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ORIGINAL RESEARCH

Sexuality in geriatric patients: a correlation between sexual activity and quality of life of elderly men

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Abstract

Background: Population's ageing is currently one of the most significant phenomena in the XXI century, with very important consequences in every section of society. Human longevity has grown in a significant way thanks to different factors, the meaningful ones are surely the adoption of modern lifestyles and the unstoppable scientific progress. All this brings to the conception that old people are facing up to a new set of stimulus and necessities that lead to sexuality, something that they would not have experienced in the past. Furthermore, there are social clicheand prejudices, which make old people's sexuality not accepted by the community and not so interesting. In light of the above, the scientific community has started studying this fascinating theme only in the last few years. In medicine, the rising of sexual activity for old subjects has become a specific focus for geriatricians, endocrinologists and andrologists. **Methods**: in this descriptive cross-sectional study, we recruited 40 male subjects between 65 and 90 years old (mean age 75.4). Through the employment of specific tests, we collected data referred to some aspects: sexual function, cognitive state, mood tone and quality of life in general. Data has been elaborated with a descriptive and an inferential statistical analysis (Linear and Multiple Regression). **Results**: the aim of the study is to verify a possible relationship between presence/absence of sexual behavior and individual's quality of life. Results of the multiple regression show that: the maintenance of a good erectile function, and consequently possible satisfactory sexual acts, increases the quality of life in elderly men ($p = 0.022058$). on the contrary, a low mood tone negatively affects their standard of living ($p = 0.000351$). Therefore, in common words, being happy and peaceful, with a still active sexual life, enhances the quality of life in advanced age. **Conclusions**: this study demonstrates that maintaining a sense of happiness, along with an active sexual life, significantly enhances the quality of life in advanced age.

Keywords

Sexuality; Old man; Affectivity; Quality of life; Wellness

1. Introduction

According to the conception of "health" defined by WHO (World health Organization) in 2006: Sexuality or sexual health, is an essential component for the achievement of a complete well-being state (both mentally, physically and socially) [1]. In the third age sexuality doesn't cease, contrary to what was believed until some time ago; it evolves and changes with respect to the young one. The interest in sexuality and the search of sexual pleasure are not completely exhausted, although they diminish with age; adaptive modes of functioning exist and are still very satisfactory [2]. The maintenance of sexual desire and sexual activity, in spite of the above-mentioned changes, in such a delicate phase of life, can have a remarkably positive effect. Keeping high these psychosocial parameters at important levels, even in the most advanced stages of life, undoubtedly has a considerable effect on the increase in quality of life. It is true that sexual activity decreases with age, but according to literature analysis, 53% of 65–74 year olds people are still sexually active, *i.e.*, more than half of them; in addition, a 26% cut of 75–85 year olds still maintain active their sexuality, so it does not go away completely. Among the men in the entire reference sample, 50% suffers from sexual dysfunction, mainly due to erectile dysfunction (ED), and only 38% of them say they have spoken to a specialist about that, so the problem is current and training health care staff to deal with certain issues is essential [3]. Today it's possible to affirm that a regular sexual activity, even in the most adult groups, certainly allows to act on these peculiar aspects linked to the passing of the years, resulting decisive not only in diminishing that fear inevitably linked to death, but also in the development of a greater tolerance towards that procession of symptoms that usually associate and persist in older patients. CENSIS (Italian Centre for Social Investment

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Studies) statistics show that 73.4% of Italians between 61 and 70 years old have a sexually active life, while over 70 years old the percentage is around 39% and it is estimated that about 50–70% of men over 60 suffer from erectile dysfunction; moreover, epidemiological data indicate that more than half of women after menopause have a female sexual dysfunction [4]. This evidence suggests the importance of assessing sexual function in the elderly. From a statistical-epidemiological point of view, studies in the literature show that the sexual needs of older men are substantially similar to those of younger ones, even if they present some variations with respect to frequency, intensity and mode of expression [5]. In order to understand in detail, the decline of sexuality in the elderly, it is necessary to refer to the whole range of physiological and social factors, often concomitant, that act in this phase of life. The main purpose of this cross-sectional study is to investigate a possible correlation between sexual wellbeing and quality of life in elderly male patients. The aim is therefore to verify the possible presence of a superior psycho-physical wellbeing in those who, despite ageing and its modifications, maintain a good erectile function and so a satisfying sexual activity. Doing so it's necessary to discriminate the focus target from patients who experienced a lot more important and organic physiological decline, with a greater impact of all the biological and psycho-social factors, capable of conditioning the sexual response over the years.

