Esc Anna Nery 2022;26:e20210469

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Effects of sexuality experiences on older adults' self-esteem and quality of life

Efeitos das vivências em sexualidade na autoestima e na qualidade de vida de pessoas idosas

Efectos de las experiencias de sexualidad en la autoestima y la calidad de vida de las personas mayores

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ABSTRACT

Objective: to analyze the effects of sexuality on older adults' self-esteem and quality of life. **Method:** a cross-sectional, web survey, analytical and observational study developed with 519 aged individuals, who filled out four instruments for data collection. The participants were recruited using a non-probability convenience sampling technique. The analysis was performed using the Mann-Whitney test, Spearman's correlation and Structural Equation Modeling, with a 95% confidence interval. **Results:** among the sexuality dimensions, the sexual act had a weak effect on self-esteem (SC=0.186; p=0.007) and moderate on quality of life (SC=0.326; p<0.001). The affective relationships dimension had a weak effect both on self-esteem (SC=0.204; p=0.006) and on quality of life (SC=0.186; p=0.03). Finally, the physical and social adversity dimension had a moderate effect both on self-esteem (SC=0.276; p<0.001) and quality of life (SC=0.358; p<0.001). **Conclusion:** it was found that all the sexuality dimensions exerted positive and significant effects on the participants' self-esteem and quality of life.

Keywords: Geriatric Nursing; Sexuality; Mental Health; Older Adults' Health; Quality of Life.

RESUMO

Objetivo: analisar os efeitos da sexualidade na autoestima e na qualidade de vida de pessoas idosas. **Método:** estudo transversal, *web survey*, analítico e observacional desenvolvido com 519 pessoas idosas, as quais preencheram quatro instrumentos para a coleta dos dados. Os participantes foram recrutados conforme a técnica de amostragem não probabilística por conveniência. A análise foi realizada com o teste de *Mann-Whitney*, Correlação de *Spearman* e Modelagem de Equações Estruturais, com intervalo de confiança de 95%. **Resultados:** dentre as dimensões da sexualidade, o ato sexual exerceu efeito fraco sob a autoestima (CP=0,186; p=0,007) e moderado sob a qualidade de vida (CP=0,326; p<0,001). Já a dimensão das relações afetivas exerceu efeito fraco sobre a autoestima (CP=0,204; p=0,006) e fraco sob a qualidade de vida (CP=0,186; p=0,03). Por fim, a dimensão das adversidades física e social exerceu efeito moderado sob a autoestima (CP=0,276; p<0,001) e moderado sob a qualidade de vida (CP=0,358; p<0,001). **Conclusão:** constatou-se que todas as dimensões da sexualidade exerceram efeitos positivos e significativos sob a autoestima e sob a qualidade de vida dos participantes.

Palavras-chave: Enfermagem Geriátrica; Sexualidade; Saúde Mental; Saúde do Idoso; Qualidade de Vida.

RESUMEN

Objetivo: analizar los efectos de la sexualidad sobre la autoestima y la calidad de vida de las personas mayores. **Método:** estudio transversal, de tipo encuesta web, analítico y observacional desarrollado con 519 personas mayores, quienes completaron cuatro instrumentos para la recolección de datos. Los participantes fueron reclutados mediante técnica de muestreo no probabilístico por conveniencia. El análisis se realizó por medio de la prueba de Mann-Whitney, correlación de Spearman y modelado de ecuaciones estructurales, con un intervalo de confianza del 95%. **Resultados:** entre las dimensiones de la sexualidad, el acto sexual tuvo un efecto débil en la autoestima (CE=0.186; p=0.007) y moderado en la calidad de vida (CE=0.326; p<0.001). La dimensión de relaciones afectivas tuvo un efecto débil sobre la autoestima (CE=0,204; p=0,006) y débil sobre la calidad de vida (CE=0,186; p=0,03). Finalmente, la dimensión de adversidad física y social tuvo un efecto moderado en la autoestima (CE=0.276; p<0.001) y un efecto moderado en la calidad de vida (CE=0.358; p<0.001). **Conclusión:** se encontró que todas las dimensiones de la sexualidad tuvieron efectos positivos y significativos sobre la autoestima y la calidad de vida de las participantes.

Palabras clave: Enfermería Geriátrica; Sexualidad; Salud Mental; Salud de la Persona Mayor; Calidad de Vida.

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Submitted on 12/13/2021.
Accepted on 04/19/2022.

DOI:https://doi.org/10.1590/2177-9465-EAN-2021-0469en

INTRODUCTION

Sexuality surpasses the understanding of an involvement only of physical and bodily aspects.[1] It is an important life component that values quantitative and qualitative demonstrations such as touch, love, affection, intimacy and, companionship, among others, with the sexual practice itself included in this large group.[2]

Sexuality is considered a source of pleasure and there is no scientific evidence that makes its experiences impossible for older adults,[3] although there are strong prejudices, myths and taboos in a society that considers old age as an asexual phase.[4,5] In this sense, in order to seek new health promotion strategies, there is an approach to sexuality during health consultations that is little discussed with this population segment and can promote positive effects on older adults' self-esteem and quality of life (QoL).

