



Decreased sexual desire in aging male in Lapangan Puputan Niti Mandala Renon 2018

Mohd Fauzan Arif Bin Mat Nudin^{1*}, I Nyoman Gede Wardana², I Gusti Ayu Widianti²

ABSTRACT

Background: Aging changes are shown from the sub-atomic to the organismic level; ecological variables influence trial perceptions; optional impacts convolute clarification of essential systems; and correctly characterized, effectively quantifiable biomarkers are inadequate. Nobody bringing together hypothesis may exist, since the components of aging could be very distinct in various living beings, tissues, and cells.

Methods: This is a descriptive-observational study, which is aimed to evaluate the influence of aging on sexual desire in a male. The target population of this study is the men aged 50 years old and older in Lapangan Puputan Niti Mandala Renon, Denpasar Selatan,

Bali from April 2018 to mei 2018 were involved in this research. Instruments that were used in this research is The Decreased Sexual Desire Screener questionnaire to assess the sexual function in older men.

Result: This study showed that among 135 respondents aged 50 years old and older, through a questionnaire, most of the respondents stated that they have changing sexual desire. But, most of them are from the age group of 55-60 years old and 61-65 years old. People in the group of 50-55 years old less likely to experience a decrease in sexual desire compared to the older group.

Conclusion: Older age influence sexual function in men.

Keywords: sexual desire, aging, hormones

INTRODUCTION

Human aging is associated with many changes, which resemble those seen with deficiencies of sex steroids or growth hormone and with cortisol excess. Among these are decreases in lean body mass (LBM) and muscle strength, loss of bone mineral, increase in body fat, and, in men, reduced libido and erectile function. Circulating total and free testosterone (T) decrease progressively with age in men, and these decreases correlate with observed changes in body composition and function.^{1,2}

Testosterone is implicated in maintaining both male libido and erectile function, the latter effect possibly mediated by local increases in nerve nitric oxide synthase in the corpora cavernosa. Preliminary studies of T replacement in older men suggest improvements in LBM, fat, bone, libido, and erections, but more research needs to be done to delineate benefits and potential risks better before definitive recommendations can be made regarding T replacement in older men.³

Typical age-related changes in body composition and function include loss of lean body and muscle mass, decreased muscle strength and fitness, and loss of functional capacity. There is also an increase in total fat mass and percent body fat accompanied by insulin resistance and a higher risk of type 2 diabetes, increased low-density lipoprotein (LDL)

cholesterol, triglycerides, and fatty acids.¹ Wardana *et al.* found that decrease testosterone level due to oxidative stress for three weeks decreases the corpus cavernous smooth muscle cell number significantly and administration of exogenous testosterone at the beginning of fourth-week of stress raises corpus cavernous smooth muscle cell number significantly.⁴

Other changes in metabolism include negative calcium balance leading to decreased bone density and osteoporotic fractures, reduced protein synthesis, slower healing, and impaired immune system function. Predictably, in aging men, there also occur decreased frequency of and desire for sexual activity and a reduction in the number and quality of erections.^{1,3}

METHODS

This is a cross sectional descriptive study to analyzes data collected from a population, or a representative subset, at a specific point in time among 135 male aged 50 years old and older in Lapangan Puputan Niti Mandala Renon, Denpasar, Bali from April 2018. The sampling method used for this study is nonprobability consecutive sampling. The advantage of this study usually takes a short time for completion and its applicability to rare diseases.

¹ Bachelor of Medical Study Program, Faculty of Medicine, Udayana University

² Department of Anatomy, Faculty of Medicine, Udayana University

*Correspondence to :
Mohd Fauzan Arif Bin Mat Nudin,
Bachelor of Medical Study
Program, Faculty of Medicine,
Udayana University
E-mail: fauzanmatnudin@yahoo.com

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Samples criteria are the male aged 50 years old and older in Lapangan Puputan Niti Mandala Renon, Denpasar, Bali, without any congenital diseases and other diseases such as high blood pressure and diabetes mellitus. Other than that, they are willing to take part in this study by filling out the questionnaire. Microsoft Excel analyzed the data for Windows 2011 and SPSS 20 software.

RESULT

Demographic Data of Respondents

Demographic data of 135 elderly male consists of the proportion of age, occupation, and comorbidity diseases. The demographic data is presented in **Table 1**.

Demographics data showed that the minimum age of the respondents is 50 years old, and the maximum age is 65 years old. Mean of age are 55.06 years old with standard deviation of 4.04. Data checked for its distribution and found out that it's not normally distributed, so the cutoff point of age category will be taken from the median value. The respondents who under or 54 years old and more than 54 years old doesn't differ significantly. Most of the respondents are unemployed and doesn't have any medical issues. The most common medical issues among respondents are gastritis.