1.1 Psycho-social aspects and biological factors

The concept of sexuality has always been associated with "youth" and "health", and the term is usually limited to a mere physical performance. This stereotype has also been fueled by religious influences, which legitimate sexuality only if it is aimed for procreation. Therefore, sex for the elderly becomes taboo, feeding the myth of an "asexual old age". Clinically, sexuality is part of the affectivity's world and it is therefore defined as an integral part of psycho-physical well-being in both genders. It is necessary to remember how sexuality should not be confused with genitality: sexuality involves the whole person, in its psychological, biological and social dimension. Desire does not disappear in old age, as we already stated; among the socio-psychological factors that can affect the elderly sexuality, there is certainly the individual degree of sexual activity throughout all his earlier life, furthermore the psychological resiliency in adapting to the age-related changes and the demographic factors as the environment of origin and social attitudes towards sex or elderly sexuality assimilated. It is important to consider individual variability, especially in order not to fall into the stereotype of labelling a specific category of people, such as that if a subject is elderly he will automatically be debilitated and sexually inactive [6]. A lot of sexual's key elements are preserved throughout life, such as the arousal, the orgasmic capacity, and the possibility of multiple orgasms. In old age, then, sexuality continues to be present, even if the ways and the conditions through which it manifests and expresses itself are different. In men, age-related testosterone deficiency (TD) has ahigh incidence, reported between 5 and 18% in subjects over 70 [7]. Testosterone is an androgen group steroid hormone, mainly produced by Leydig cells, located in the testicles, ovaries and in the adrenal cortex. Testosterone clearly plays a crucial role in male sexuality. This is precisely why it is responsible for a change in sexual behavior. It not only plays a decisive role in sexual maturation and in the acquisition of the fertilization's power, but it also maintains this type of function in the long term. Testosterone deficiency is associated with an increased risk of developing cardiovascular disease and increased overall mortality [7, 8]. In this regard, it is right to keep in mind that the increased susceptibility in the development of alterations in sexual life in old age, should also be related to the action of specific pharmacological classes that may represent the cornerstone of the treatment of some diseases, more often of chronic nature, which must be faced more frequently in this type of patients. Returning to TD, recent studies have shown that men with cardiovascular disease have significantly lower testosterone levels, compared to subjects with a normal coronary function and that the incidence of hypogonadism in this category of patients is about twice that observed in the general population regardless of other risk factors, suggesting a protective role of endogenous tstosterone on the systemic endothelial structure. In the elderly, low testosterone levels are closely related to the atherogenic process [9] and therefore they show an inversely proportional correlation with the severity of atherosclerosis. In men we do not find a symptomatologic scenario similar to the female climacteric one, the chosen and developed thought along the path of life influences the attitude of men in the relationship with their own condition of decreased testosterone: the cultural position of eminent male mark can suffer the decline of the virile function related to it, feel the wavering of the subjective image, insinuate a feeling of insecurity associated with an identity crisis [10].

As far as therapies are concerned, the debate is still open about whether to set up a daily therapy or on request, since there are many doubts about possible drug interactions: therapy with phosphodiesterase type-5 inhibitors (PDE5-i) can be practiced in these circumstances in order not to limit the possible use of vasodilators in case of acute cardiovascular events, bearing in mind that in the elderly minimum effective dose is recommended. Finally, it is important to remember that the presence of TD limits the effectiveness of PDE5-i in the elderly; the combination of androgenic replacement therapy (oral, transdermal and intramuscular) appears indicated to improve sexual function in selected cases [11]. Where PDE5-i is counterindicated, androgenic replacement therapy has been shown to improve the clinical picture of the metabolic syndrome by reducing the potential cardiovascular risk, especially when it can be carried out in the long term. It also has a positive effect on cognitive state, visual and verbal memory, mental state, degree of attention and an improvement in bone mineral density. The elderly person's attitude towards sexuality is conditioned by multiple factors, both qualitative and quantitative [12]. It is impossible to draw a common profile of senescent sexuality, since there is a wide individual variability: changes in the body, reactions and experiences related to them can be different [13]. The reduction of sexual desire in men, for example, can be experienced differently, in fact some of them lose their libido completely, while others

have only a reduction in sexual appetite.