Self-esteem is defined as a set of feelings and thoughts of each individual regarding their own confidence, competence, value and adequacy, in addition to the ability to face challenges. These characteristics are reflected in a positive or negative attitude towards oneself. Therefore, it is an important factor that influences the way the individual feels, perceives and responds to the world. Self-esteem relates to individual life-long experiences, especially those related to appreciation, affection, love, success or failure.[6]

It is reported that self-esteem is an indispensable component for emotional survival. In addition, due to the ability of self-esteem to influence affective, social and psychological aspects, it is considered an important mental health indicator.[7]

Regarding QoL, it is a subjective component of well-being.[8] The World Health Organization (WHO) defines it as "the individual's perception of their position in life, in the context of the culture and value systems in which they live and in relation to their objectives, expectations, standards and concerns".[9:1570]

The literature lacks studies that investigate the effects of sexuality on older adults' self-esteem and QoL, prevailing research studies with an exclusive focus on sexual aspects that contribute few reflections to the objective herein proposed. The current research that is closest to our results was published in 2021[10] using the same instruments that will be employed in this study. The authors[10] aimed at analyzing the association between older adults' sexuality and QoL and found positive and statistically significant correlations between all dimensions of sexuality and QoL, suggesting that these two variables have directly proportional behaviors. However, the analysis performed was not of effects, but of correlation.

Thus, our study proposes to add self-esteem and QoL as unprecedented variables to be tested in the analysis of effects of sexuality. In this perspective, our hypothesis is that experiences in sexuality exert strong and positive effects on older adults' self-esteem and QoL, so that the relationship between these variables is directly proportional. If there is statistical confirmation, this study may reorient new health care practices for aged individuals with a focus on health promotion and protection, especially in the Family Health Strategy, stimulating sexuality as a self-esteem and QoL factor. Therefore, our objective was to analyze the effects of sexuality on older adults' self-esteem and QoL.

METHODS

Type of study

This is a cross-sectional,[11] analytical and observational study of the web survey type designed according to the STROBE quality checklist.

Scenario

The study scenario comprised all five Brazilian federative units: North, Northeast, Midwest, Southeast and South.

Sample definition

Sample calculation for this study considered an infinite population, conservative proportion of 50%, sampling error of 5% (α=0.05) and 95% confidence level ($z\alpha/2$=1.96), which totaled a sample of 385 participants. However, due to the possibility of losses due to insufficient filling out, there was an increase of more than 30% (n=134), therefore totaling 519 participants who were recruited according to the non-probabilistic sampling technique for convenience.

The inclusion criteria adopted were as follows: older adults aged 60 years old or more, of both genders (male and female), married, in a stable union or with a stable partner, due to the peculiarity of the sexuality instrument considering individual experiences and in relation to the spouse;[11] having access to the Internet and an active account on the Facebook Social Network.

The exclusion criteria were hospitalized older adults living in long-term institutions or similar, with functional dependence and neurodegenerative pathologies that made it impossible to understand the instruments, screened by means of four dichotomous questions (yes/no) at the beginning of the questionnaire. The participants who answered no to all questions regarding screening of the exclusion criteria were considered fit.

It is noteworthy that, as these are older adults with satisfactory skills to actively participate in social networks through technological resources such as tablets, smartphones and computers, among others, no instruments to assess cognition were applied.

Data collection

Data collection took place entirely online with the participation of 519 older adults between July and October 2020. The researchers created a page on the Facebook Social Network in order to disseminate relevant information on public and older adults' health that contribute to promoting health and QoL in this age group, including the aspects related to sexuality. The page is in the public domain and anyone can access and share the content published. The posting boost feature was used, in which Facebook expands dissemination of the research to the entire Brazilian territory.

On this page, there was publication of a personalized invitation containing the title of the research, inclusion criteria, contact data (telephone number and email address), responsible researchers and institution, as well as a hyperlink that gave direct access to the research questionnaire. This questionnaire was organized by

means of the Google Forms tool and divided into four assessment surveys: biosociodemographic, sexuality, self-esteem and QoL.

The biosociodemographic survey was built through a script prepared by the researchers themselves in order to draw the participants' profile. Initially, the Informed Consent Form (ICF) was made available in full so that the participants could read it and accept to participate in the research. Subsequently, the participants started to answer the biosociodemographic questions: age, gender, marital status, religion, ethnicity, schooling, sexual orientation, geographic location, whether they live with their sons and daughters and whether they have already received guidelines on sexuality from health professionals.

The sexuality survey was built with the Elderly Affective and Sexual Experiences Scale (EASES), built and validated for the Brazilian aged population, reaching satisfactory psychometric properties to be applied in the population proposed.[12] It is a scale consisting of 38 items and divided into three dimensions: sexual act, affective relationships and physical and social adversity. The scale has five Likert-type answer options ranging from 1 (never) to 5 points (always) and there is no cutoff point for its interpretation. The worst/best sexuality experience is attributed to older adults who, respectively, obtain a lower/higher final score.[12] It is noteworthy that the physical and social adversity dimension has negative questions and, therefore, the values were recoded so that all dimensions had the same direction of statistical analysis.

