% of the women in our study considered their sex life unsatisfactory. We may suppose that despite this feeling of abraded and completely uninvested sexuality, older women would, all the same, have unmet sexual needs, perhaps not necessarily physical and genital, but most likely relational and emotional.

The analysis of sexual functions and their impact during aging indicates that the links between the occurrence of sexual problems and sexual biological aging are complex and differ from one gender to another. Schematically, in men, sexual difficulties appear more correlated with aging (physiological and pathological), while in women, the socio-cultural and relational context and the degree of previous sexual activity appear as predictive factors,

at least as important for their sex life as the biological and pathological changes associated with aging. These differences probably reflect clear divergences in sociocultural representations of sexuality, since women make more appeal to affectivity and conjugality ("sex love") and men are more on the register of the physical dimension ("Sex action"). It is therefore important to stress that "society must take into account the notion of the couple; not forgetting that access to relational sexuality is obviously an important element for well-being" (29).

It is commonly accepted that there is a significant comorbidity between sexual dysfunction and depression with two-way causality (30). However, in this study we did not find a correlation between depression and sexual dysfunction, this could be explained by the high rates of depression found in our study and the relatively small sample size.

In the other hand, the absence of sexual disorders was significantly associated with a good quality of life, consistent with several studies that confirm that quality of life is judged better in older patients if they are satisfied with their sexuality (31,32). Thus, a "good sex life" should be added to the classic longevity keys which are "healthy lifestyle, good food, good sleep, good friends" (5).

Improving the sexuality of older people requires adequate management of metabolic and vascular diseases that can increase the rate of sexual dysfunction and indicate treatments that improve erectile function. However, some sexual dysfunction related to aging can be unavoidable and not well improved by treatment. In these cases, the richness of the erotic imagination as well as the relational and affective dimension of sexuality seem to be of crucial importance in the preservation of an "active" and fulfilling sex life.

This study presents some limitations related to the reduced sample size, the high prevalence of chronic metabolic diseases among the elderly consultants of basic health center, which could increase the rate of sexual dysfunctions. Despite these limitations, our study is, to our knowledge, the first Tunisian study focusing on the elderly sexual dysfunctions.

CONCLUSION

According to World Health Organisation, overall good health includes physical, mental and sexual health. Sexual dysfunctions are frequent in the elderly and they negatively influence their quality of life. The improvement of the quality of life among the elderly should include systematic sexual dysfunction assessment and management. Sexual education programs should also be carried out to enrich the modalities of sexual expressions among the elderly.

REFERENCES

1- Trudel G, Goldfarb MR. L'effet de l'âge sur le répertoire et le plaisir sexuel. Sexologies. 2006; 15:266-72.

2- Di Napoli EA, Breland GL, Allen RS. Staff knowledge and perceptions of sexuality and dementia of older adults in nursing homes. J Aging Health. 2013;25 :1087-105.

3- World Health Organization. Defining Sexual Health: Report of a Technical Consultation on Sexual Health, 28-31 [on line]. World Health Organization [cité le 5/11/2017]. Available from URL: http://www.who.int/reproductivehealth/publications/sexual_health/defining_sexual_health.pdf

4- Mahieu L, Gastmans C. Older residents' perspectives on aged sexuality in institutionalized elderly care: a systematic literature review. Int J Nurs Stud. 2015; 52 :1891-905.

5- Bondil P. Vieillissement sexuel: mythes et réalités biologiques. Sexologies. 2008 ;7 :152-73.

6- Clément JP, Nassif RF, Léger JM, Marchan F. Development and contribution to the validation of a brief French version of the YesavageGeriatric Depression Scale. Encephale. 1997; 23 :91-9.

7- Torres RM, Miralles R, Garcia-Caselles MP, Arellano M, Aguilera A, Pi-Figueras M. Observational scale and geriatric depression scale of Yesavage to identify depressive symptoms in older patients. Arch GerontolGeriatr Suppl. 2004 ; 9:437-42.

8- Ware JE Jr, Sherbourne CD. The MOS 36-item short-form health survey (SF-36). I. Conceptual framework and item selection. Med Care. 1992; 30 :473-83.

9- Rosen RC, Riley A, Wagner G, Osterloh IH, Kirkpatrick J, Mishra A. The international index of erectile function (IIEF):amultidimensionalscale for assessment of erectiledysfunction.Urology. 1997; 49 :822-30.