1.2 Factors modifying the sexual response of the elderly male

Vascular diseases are among the most frequent disorders in the elderly male causing a change in sexual life and erectile dysfunction, which is not surprising in a population where atherosclerotic disease is widespread. Arterial disease is the most frequent, especially in older men with hypercholesterolemia, diabetes, peripheral vasculopathy or hypertension, as well as in smokers. Any alteration of arterial flowed to the cavernous bodies (such as those due to atherosclerosis, the presence of a clot or the loss of elasticity of a vessel wall) can cause erectile dysfunction. The display of erectile dysfunction may precede a cardiovascular event of 2–5 years [14]. Those two conditions can be grouped together considering the dimensional differences that arterial structures present in different districts. The diameter of arteries in the human body varies widely, from small penile arteries (1–2 mm) to larger arteries such as femoral arteries (6–8 mm). Since the penile arteries are smaller and have a larger surface area, the obstruction of the vessels caused by atherosclerosis can give more significant effects in this district. This could explain why erectile dysfunction often precedes the manifestations of cardiovascular diseases such as myocardial infarction and cerebral ischemia. Other processes that affect sexuality in aging are neurological diseases: the sensitivity of the penis tends to decrease with age and can contribute to erectile dysfunction, since local stimulation plays a role in the genesis of erection. Peripheral and autonomic neuropathies and neurotransmitter alterations due to diabetes can cause erectile dysfunction in the elderly. Penile nerves are rarely damaged by a spinal disc herniation, more frequently they are injured during surgical procedures such as rectal surgery and prostatectomy. Multiple sclerosis, stroke and other neurological diseases can also cause erectile dysfunction. Then we have endocrine diseases: the most frequent endocrine disorder in the elderly is PADAM (Partial Androgen Deficiency in the Aging Male) syndrome, which is a senile hypogonadism of the non-tumor type. Diseases and conditions associated with primary testicular failure (*e.g.*, Klinefelter syndrome, radiation, chemotherapy or childhood exposure to the parotitic virus) may be responsible for erection problems. Structural changes such as Peyronie's disease can also occur: it can make sexual intercourse difficult or contribute to venous loss, which can cause erectile dysfunction. It is characterized by the presence of fibrotic bands or plaques in the context of the albuginea tunic, which are responsible of a "deformed" erection. Finally, among the various clinical pathologies that can influence the sexual practice in the elderly patient, a leading role, epidemiologically speaking, is played by a morbid process of urological character: benign prostatic hypertrophy. It is generally characterized by a volumetric increase of the prostate that can be associated with a symptomatology of the lower urinary tract [15]. This study aims to evaluate in a quantitative point of view how sexual satisfaction influences the quality of life of elderly people and how depression mediates this relationship. In fact, even if literature previously showed these relationships, to the best of our knowledge no studies give quantitative analyses of these relationships. Our hypotheses are that sexual satisfaction positively influences the quality of life, but that depressive symptoms can negatively influence this relationship.

2. Materials and methods

An accurate anamnestic, general and sexual evaluation was the starting point in the approach to these patients. A medical examination and first level blood tests were also performed in order to differentiate psychosexual problems from possible problems connected to a medical and/or hormonal condition. In order to pursue the objectives of the study, patients were evaluated through a series of internationally validated scales that could provide globally accepted scores; these scales allow to assess several aspects useful to describe the correlation under study, and they are:

1. IIEF 15—International Index of Erectile Function. The International Index of Erectile Function (IIEF; [16]) is the most frequently used questionnaire for the evaluation of male sexual function. The tool is validated in several languages including Italian. It consists of 15 questions concerning 5 aspects or domains of sexuality: sexual desire, erectile function, orgasmic function, relationship satisfaction and general satisfaction. In order to streamline the evaluation, two shorter versions were subsequently validated: in this study the 5-question version was used, which investigates 2 domains, erectile function and relationship satisfaction. A score $>$ 21 excludes the presence of ED. This questionnaire is easily self-administered in a research or clinical setting. The IIEF demonstrates sensitivity and specificity for the detection of treatment related changes in patients with erectile dysfunction. The instrument has good psychometric values, with reliability being 0.82 [14].