The self-esteem survey was built with the Rosenberg Self-Esteem Scale adapted for the Brazilian population in 2000.[13] It consists of 10 items that consider feelings of self-esteem and self-acceptance whose answers are given on a Likert scale from 1 point (strongly disagree) to 4 points (strongly agree).[14] The total sum of the items is 10 to 40 points and self-esteem can be classified as unsatisfactory (<30 points) and satisfactory (≥ 30 points).[15]

Finally, the QoL survey was developed with the validated *World Health Organization Quality of Life – Old* (WHOQOL-Old) instrument.[16] It is a specific instrument for the aged population organized into 24 items and six facets: sensory skills; autonomy; past, present and future activities; social participation; death and dying; and intimacy. Each item has five possibilities of Likert-type answers ranging from 1 to 5 points without establishing a cutoff point. The total score varies from 24 to 100 points and the higher/lower the score, the better/worse, respectively, will be the interviewee's QoL.[16]

It is noteworthy that the participants started to comment on the excessive number of questions and, as a consequence, many gave up on proceeding with the research. Therefore, it was decided to remove WHOQOL-Bref as a generic instrument of the study and only maintain WHOQOL-Old. This choice was based on the validation study of EASES,[12] the main variable of the study, whose author pointed out a strong correlation between EASES and WHOQOL-Old, with a prediction of 41%. In addition to that, the confidence limits observed were narrow and the slope of the sample was between 0.24 and 0.33 [F(1.198)=11.74; 95% CI; p<0.001], which indicates that the results observed were not due to sampling error.[12]

Finally, it is noteworthy that in order to correct possible biases, it was mandatory to fill in the field referring to the email address of each participant at the beginning of the questionnaire. Thus, the researchers had greater control over the data, which allowed for the identification of a possible multiplicity of surveys answered by the same participant, which was not the case in the current study.

Data selection, analysis and processing

Through the IBM® SPSS Statistics software, version 25, the non-parametric Mann-Whitney test was applied to analyze the existing statistical differences between older adults' sexuality and QoL according to the self-esteem classification and Spearman's correlation (ρ) to test the relationships between the variables. The correlation analysis was interpreted as follows: weak magnitude (ρ<0.4); moderate magnitude (ρ>0.4 and <0.5) and strong magnitude (ρ>0.5).[17]

A structural equation model (SEM) was used for multivariate data analysis using the STATA software, version 15. This is a complex method of analysis that, although this study has a cross-sectional design, allows measuring direct and indirect effects of one variable on the other,[18] in addition to analyzing consistency of new theoretical models that explain relationships between various constructs.[19]

The model proposed consisted of a latent variable with indicators with a factor load above 0.50 and four observed variables. Latent quality of life (QoL) was formed by the sensory abilities (DOM1), autonomy (DOM2), social participation (DOM4) and death and dying (DOM5) domains, while the observable variables were the sexuality domains: sexual act (EASES1), effective relationships (EASES2) and physical and social adversity (EASES3); in addition to self-esteem measured by the total scale (SELF).

The SEM results are interpreted by the Standardized Coefficients (SCs) and their respective 95% confidence intervals (95% CIs) according to what was recommended by Kline:[20] small effect (SC=0.10); medium effect (SC=0.30) and strong effect (SC>0.50).

The following adjustment indices were used to attest adequacy of the model: Standardized Root Mean Square Residual (SRMR), with a value <0.08 indicating good fit and <0.10, acceptable fit;[19,20] Comparative Fit Index (CFI) and Tucker–Lewis Index (TLI), with values closer to 1 indicating a better fit;[18] Root-Mean-Square Error of Approximation (RMSEA), with its 90% confidence interval (90% CI) and the following interpretation: perfect fit (RMSEA=0); good fit (RMSEA<0.05); moderate fit (RMSEA=0.05-0.08); mediocre fit (RMSEA=0.08-0.10) and inadequate fit (RMSEA>0.10)[21] and, finally, Adjusted Goodness-of-Fit Index (AGFI), ranging between 0 and 1, with values ≥0.90 indicating well-fitted models.[22]

Ethical aspects

This study followed all the ethical recommendations set forth in Resolution 466/2012 of the National Health Council, obtaining

approval in 2020 by the Research Ethics Committee of *Escola de Enfermagem de Ribeirão Preto da Universidade de São Paulo* (EERP/USP) under opinion No. 4,319,644. All participants read and agreed with the ICF, and a copy was sent to all the emails addresses informed in the hidden sending mode in order to preserve the identity of those involved.

RESULTS

According to Table 1, it is observed that there was higher prevalence of male participants (68.2%), aged between 60 and 64 years old (49.5%), with complete higher education (37.8%), white-skinned (65.5%) and who never received guidelines on sexuality by health professionals (76.7%).

As can be seen in Table 2, aged people with satisfactory self-esteem have the best experiences in sexuality and the best QoL in all dimensions evaluated, as they present the highest median scores, with a statistically significant difference.