10- DargisL,Trudel G, Cadieux J, Villeneuve L, Préville M, Boyer R. Validation of the International Index of Erectile Function (IIEF) and presentation of norms in older men.Sexologies. 2013; 22 :20-6.

11- Rosen R, Brown C, Heiman J, Leiblum S, Meston C, Shabsigh R et al. The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. J Sex Marital Ther. 2000;26:191-208.

12- Dargis L, Trudel G, Cadieux J, Villeneuve L, Préville M, Boyer R. Validation

of the Female Sexual Function Index (FSFI) and presentation of norms in older women.Sexologies. 2013; 21 :126-31.

13- Ribes G, Cour F. Sexuality of the elderly: a survey and management. Prog Urol. 2013; 23 :752-60.

14- Hayes R, Dennerstein L. The impact of aging on sexual function and sexual dysfunction in women: a review of population-based studies. J Sex Med. 2005; 2 :317-30.

15- Dennerstein L, Hayes RD. Confronting the challenges: epidemiological study of female sexual dysfunction and the menopause. J Sex Med. 2005; 2 :118-32.

16- Bacon CG, Mittleman MA, Kawachi I, Giovannucci E, Glasser DB, Rimm EB. Sexual function in men older than 50 years of age: results from the health professionals follow-upstudy. Ann Intern Med. 2003; 139 :161-8.

17- DeLamater JD, Sill M. Sexual desire in later life. J Sex Res. 2005; 42 :138-49.

18- Mulligan T, Katz PG. Erectile failure in the aged: evaluation and treatment. J Am Geriatr Soc. 1988 ;1:54-62.

19- Braun M, Wassmer G, Klotz T, Reifenrath B, Mathers M, Engelmann U. Epidemiology of erectile dysfunction: results of the 'Cologne Male Survey'. Int J Impot Res. 2000; 12 :305-11.

20- Rosen RC, Fisher WA, Eardley I, Niederberger C, Nadel A, Sand M. The multinational Men's Attitudes to Life Events and Sexuality (MALES) study: I. Prevalence of erectile dysfunction and related health concerns in the general population. Curr Med Res Opin. 2004; 20 :607-17.

21- Giuliano FA, Leriche A, Jaudinot EO, de Gendre AS. Prevalence of erectile dysfunction among 7689 patients with diabetes or hypertension, or both. Urology. 2004; 64 :1196-201.

22- Mazur A, Mueller U, Krause W, Booth A. Causes of sexual decline in aging married men: Germany and America. Int J Impot Res. 2002 ;14:101-6.

23- Schiavi RC, Schreiner-Engel P, Mandeli J, Schanzer H, Cohen E. Healthy aging and male sexual function. Am J Psychiatry. 1990; 147 :766-71

24- Schiavi RC, Rehman J. Sexuality and aging. UrolClin North Am. 1995; 22 :711-26.

25- Aslan E, Beji NK, Gungor I, Kadioglu A, Dikencik BK. Prevalence and risk factors for low sexual function in women: a study of 1,009 women in an outpatient clinic of a university hospital in Istanbul. J Sex Med. 2008 ;5:2044-52.

26- Masters, W. H., and V. E. Johnson. Humansexualresponse. Boston :Little, Brown and Company, 1966.

27- Masters WH, Johnson VE. Sex and the aging process. J Am Geriatr Soc. 1981; 29 :385-90.

28- Lindau ST, Schumm LP, Laumann EO, Levinson W, O'Muircheartaigh CA, Waite LJ. A study of sexuality and health among older adults in the United States. N Engl J Med. 2007; 357 :762-74

29- Comité consultatif national d'éthique rapport n°62 : Médicalisation de la sexualité : le cas sildénafil ; réponse au secrétaire d'état à la santé [En ligne]. Comité consultatif national d'éthique [cité le 5/11/2017]. Available from URL : http://www.ccne-ethique.fr/sites/default/files/publications/avis062.pdf

30- Porto R.Depressivesymptoms and sexuality.Presse Med. 2014;43:1111-5

31- Kleinstäuber M. Factors associated with sexual health and well being in older adulthood. CurrOpin Psychiatry. 2017; 30 :358-368.

32- Hartmans C, Comijs H, Jonker C. The perception of sexuality in older adults and its relationship with cognitive functioning. Am J Geriatr Psychiatry. 2015; 23 :243-52.