2. BDI—Beck Depression Inventory. The Beck Depression Inventory (BDI) [17] is the best-known and most widely used self-assessment tool developed to measure the severity of depressive symptoms in adolescents and adults. In its original version the BDI was composed of 21 items, each corresponding to a definition that describes the symptom at increasing levels of severity (from 0 = absent to 3 = more severe). The total score ranges from 0 to 63. The author subsequently identified the 13 items that correlated most with the total score and this reduced version is the one currently most used. According to the American Psychiatric Association (APA), scores above 15 indicate a severe degree of depression, scores between 8 and 15 a moderate degree and scores between 5–7 a medium degree depression. BDI's internal consistency estimates yielded a mean coefficient alpha of 0.86 for psychiatric patients and 0.81 for nonpsychiatric subjects [16].

3. QLI—Quality of life index [18]. The current generic version of the Ferrans and Powers Quality of Life index consists of 33 items in each part, in which subjects give scores on a scale of satisfaction and importance with values between 1 and 6. In the first part, the scale ranges from very dissatisfied (1) to very

satisfied (6). In the second part, the scale ranges from unimportant (1) to very important. (6). The 33 items are distributed in the four dimensions: Health/Functioning (13), Social and Economic (8), Psychological/Spiritual (7) and Family (5). The index has been developed using a solid conceptual and methodological basis, which explains its wide recognition as a quality of life assessment tool in many countries. A distinguishing feature of this tool refers to its peculiar structure: in addition to assessing the level of satisfaction with its various items, it also includes an assessment of the degree of importance assigned to them, taking into account that people can assess the many aspects of life in a different way. The tool includes representative dimensions of the construct it intends to measure, with elements formulated in a simple and understandable way that avoids making respondents tired or unmotivated, especially in cases of frail, old age or low level of education. Correlations between the instrument and an overall satisfaction with life question of 0.75 (graduate students) and 0.65 (dialysis patients) supported criterion-related validity. Support for reliability was provided by test-retest correlations of 0.87 (graduate students) and 0.81 (dialysis patients) and Cronbach's alphas of 0.93 (graduate students) and 0.90 (dialysis patients).

4. MMSE—Mini-Mental State Examination [19]. It is a neuropsychological test for the evaluation of intellectual efficiency disorders and the presence of cognitive impairment. MMSE is often used as a screening tool in the investigation of subjects with dementia, and with neuropsychological syndromes of different nature. The total score is between a minimum of 0 and a maximum of 30 points. A score equal to or less than 18 indicates severe impairment of cognitive abilities; a score between 18 and 24 indicates moderate to mild impairment, a score of 25 is considered borderline, 26 to 30 indicates cognitive normality. The internal consistency of the MMSE method was represented by Cronbach's alpha at the level of 0.78. The MMSE sensitivity was good, and that was at the level = 0.83 with a confidence interval 95 % from 0.62 to 0.95 [19].

The sample under study was first subjected to a descriptive analysis, in which synthetic indices such as mean, median, standard deviation and other quantile were calculated for the continuous variables. In this first phase, it was also calculated the distribution of the scores obtained by the sample at the IIEF, BDI and QLI compilation tools. A boxplot is a standardized way of displaying the dataset based on the five-number summary: the minimum, the maximum, the sample median and the first and third quartiles. In the second part, on the other hand, an inferential type analysis was carried out, using a linear regression model and a multiple regression model. Linear regressions and multiple regression models were used using SPSS 25 (IBM SPSS Statistics, Chicago, IL, USA).