Table 1. Demographic Data of Respondents

Variables	N	Frequency (%)
Aged (years)		
50-55	80	59.3
56-60	39	28.9
61-65	16	11.9
>65	0	0
Occupation		
Academician	1	0.7
Labor	24	17.8
Seller	2	1.4
Entrepreneur	8	5.9
Private employee	10	7.4
Police	1	0.7
Security officer	2	1.5
Unemployed	87	64.4
Comorbidities		
Arthritis	7	5.2
Asthma	1	0.7
Gastritis	17	12.5
Skin disease	2	1.4
Migraine	1	0.7
Osteoporosis	3	2.2
No medical issues	104	77

Responses Respons of the Questionnaire

There are 5 questions given to assess any sexual desire disturbance, 4 questions is a yes and no question and the last number is giving some option to the respondents to choose what causing their decreasing of sexual desire. Most of the respondents choose "yes" for a question "In the pass was your level of sexual desire or interest good and satisfying you?" (96.3%), "Has there been decrease in your level of sexual desire?" (88.9%), "Are you bothered by your decrease level of sexual desire or interest?" (85.9%) and "Would you like your level of sexual desire or interest to increase?" (91.9%). From this result, we can see that most of the elderly experienced the decrease of sexual desire, and they also bothered by this problem. Most of them also hoping that there's a way to fix this problem. The most common reason that they lose their sexual desire is stress and fatigue that happened, followed by other sexual issues such as pain, decrease arousal and orgasm (**Table 2**).

Correlation between Ages and Sexual Desire Based on Answers of Questions Number 1-4

Cross-tabulation was made to see the tendency differences between every age group. The answer yes for the questions number one until four implementing that there is a decrease in sexual desire within respondents. All the respondents from age group 56-60 years old and 61-65 years old answer yes to the question of "In the pass was your level of sexual desire or interest good and satisfying you?" whereas, five people (6.25% of people in the group) from the youngest age group answer no to that question. There're only one people(6.25%) from the age group of 61-65 years old and two people (5.12%) from age group 56-60 years old who answer no to the question of "Has there been decrease in your level of sexual desire?"; and about 93.75% people from age group 61-65 years old and 94.88% people of age group 56-60 years old answer yes to this question, but in the youngest group, the people who answer no to this question are twelve people (15%) which is more than the older age group. People who answer yes from the youngest group also less than older group (85% vs 93.75% & 94.88%). There're only four people (25%) from age group 61-65 years old and six people (15.4%) from age group 56-60 years old who answer no to the question of "Are you bothered by your decrease level of sexual desire or interest?"; but more people from youngest group, which are nine people (11.35%) who answer no to this question. For the last question "Would you like your level of sexual desire or interest to increase?"; people from youngest group tend to answer no less than the older group. From this result, less people

Table 2. Responses of the Questionnaire

Questions	Yes	No
1. In the past was your level of sexual desire or interest good and satisfying you?	130 (96.3%)	5 (3.7%)
2. Has there been decrease in your level of sexual desire?	120 (88.9%)	15 (11.1%)
3. Are you bothered by your decrease level of sexual desire or interest?	116 (85.9%)	19 (14.1%)
4. Would you like your level of sexual desire or interest to increase?	124 (91.9%)	11 (8.1%)
5. Please choose factors that contributing to your current decrease of sexual desire		
a. An operation, injury, medical condition Medication, drugs, alcohol that you currently taken	42 (31%)	
b. Pregnancy, recent childbirth, menopausal symptom	0 (0.0%)	
c. Other sexual issues you may be having (pain, decrease arousal or orgasm)	31 (23.0%)	
d. Your partner sexual problem	7 (5.2%)	
e. Dissatisfactions with your relationship or partner	4 (3.0%)	
f. Stress or Fatigue	40 (29.6%)	

Table 3. Correlation Between Ages and Sexual Desire Based on Answers of Questions Number 1-4

Question	Age (years)	Yes	No	Total
1	50-55	75 (93.75%)	6 (6.25%)	80 (100%)
	56-60	39 (100%)	0 (0%)	39 (100%)
	61-65	16 (100%)	0 (0%)	16 (100%)
2	50-55	68 (85%)	12 (15%)	80 (100%)
	56-60	37 (94.80%)	2 (5.20%)	39 (100%)
	61-65	15 (93.75%)	1 (6.25%)	16 (100%)
3	50-55	71 (88.75%)	9 (11.25%)	80 (100%)
	56-60	33 (85.61%)	6 (15.39%)	39 (100%)
	61-65	12 (75%)	4 (25%)	16 (100%)
4	50-55	78 (97.5%)	2 (2.5%)	80 (100%)
	56-60	34 (87.18%)	5 (12.82%)	39 (100%)
	61-65	12 (75%)	4 (25%)	16 (100%)

from youngest group experienced decrease of sexual desire compare to the older groups, but to define whether this result significant statistically or not, analytic study needed.