In the correlation analysis shown in Table 3, it can be seen that the highest coefficients were positive and of strong magnitude, identified between the facet of intimacy of QoL with sexual intercourse (ρ=0.633; p<0.001), affective relationships (ρ=0.685; p<0.001) and between the general sexuality score (ρ=0.662; p<0.001). In general, it is noted that sexuality is significantly correlated with a strong magnitude with QoL (ρ=0.522; p<0.001) and moderate magnitude with self-esteem (ρ=0.408; p<0.001).

Sexual intercourse had a weak effect on self-esteem (SC=0.186; p=0.007) and a moderate effect on QoL (SC=0.326; p<0.001). The affective relationships dimension had a weak effect on self-esteem (SC=0.204; p=0.006) and a weak effect on QoL (SC=0.186; p=0.03). Finally, the physical and social adversity dimension exerted a moderate effect both on self-esteem (SC=0.276; p<0.001) and on QoL (SC=0.358; p<0.001).

In the measurement model, the quality of life (QoL) latent variable did not show adequate factor load (>0.5) for the present, past and future activity (DOM3) and intimacy (DOM6) domains. Along with self-esteem and sexuality, the latent composed the structural model proposed (Figure 1). It was possible to show good fit of the model by evaluating the RMSEA (0.05 [95% CI 0.03-0.08]), TLI (0.946), CFI (0.970) and SRMR (0.03) fit indices.

Table 4 shows that all the sexuality dimensions had positive and significant effects on the participants' self-esteem and QoL, with statistically significant differences. Sexual intercourse had a weak effect on self-esteem (SC=0.186; p=0.007) and a moderate effect on QoL (SC=0.326; p<0.001). The affective relationships dimension had a weak effect on self-esteem (SC=0.204; p=0.006) and a weak effect on QoL (SC=0.186; p=0.03). Finally, the physical and social adversity dimension exerted a moderate effect both on self-esteem (SC=0.276; p<0.001) and on QoL (SC=0.358; p<0.001).

Table 1. Biosociodemographic characteristics of the participants. Ribeirão Preto, São Paulo, Brazil, 2020 (n=519)

VARIABLES	n	%	VARIABLES	n	%
Gender			**Marital status**		
Male	354	68.2	Married	313	60.3
Female	165	31.8	Stable union	108	20.8
Age (years old)			With a steady partner	98	18.9
60 - 64	257	49.5	**Time living together**		
65 - 69	156	30.1	≤ 5 years	102	19.7
70 - 74	78	15.0	6-10 years	41	7.9
75 - 79	23	4.4	11-15 years	51	9.8
≥ 80 years	5	1.0	16-20 years	32	6.2
Schooling			> 20 years	293	56.5
No schooling	1	0.2	**Lives with children**		
Primary	44	8.5	Yes	156	30.1
Elementary School	92	17.7	No	339	65.3
High School	186	35.8	Has no children	24	4.6
Higher Education	196	37.8	**Has already had guidance on sexuality**		
Ethnicity			Yes	121	23.3
White	340	65.5	Never	398	76.7
Asian	11	2.1	**Sexual orientation**		
Black	27	5.2	Heterosexual	445	85.7
Brown	129	24.9	Homosexual	17	3.3
Indigenous	2	0.4	Bisexual	10	1.9
Does not know	10	1.9	Others	47	9.1
Religion			**Brazilian region**		
Catholic	258	49.7	North	40	7.7
Protestant	71	13.7	Northeast	77	14.8
Spiritualist	70	13.5	Midwest	62	11.9
African origins	9	1.7	Southeast	239	46.1
Others	55	10.6	South	101	19.5
No religion	56	10.8			

DISCUSSION

Our study aimed at analyzing the effects of sexuality on older adults' self-esteem and QoL. In Brazil, all individuals aged 60 years old or more are included in this group.[3] In this sense, exploring the biosociodemographic characteristics, we observed in this study higher prevalence of male participants (68.2%), with complete higher education (37.8%) and white ethnicity (65.5%), as shown in Table 1. These data differ from some studies,[7,8,15,23] where predominance was aged women, non-white, with low schooling and/or illiterate.

It is inferred that the majority population of aged men can be the result of the study theme since, during data collection, men showed excitement and interest in knowing more about the topic, while women made conservative and prohibitive comments on the subject matter, and sometimes commented words of insults to the possible lost dignity of those who participated in the research.

Regarding schooling level and white ethnicity, they are two variables that reflect the socioeconomic situation of those

Table 2. Comparison of sexuality and quality of life according to the self-esteem classification. Ribeirão Preto, São Paulo, Brazil, 2020 (n=519)