40 consecutive patients, from February 2020 until April 2020, attending for two months the inpatients service in the Sant'Andrea Hospital were recruited in the sample. Mean age was 75.4 (sd = 7.3). All of them were Caucasian and heterosexual; 13 of them were widowed, 3 divorced with most of them being married. Each man was explained the aim of the study, the confidentiality of data and the possibility to leave the study whenever they want; informed consent was signed. Sample exclusion criteria have also been defined, excluding from the research:

-Patients undergoing pelvic or aorto/iliac surgery;

-Patients undergoing pelvic radiotherapy;

-Patients with primary or secondary hypogonadism;

-Patients with neurogenic erectile dysfunction (myelopathy, encephalopathy, pelvic or perineal trauma);

-Patients with hyperprolactinemia;

-Patients with high probability of cognitive impairment (Mini Mental State Examination <23);

-Patients suffering from unipolar or bipolar depressive disorders, in therapy with drugs with antidepressant activity and/or mood stabilizers.

9 men were excluded for not meeting the inclusion criteria. The ethical approval of the study was done by the Institutional Review Board of the Department of Psychology, Sapienza University of Rome.

3. Results

The study in question investigates the relationships between sexual function, depressive symptoms and quality of life (QLI) through a series of regression analyses. By focusing on three distinct linear models, the research aims to unravel the interplay between sexual satisfaction, mood disturbances and how these variables influence overall quality of life.

The first model examines the relationship between the International Index of Erectile Function (IIEF) and QLI. The linear regression equation developed is: QLI = 16.59 + 0.33 × IIEF.

When IIEF = 0, the average QLI is 16.59. This suggests that even in the absence of erectile function, patients report a baseline quality of life of 16.59. For every unit increase in IIEF, QLI increases by 0.33. This shows that improvements in erectile function (as measured by IIEF) directly and positively impact the patient's quality of life. The intercept (16.59) is statistically significant ($p = 0.033$), and the model explains 74% of the variation in QLI ($R^2 = 0.74$), indicating a strong relationship between sexual function and quality of life.

The results suggest a clear and positive correlation between erectile function and quality of life. As sexual satisfaction improves, there is a parallel increase in perceived well-being. In practical terms, the more efficient and satisfying the sexual experience, the higher the quality of life.

The second linear regression explores the connection between depressive symptoms, as measured by the Beck Depression Inventory (BDI) and QLI. The equation derived is: QLI = 25.04 − 0.45 × BDI.

When BDI = 0, the average QLI is 25.04, suggesting that individuals without depressive symptoms tend to report a significantly higher quality of life. For every unit increase in BDI, QLI decreases by 0.45. This demonstrates that as depressive symptoms worsen, quality of life declines correspondingly. The intercept (25.04) is statistically significant ($p = 0.045$), and the model explains 78% of the variation in QLI ($R^2 = 0.78$). The strength of this relationship suggests that depressive symptoms play a significant role in reducing quality of life.

The inverse relationship between BDI and QLI emphasizes the detrimental effect of depressive symptoms on life satisfaction. As depressive symptoms increase, QLI drops, showing a substantial negative impact on emotional and psychological

well-being. This suggests that depressive moods, which may arise from or be exacerbated by sexual dysfunction, further erode quality of life.

The third model investigates the combined effect of both IIEF and BDI on QLI through multiple regression analysis. The equation derived is: QLI = 21.8 − 0.29 × BDI + 0.13 × IIEF.

With both BDI = 0 and IIEF = 0, the average QLI is 21.8, which is slightly lower than the result from the previous model but higher than when IIEF alone is considered. For each unit increase in BDI, QLI decreases by 0.29, while for each unit increase in IIEF, QLI increases by 0.13. The coefficient for BDI (−0.29) is larger in magnitude compared to the coefficient for IIEF (0.13), implying that depressive symptoms have a more substantial negative impact on QLI than the positive impact of sexual function. The intercept (21.8) is statistically significant (p = 0.002), while both the BDI and IIEF coefficients are also statistically significant (p = 0.000351 and p = 0.022058, respectively). The model has a high explanatory power, with R^2 = 0.82, suggesting it explains 82% of the variability in QLI. Table 1 summarizes the results.

TABLE 1. Results summary table.

Models	p	R^2
Linear regression between BDI and QLI	0.450000	0.78
Multiple regression between IIEF, BDI and QLI		
BDI	0.000351	0.82
IIEF	0.022058	

QLI: Quality of life index; BDI: Beck Depression Inventory; IIEF: International Index of Erectile Function.