DISCUSSION

Most of the respondents stated that they have changing sexual desire. But, most of them are from the age group of 55-60 years old and 61-65 years old. People in the group of 50-55 years old less likely to experience decrease of sexual desire compared to the older group. This result similar with conducted by Kalra *et al.*, where 70% of respondents of the elderly population having a decrease in sexual desire. The desire that affects different aspects such as fantasy, behavior, orientation and various another aspect. They also found the correlation between the decrease of sexual desire and age. In every decade of life after 50, number of subjects said that their age had affected their sexual desires "very much" ($p=0.005$; $OR=0.2$). But, there's a different tendency between men and women where Approximately 43% women reported that their sexuality was affected by increasing age, while 56.7% men reported their sexuality being influenced by their deteriorating health.⁵ This study doesn't differentiate the deterioration of sexual desire between male and female elderly.

A study conducted by Taylor and Gosney stated that increasing age is associated with a decreased interest in sex. A postal survey with a high response rate (73%) was of men aged 50-80. It showed that older respondents had less interest in sex, with 98% of 50-59 year olds giving it at least 'some importance' compared with 72% of 70-80 year olds. They explain the reason behind this problem, the decrease in elderly sex desire is because there are some changes in many aspects within increasing age. A physical health problem that decreases the energy to having sex, depression among elderly that causing they lose interest in the activity they love before, and also a hormonal problem such as hypogonadism that is increasing within age.⁶

Another study from Dhingra *et al.*, showed the process of sexual desire changing with increasing age. They showed that men undergo a decline in testosterone levels with age that causing more time and greater stimulation being required for arousal and orgasm and a significantly longer refractory period, whereas women undergo changes in sexual function with age as well, starting around the time of menopause. They have decreased vaginal lubrication and thinning of the vaginal epithelium that leads to dyspareunia. This could be the underlying cause of the reported decline in sexual

function in older women and is easily treatable with vaginal lubricants or estrogen supplementation.⁷ Respondents said that the main reason they lost interest in sexual activity is due to stress and fatigue. A study from Laumann et al. showed that poor mental health is associated with both women's and men's reports of sexual problems. It found that anxiety and stress raise lack of sexual interest in both women (OR = 1.6) and men (OR = 1.4), as well as women's inorgasmia (OR = 1.5) and lack of pleasure in sex (OR = 1.4). This factor correlate with more physiological conditions like sexual pain and trouble lubricating, where stress can activate flight or fight response and draining the natural lubricant.⁸

A study conducted by Lopes *et al.*, stated that stress in elderly that can affect the sexual desire comes from the feeling of dissatisfied with their body image about overweight, especially among females elderly. In elderly male, they also dissatisfied with their genital image and function, it also creating stress and reducing their desire to have sex.⁹

Increased stress leads to higher levels of cortisol, which can cause harmful effects when elevated over extended periods of time. There has been extensive research (primarily in animal models) demonstrating how hormones released from the hypothalamic-pituitary-adrenal (HPA) axis in response to stress can interfere with hormonal secretion from the hypothalamic-pituitary-gonadal (HPG) axis, which is involved in the control of reproduction and sexual response. Briefly, glucocorticoids released from the adrenal gland inhibit the HPG through interfering with the release of gonadotropin-releasing hormone (GnRH), luteinizing hormone (LH), and follicle stimulating hormone (FSH) at the hypothalamic and pituitary levels.^{10,11}

A reduction in gonadotropin release results in less production of gonadal steroids, such as testosterone and estradiol, both of which have been shown to have facilitator effects on human genital arousal. Adrenal androgens have also been implicated as playing a key role in sexual arousal and desire. Particular interest to the relationship between stress and sexual arousal are both dehydroepiandrosterone (DHEA), an androgenic pro-hormone, and its sulfated metabolite (DHEAS). Low levels of endogenous DHEAS have been implicated in arousal and desire problems. Endogenous DHEAS appears to be beneficial for sexual function, given that low levels of DHEAS have been related to both arousal and desire problems and are thought to be protective against the negative effects of cortisol in other domains, where the cortisol:DHEAS ratio is often used as a

predictor. Increases in the sympathetic nervous system (SNS) activity can inhibit blood flow to all areas of the body over the long term. Inhibited blood flow to the genitals, by definition, interferes with genital arousal. In contrast, acute, moderate increases in SNS have been shown to facilitate genital arousal, while inhibition of SNS activity impairs genital arousal.^{10,11}

LIMITATION

This study using the questionnaire as a tool to know about sexual desire problem among the elderly. Using questionnaire depends on the respondents' recall ability, honesty and proper understanding about questionnaire questions. It created the possibility of bias in this study. Cross sectional study method only collected the data once in some period and didn't do any follow up of the respondents, so it could be hard to know whether the risk factor can affect respondents in the long term or not. The reason behind stress that causes decreasing of sexual desire in most of the respondents doesn't asses in this study. Further study perhaps needed to know what causing stress behind this population.

CONCLUSION

Most of the elderly in Niti Mandala Renon field have a problem with their sexual desire. The older the age, the more tendency to have a decrease of sexual desire. Most of them stated that this problem comes from the stress that they feel. The stressor that makes them psychologically stress are not asses in this study. More awareness to the sexual desire problem and what causes them can improve the quality of life of the elderly. Further research with longer duration, more significant sample and assessing what causing stress among elderly that make most of them having a problem in sexual desire perhaps needed.

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