Variables	SELF-ESTEEM		U	p-value
	SATISFACTORY	NOT SATISFACTORY		
	Median (IQ)	Median (IQ)		
Sexuality				
Sexual act	75.00 (66.00-82.00)	62.00 (49.00-72.00)	13,297.00	**<0.001***
Affective relationships	76.00 (66.00-81.00)	61.00 (53.00-73.00)	13,117.00	**<0.001***
Physical and social adversity	9.00 (7.00-11.00)	7.00 (5.00-9.00)	16,287.00	**<0.001***
EASES	158.00 (142.00-168.75)	132.00 (109.00-152.00)	13,558.00	**<0.001***
Quality of Life				
Sensory abilities	81.25 (68.75-93.75)	68.75 (50.00-81.25)	16,605.00	**<0.001***
Autonomy	75.00 (62.50-81.25)	56.25 (43.75-68.75)	11,607.00	**<0.001***
Past, present and future activities	68.75 (56.25-81.25)	50.00 (37.50-62.50)	10,189.00	**<0.001***
Social participation	71.87 (56.25-81.25)	50.00 (31.25-56.25)	11,451.00	**<0.001***
Death and dying	75.00 (50.00-87.50)	56.25 (37.50-75.00)	17,327.50	**<0.001***
Intimacy	75.00 (68.75-87.50)	56.25 (37.50-75.00)	11,116.50	**<0.001***
WHOQOL-Old	71.87 (62.50-80.20)	53.12 (46.87-61.45)	7,779.00	**<0.001***

*Statistical significance for the Mann-Whitney U test (p<0.05)

Table 3. Correlation of older adults' sexuality, QoL and self-esteem. Ribeirão Preto, São Paulo, Brazil, 2020 (n=519)

SEXUALITY	QUALITY OF LIFE							SELF-ESTEEM
	SS	AUT	PPFA	SP	DD	INT	OQoL	r
	ρ	ρ	ρ	ρ	ρ	ρ	ρ	
Sexual act	0.207*†	0.411*‡	0.468*‡	0.456*‡	0.202*†	0.633*§	0.544*§	0.430*‡
Affective relationships	0.205*†	0.391*†	0.468*‡	0.441*‡	0.181*†	0.685*§	0.543*§	0.431*‡
Physical and social adversity	-0.326*†	-0.286*†	-0.293*†	-0.289*†	-0.310*†	-0.274*†	-0.402*‡	-0.366*†
General sexuality	0.179*†	0.385*†	0.458*‡	0.439*‡	0.160*†	0.662*§	0.522*§	0.408*‡

SS: Sensory Skills; AUT: Autonomy; PPFA: Past, Present and Future Activities; SP: Social Participation; DD: Death and Dying; INT: Intimacy; QoL: Overall Quality of Life * Statistical significance for Spearman's correlation (ρ) at the level of p<0.001 † Weak correlation; ‡ Moderate correlation; § Strong correlation

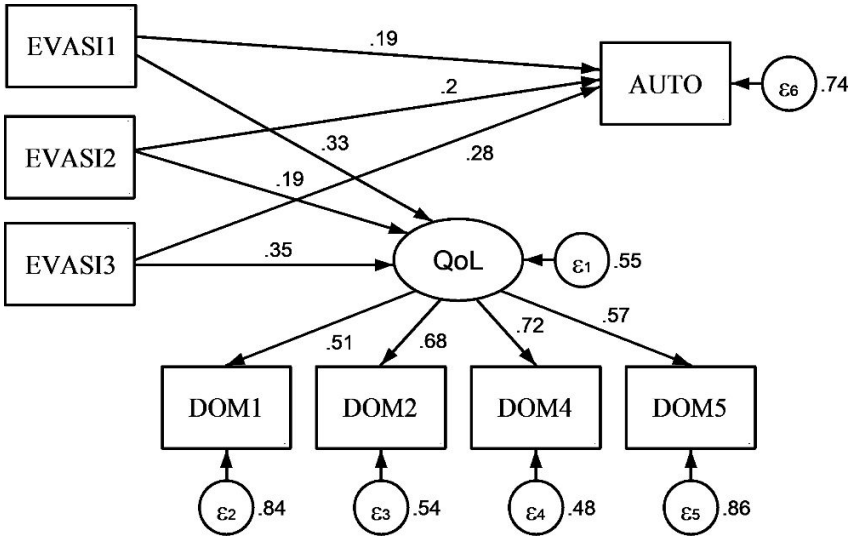

Figure 1. Structural equation model for sexuality (EASES1, EASES 2 and EASES I3), quality of life (QoL) and self-esteem (SELF). Ribeirão Preto, São Paulo, Brazil, 2020 (n=519)

Table 4. Standardized coefficients (SCs) of structural equation modeling between self-esteem, sexuality and quality of life. Ribeirão Preto, São Paulo, Brazil, 2020 (n=519)

	SC	95%CI	p
Measurement model			
DOM1 ← QoL	0.518	0.339 – 0.597	**<0.001**
DOM2← QoL	0.670	0.617 – 0.723	**<0.001**
DOM4 ← QoL	0.702	0.643 – 0.761	**<0.001**
DOM5 ← QoL	0.571	0.342 – 0.578	**<0.001**
Structural Model			
EASES1→ SELF	0.186	0.072 – 0.300	**0.007**
EASES2 → SELF	0.204	0.083 – 0.325	**0.006**
EASES3 → SELF	0.276	0.211 – 0.341	**<0.001**
EASES1→ QoL	0.326	0.193 – 0.460	**<0.001**
EASES2 → QoL	0.186	0.046 – 0.326	**0.03**
EASES3 → QoL	0.358	0.282 – 0.435	**<0.001**

involved. This is because people with higher education have reading and text comprehension skills, which made it possible to read the research instruments. In addition to that, the reality is that the highest schooling level in Brazil is found among non-black people,[24] which can be reflected in racial and economic inequalities in access to education.