This model integrates both sexual function and depressive symptoms, providing a comprehensive understanding of how these factors jointly influence quality of life. The results suggest that while improvements in sexual function contribute to better quality of life, the negative impact of depressive symptoms is more pronounced. Thus, mood disturbances, which may be related to sexual dysfunction, lead to greater reductions in QLI than can be compensated by improvements in erectile function alone. Sexual function and satisfaction, along with depressive symptoms, significantly influence quality of life. The positive correlation between IIEF and QLI in both the single and multiple regression models suggests that improving erectile function leads to better life satisfaction. However, the greater impact of BDI highlights that depressive symptoms are a more powerful predictor of reduced quality of life. In practical terms, the research underscores the importance of addressing both sexual health and mental health in patients. While improvements in sexual function can enhance life quality, they are insufficient to fully mitigate the negative effects of depressive symptoms. Therefore, holistic treatment approaches addressing both psychological and physical dimensions of sexual dysfunction are necessary to improve overall well-being.

4. Discussion

Our results showed in a quantitative point of view how sexual satisfaction influences the quality of life of elderly people and how depression mediates this relationship. In fact, even if literature previously showed these relationships, to the best of our knowledge no studies give quantitative analyses of these relationships. Specifically, it has been seen that in elderly patients with preserved sexual activity there is a high quality of life. This is directly attributable to this phenomenon, but the high quality of life is also based on a positive polarization of the mood, which, in turn, is linked to the expression of a satisfactory sexuality. All this demonstrates the multidisciplinary influence that the expression of regular sexual activity can have in the elderly male patient. Furthermore, it should be remembered that sexuality in these patients is conditioned by a myriad of factors that we have schematically divided into biological and psychosocial. Therefore, it must be considered that the way sexuality is expressed in the elderly patient cannot be solely associated with the passing of the years and therefore with physiological ageing. As already stated, there are other types of conditioning elements, both biological and non-biological, whose incidence is not so correlated to age and therefore they can occur in patients of different ages. In fact, there are older patients whose evaluation reveals a more satisfactory and frequent sexual activity, compared to the one of younger patients. The study carried out shows that elderly sexual needs are substantially like those of young people, although there are some variations with respect to different parameters. The transformations of sexuality, due to biological factors that have direct medical implications and the myriad of psycho-social factors, often make it complicated to examine the sexual decline linked exclusively to the ageing process that takes place in both sexes. The present research also shows that essential aspects of senescent sexuality are intimacy, the ability of falling in love, communication, affection, the value given to caresses, sensitivity and empathy [20]. These aspects are not age-related and whether a person can more or less enjoy them, it depends not so much on age as on other natural, personal, social and environmental factors [21]. These elements are related to historic-individual characteristics and interpersonal relationships, and they play a very important role in the expression of sexual activity. Among these, we remember the most significant ones, first: the personal history of health. It is essential that the elderly person is aware of the health problems he/she is suffering from, or if the drugs he/she is taking may have consequences for the sexual response. Another important factor is sexual biography. The presence of pathologies, both physical and mental, can significantly alter sexuality. The results obtained are in line with those of Cheng and colleagues [22]. In their research, they showed that the depressive level correlated negatively with erectile and orgasmic function, intercourse and overall satisfaction, these domains of the IIEF15. This link appears to be independent by age, schooling and number of health conditions within the sample lost by them (men aged 50 and over). This confirms that the impact of mood on sexuality is common to both older and younger people. In addition, the study mentioned highlighted that there are two

particular depressive dimensions in relation to ED, which are "low mood" and "worthlessness"; although there is no causal link in this analysis, it is clear that isolation and social taboos on the elderly can expose this category of people to a higher risk of depression and sexual dysfunction. Supportive counselling and cognitive therapy based on one's own personal value conception, reserved to the target of older people, can prevent mood and sexuality disorders and also ensure them a better quality of life, according to our results too. Sexual behavior is influenced by previous habits and experiences, but also by the stable and continued perception of our own body image, as the one of our partners. Lack of knowledge about senile sexuality, incongruous expectations about sexual function during ageing and insufficient information about it, can lead the elderly person to misinterpret what it is happening to them. In addition, false beliefs risk to adversely affect both the possibility of older people living their sexuality appropriately and with pleasure, as well as the possibility of requiring specific treatment when they present a problem of a sexual nature. Moreover, psychosocial consequences related to advancing age and the place where the person lives can influence the expression of sexual activity. What emerges from the transversal observational study carried out is that where the sexual function remains preserved, other important domains will be preserved too; then all of them are useful for an overall well-being picture. As the literature also shows, sexual gratification is an integral part of life satisfaction in both older women and men. In particular, in men over sixty, sexual satisfaction correlates negatively with negative affectivity (NA): this means that the lower is the sexual satisfaction, the greater is the distress perceived by the elderly [23].