Regarding the analysis of self-esteem, we identified that aged people with satisfactory self-esteem have the best experiences in sexuality and better QoL in all dimensions evaluated, as shown in Table 2. These results are similar to a Brazilian study[23] developed with 116 aged participants, which identified that the psychological domain of QoL evaluated by the WHOQOL-bref instrument correlated positively with self-esteem (β=1.007 [95% CI=1.006 – 1.009] p<0.001). In addition, the authors identified that this domain behaved as a predictor of all the emotional variables studied in the sample.[23]

Speaking of emotional variables, the literature confirms that experiences in sexuality are seen by older adults from a new perspective prevailing the achievement of affection and pleasure,[25] corroborating our results, in which aged people with satisfactory self-esteem had better sexuality experiences in the affective component when compared to the sexual component, as shown in Table 2. Otherwise, aged people with unsatisfactory self-esteem had better experiences in sexuality in the sexual act dimension than in the affective relationship. It is as if low self-esteem is an impeding factor for affectivity, which can be justified, in part, by the impaired sense of self-image that affects the ability to engage in affective bonds, with the sexual act as an escape, as a way to obtain pleasure without being involved affectively, as self-esteem and self-image go hand in hand.

In general, we identified that all the sexuality dimensions had positive and significant effects on the participants' self-esteem and QoL. The national and international literature does not have scientific records on the relationship between these two constructs. We tried to carry out a literary review in the main databases such as Scopus, Web of Science and the PubMed Portal with the English descriptors "Sexuality", "Self-esteem" and "Quality of life", which correspond to our study object, but without success, given that the focus of current studies is the sexual act, without considering sexuality in its broad dimension. In addition to that, the studies do not explain the definition of sexuality that supported the discussion, in addition to those who have the term "sexuality" in the title, reduce it to the sexual act throughout the text, a fact that demonstrates reductionism from sexuality to sexual aspects.[26,27]

With regard to the effects of sexuality on QoL, it seems that sexuality is an experience that contributes positively to older adults' QoL. It is a natural experience that responds to a physiological and emotional impulse of the person, manifesting itself in various ways depending on the age aspects that the individual is.[28]

The literature states that sexuality acts as a contributing factor to the promotion of QoL by obtaining pleasure, exchanging more intense affection, self-knowledge, self-esteem and well-being.[25] Also in this sense, according to a Brazilian study[29] developed with 662 aged people, sexuality exerted effects on the participants' QoL, especially the affective (strong effect) and sexual (weak effect) components. Finally, the authors state that the affective relationships of older adults' sexuality can contribute to the prevention and/or attenuation of undesirable events in mental health and, consequently, in the QoL of this population segment.[29]

We consider that, due to the relevance of the theme, it is necessary to invest in more research studies on sexuality among the aged population so that we can advance in knowledge about the dilemmas involved, especially with regard to the self-esteem of this population segment. In this sense, the reason for the absence of studies on the effects of sexuality on such variables is questioned. Is it not worthy addressing the sexuality of this population segment? Will the system continue to reinforce the stereotypes surrounding aged people? Is there conservatism in the health system? Will we continue to look at older adults only associated with the culture of medicalization?

Such questions need to be considered in new possibilities of discussion related to older adults' health, especially in scientific congresses, in such a way that these discussions invade the local care spaces and promote efficiency in care. We hope that, with this, in the near future, this reality will be reconfigured and that older adults' sexuality will be discussed more frequently in health spaces, given that, in the current study, 76.7% of the aged people have never received guidelines on sexuality from professionals. Such data are also similar to Brazilian studies[1,30] developed with Family Health Strategy nurses, in which there was lack of actions aimed at the sexuality of aged users and conservative attitudes among the professionals.

Finally, it should be considered that this study has some limitations. The first refers to the fact that the non-probabilistic approach does not allow generalizing the data, thus compromising

external validity of our results. Moreover, considering that data collection was conducted online and only in a single social network, we believe that there was a restriction of the sample only for certain group of aged people, especially those with higher education, which does not reflect the Brazilian reality.

Despite these limitations, it is worth highlighting some contributions of this study. For care, health managers can implement protocols to systematize the care in relation to older adults' sexuality, ordering referral and counter-referral flows to specialized services.

In the scientific field, this study contributes by revealing the need for researchers to validate an instrument of sexuality that is feasible for application in primary care, respecting sensitivity and statistical reliability. In addition, our data may support future experimental studies to elucidate possible causality among the variables studied.

All these efforts serve as a basis for deepening these discussions even during professional training in health, which will contribute to the improvement of future care practices in public health.

CONCLUSION

The effects of sexuality on self-esteem were weak for the sexual act and for affective relationships and moderate for physical and social adversity. Regarding QoL, the effects of sexuality were moderate for sexual intercourse, weak for affective relationships, and moderate for QoL. It was found that all the sexuality dimensions exerted positive and significant effects on the participants' self-esteem and QoL, becoming valuable data to be discussed in the context of Geriatric Nursing and Public Health.

FINANCIAL SUPPORT

This paper was carried out with the support of *Coordenação de Pessoal de Nível Superior* – Brazil (CAPES) – Funding code 001. PhD scholarship granted to author Edison Vitório de Souza Júnior.

AUTHORS' CONTRIBUTIONS

Study design. Edison Vitório de Souza Júnior. Benedito Fernandes da Silva Filho. Namie Okino Sawada Data collection. Edison Vitório de Souza Júnior. Diego Pires Cruz. Namie Okino Sawada Data analysis. Edison Vitório de Souza Júnior. Diego Pires Cruz. Benedito Fernandes da Silva Filho. Lucas Dias Brito Infante. Randson Souza Rosa. Cristiane dos Santos Silva. Lais Reis Siqueira. Namie Okino Sawada Interpretation of the results. Edison Vitório de Souza Júnior. Diego Pires Cruz. Benedito Fernandes da Silva Filho. Lucas Dias Brito Infante. Randson Souza Rosa. Cristiane dos Santos Silva. Lais Reis Siqueira. Namie Okino Sawada Writing and critical review of the manuscript. Edison Vitório de Souza Júnior. Diego Pires Cruz. Benedito Fernandes da Silva Filho. Lucas Dias Brito Infante. Randson Souza Rosa. Cristiane dos Santos Silva. Lais Reis Siqueira. Namie Okino Sawada Approval of the final version of the article. Edison Vitório de Souza Júnior. Diego Pires Cruz. Benedito Fernandes da Silva Filho. Lucas Dias Brito Infante. Randson Souza Rosa. Cristiane dos Santos Silva. Lais Reis Siqueira. Namie Okino Sawada Responsibility for all aspects of the content and integrity of the published article. Edison Vitório de Souza Júnior. Diego Pires Cruz. Benedito Fernandes da Silva Filho. Lucas Dias Brito Infante. Randson Souza Rosa. Cristiane dos Santos Silva. Lais Reis Siqueira. Namie Okino Sawada

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REFERENCES

1. Evangelista AR, Moreira ACA, Freitas CASL, Val DR, Diniz JL, Azevedo SGV. Sexuality in old age: Knowledge/attitude of nurses of family health strategy. Rev Esc Enferm USP. 2019;53:e03482. http://dx.doi.org/10.1590/s1980-220x2018018103482. PMid:31365728.
2. Souza EV Jr, Silva CS, Lapa PS, Trindade LES, Silva BF Fo, Sawada NO. Influence of sexuality on the health of the elderly in process of dementia: integrative review. Aquichan. 2020;20(1):e2016. http://dx.doi.org/10.5294/aqui.2020.20.1.6.
3. Dantas DV, Batista RC Fo, Dantas RAN, Nascimento JCP, Nunes HMA, Rodriguez GCB et al. Sexualidade e qualidade de vida na terceira idade. Rev Bras Pesq Saúde. [Internet]. 2017 [cited 2021 Feb 25];19(4):140-8. Available from: https://periodicos.ufes.br/rbps/article/view/19814
4. Gewirtz-Meydan A, Hafford-Letchfield T, Benyamini Y, Phelan A, Jackson J, Ayalon L. Ageism and sexuality. In: Ayalon L, Tesch-Römer C, editors. Contemporary perspectives on ageism. International perspectives on aging. Cham: Springer; 2018. p. 149-62. http://dx.doi.org/10.1007/978-3-319-73820-8_10
5. Traeen B, Carvalheira AA, Hald GM, Lange T, Kvalem IL. Attitudes towards sexuality in older men and women across europe: similarities, differences, and associations with their sex lives. Sex Cult. 2019;23(1):1-25. http://dx.doi.org/10.1007/s12119-018-9564-9.
6. Paixão RF, Patias ND, Dell'Aglio DD. Self-esteem and Symptoms of mental disorder in the adolescence: associated variables. Psicol, Teor Pesqui. 2018;34:e34436. http://dx.doi.org/10.1590/0102.3772e34436.
7. Imaginário C, Rocha M, Machado PP, Antunes C, Martins T. The link between cognitive state and general self-esteem among institutionalized elderly persons: can health condition serve as a mediating factor? Rev Bras Geriatr Gerontol. 2018;21(4):471-8. http://dx.doi.org/10.1590/1981-22562018021.170191.
8. Heidari M, Sheikhi RA, Rezaei P, Kabirian Abyaneh S. Comparing quality of life of elderly menopause living in urban and rural areas. J Menopausal Med. 2019;25(1):28-34. http://dx.doi.org/10.6118/jmm.2019.25.1.28. PMid:31080786.
9. The Whoqol Group. The World Health Organization Quality of Life Assessment (WHOQOL): development and general psychometric properties. Soc Sci Med. 1998;46(12):1569-85. http://dx.doi.org/10.1016/S0277-9536(98)00009-4. PMid:9672396.
10. Souza Júnior EV, Silva BF Fo, Barros VS, Souza ÁR, Cordeiro JRJ, Siqueira LR et al. Sexuality is associated with the quality of life of the elderly! Rev Bras Enferm. 2021;74(suppl 2):e20201272. http://dx.doi.org/10.1590/0034-7167-2020-1272. PMid:34259722.
11. Newman TB, Browner WS, Cummings SR, Hulley SB. Designing an observational study: cross-sectional and case-control studies. In: Hulley

SB, Cummings SR, Browner WS, Grady D, Newman TB. Designing clinical research. 3a ed. Porto Alegre: Artmed; 2008.