Although there is still little research evaluating the attitudes of older people towards the role and value of sexuality in their subjective experience, this dimension is assuming an increasingly important role in the evaluation of the quality of life in senescence, in the face of other problems that for a long time have been considered more compelling. The perspective that has guided our research like many others in the literature has instead to see the importance of sexuality, although different from that of youth, for a good ageing: a life-long learning perspective where even in the last years of our existence we will have stages to reach and new balances to create. It is not an anti-decline challenge but rather a moral and clinical duty to meet the needs of each age group, bearing in mind the advancement of the average age in recent years within more civilized societies. Sexuality in the elderly varies from person to person: some older people maintain a satisfactory sexual activity until a very old age, others give it up. The physiological sexual changes associated with old age are also very variable individually, but in general they allow to maintain sexual activity, including coital activity, as demonstrated by research carried out on this topic. The degree of sexual satisfaction and pleasure does not necessarily decrease over the years. On the contrary, in some cases they may even improve. One of the advantages of this research is to demolish taboo on the older people's sexuality and to address a sensitive and extremely important issue; at the same time, limits found are: the lack of more correlational measures between mood and sexuality in older men, and also a lack of interesting female evaluation with women subjects; these elements could provide useful suggestions and possible outlets for further research. The sample size is a limitation of this study. In addition, there are sociodemographic variables that may influence this study that have not been taken into account. In future researches, these aspects could be taken into account.

The report highlights the importance of promoting health prevention, education and information initiatives on the issues of sexuality and affectivity in older men, in order to provide correct knowledge and a greater understanding of the underlying processes. It is also noted the need to develop training initiatives aimed at health and social workers working in this field, to implement a multidimensional orientation of care and assistance. Many operators only have a brief knowledge of the real sexual needs of the elderly. They tend to consider the sexual interest more as a behavioral problem than as the authentic expression of a need for affection and intimacy. Ageing strongly influences the quality of relationships, as well as sexual functioning, but it does not nullify the psychological component related to sexual desire. Taboos and common senses are current and difficult to unhinge but if we start with a good awareness and preparation in the care services, it will be easier to break them down in the society and in the elderly themselves, as also reported by Cybulski and colleagues [24], who found a positive correlation between attitudes toward sexuality and satisfaction of sex life in a sample of polish seniors between 60 and 78 years of age.

5. Conclusions

Only through the spread of a new sensitivity towards these issues will it be possible to foster the affirmation of a right to affective and sexual health, without chronological limits, and to promote a satisfactory quality of life in the elderly person on the physical, psychological and relational levels, thus satisfying the very concept of health.

ABBREVIATIONS

TD, testosterone deficiency; PDE5-i, Phosphodiesterase type-5 inhibitors.

AVAILABILITY OF DATA AND MATERIALS

The data presented in the current study are available on reasonable request from the corresponding author.

AUTHOR CONTRIBUTIONS

SE and MG—were the major contributors in writing the manuscript and interpreting the data. MRM—contributed to the design and concept of the work, analysed the data and contributed to writing the methods and results session and critically revising the paper. LI—contributed to the interpretation of the data and to writing the introduction and the discussion session, in particular. SG and MRM—also acquired the data and helped in the interpretation of the data, contributed the revision of the discussion section. GN and LT—contributed to the design and concept of the work,

critically revised the paper, in particular the discussion and conclusion sections. All authors read and approved the final manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

All procedures performed in studies involving human participants followed the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The Institutional Review Board of the Department of Psychology, Sapienza University of Rome (n. 0000394 of 27 February 2020) approved the study. Informed consent was obtained from all individual participants included in the study.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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