12. Vieira KFL. Sexualidade e qualidade de vida do idoso: desafios contemporâneos e repercussões psicossociais [Internet]. João Pessoa: Universidade Federal da Paraíba; 2012 [cited 2020 oct 22].Available from: https://repositorio.ufpb.br/jspui/bitstream/tede/6908/1/arquivototal.pdf
13. Hutz CS. Adaptação brasileira da Escala de Autoestima de Rosenberg. Porto Alegre: Universidade Federal do Rio Grande do Sul; 2000.
14. Hutz CS, Zanon C. Revisão da apadtação, validação e normatização da escala de autoestima de Rosenberg. Avaliação Psicol. [Internet]. 2011 [cited 2021 Feb 25];10(1):41-9. Available from: http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1677-04712011000100005&lng=pt
15. Oliveira D, Ladeira Â, Giacomin L, Pivetta N, Antunes M, Batista R et al. Depressão, autoestima e motivação de idosos para a prática de exercícios físicos. Psicol Saude Doencas. 2019;20(3):803-12. http://dx.doi.org/10.15309/19psd200319.
16. Fleck MP, Chachamovich E, Trentini C. Development and validation of the Portuguese version of the WHOQOL-OLD module. Rev Saude Publica. 2006;40(5):785-91. http://dx.doi.org/10.1590/S0034-89102006000600007. PMid:17301899.
17. Hulley SB, Cumming SR, Browner WS, Grady DG, Hearst NB, Newman TB. Delineando a pesquisa clínica: uma abordagem epidemiológica. 2a ed. Porto Alegre: Artmed; 2003.
18. Wang J, Wang X. Structural equation modeling : applications using Mplus. United Kingdom: John Wiley & Sons; 2012. http://dx.doi.org/10.1002/9781118356258.
19. Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. Struct Equ Model A Multidiscip J. 1999;6(1):1-55. https://doi.org/10.1080/10705519909540118.
20. Kline RB. Principles and practice of structural equation modeling. 3rd ed. New York: The Guilford Press; 2012. 445 p.
21. Browne MW, Cudeck R. Alternative ways of assessing model fit. Sociol Methods Res. 1992;21(2):230-58. http://dx.doi.org/10.1177/0049124192021002005.
22. Hooper D, Coughlan J, Mullen M. Structural equation modelling: guidelines for determining model fit. Electron J Bus Res Methods. 2008;6(1):53-60. http://dx.doi.org/10.21427/D7CF7R.
23. Alves VMC, Soares VN, Oliveira DV, Fernandes PT. Sociodemographic and psychological variables, physical activity and quality of life in elderly at Unati Campinas, São Paulo. Fisioter Mov. 2020;33:e003310. http://dx.doi.org/10.1590/1980-5918.033.ao10.
24. Ferreira NT. How the access to education dispels the myth of racial democracy. Ensaio: Aval Pol Públ Educ. 2019;27(104):476-98. https://doi.org/10.1590/s0104-40362019002701553.
25. Barros TAF, Assunção ALA, Kabengele DC. Sexualidade na terceira idade: sentimentos vivenciados e aspectos influenciadores. Ciências Biológicas e Saúde Unit [Internet]. 2020;6(1):47-62. Available from: https://periodicos.set.edu.br/fitsbiosaude/article/view/6560
26. Oliveira PRSP, Queiroz PS, Mendes PA, Vendramini MG. Sexuality of elderly people participating in a cohabitation center. R Pesq Cuid Fundam online. 2021;1075-81. https://doi.org/10.9789/2175-5361.rpcfo.v13.9974.
27. Carnaghi A, Rusconi P, Bianchi M, Fasoli F, Coladonato R, Hegarty P. No country for old gay men: age and sexuality category intersection renders older gay men invisible. Gr Process Intergr Relations. 2021;1-26. ttps://doi.org/10.1177/1368430220987606.
28. Gatti MC, Pinto MJC. Velhice ativa: a vivência afetivo-sexual da pessoa idosa. Vínculo (São Paulo). 2019;16(2):133-59. http://dx.doi.org/10.32467/issn.19982-1492v16n2p133-159.
29. Souza EV Jr, Silva CS, Pirôpo US, Santos BFM, Guedes TP, Siqueira LR et al. Effects of sexuality on frailty and quality of life in the elderly: a cross-sectional study. Rev Bras Enferm. 2022;75(1):e20210049. http://dx.doi.org/10.1590/0034-7167-2021-0049. PMid:34614082.
30. Castro SFF, Nascimento BG, Soares SD, Barros FO Jr, Sousa CMM, Lago EC. Sexuality in old age: nurse's perception at the family health strategy. Rev enferm UFPE on line. 2013;5907-14. http://dx.doi.org/10.5205/reuol.4377-36619-1-ED.0710201310.