VARIATION IN AGING MALE SYMPTOM SCORE (AMS SCORE) BY AGE GROUPS

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ABSTRACT

Objective: *To study the relation of the Aging Male Symptom Score (AMS score) in different age groups, and to find the age when the AMS score increases.* ***Material & method:*** *In all, 347 patients with age beginning at 50 years underwent an interview with the AMS Score questionnaire. Then they were divided according to age in groups, less than or equal to 50 years, 51 55 years, 56 60 years, and more than 60 years.* ***Results:*** *In the age group less than or equal to 50 years, there were 26 men (7,5%). With an abnormal AMS psychology, there were 18 men, with abnormal AMS somatovegetative score there were 20 men, with an abnormal AMS sexual score 20 men, and with abnormal total AMS Score 14 men. In the age group 51 55 years, there were 146 men (42,07%), with an abnormal AMS psychology in 75 men, with abnormal AMS somatovegetative score 114 men, abnormal AMS sexual in 123 men, and abnormal total AMS Score in 71 men. In age group 56 - 60 years there were 48 men (13,83%), abnormal AMS psychology in 35 men, abnormal AMS somatovegetative score in 44 men, abnormal AMS sexual in 45 men, and abnormal total AMS Score in 35 men. In the age group of more than 60 years, there were 127 men (36,6%), abnormal AMS psychology was found in 87 men, abnormal AMS somatovegetative score in 112 men, abnormal AMS total sexual score 122 men, and abnormal total AMS score was in 96 men. All of the AMS score values significantly increased after 55 years old, p value at AMS psychology was 0,005, AMS somatovegetative was 0,000, AMS sexual was 0,000, and at total AMS Score was 0,000. To define the age when AMS score increases. The conclusion was that AMS psychology values begin to increase after 55 years (sensitivity 69,71, specificity 45,93), AMS somatovegetative values increase after 55 years (sensitivity 89,14, specificity 22,09), and total AMS score value begins to increase at 55 years (sensitivity 74,86, specificity 50,58). However, AMS sexual value increase at 50 years (sensitivity 90,34, specificity 23,08).* ***Conclusion:*** *All of the AMS score values increase significantly after 55 years.*

Keywords: *Aging male symptom score, age.*

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INTRODUCTION

It had been recognized in the past that there was a change in birth and death rate pattern, from high birth rate and death rate to low birth rate and death rate. Along with the worldwide increase of life expectancy and the decrease of fertility rate, it can be predicted that the elderly (those of more than 65 years old) may increase in 25 years to become 82%, while the newborns comprises only 3%. The United Nations estimated (in their revision in 1998) that in the year 2050, age group of more than 65 years may overwhelm of those less than 15 years.[1]

Aging Male Symptoms (AMS) score is a score for assessing life quality and has been applied to evaluate andropause symptoms. It was firstly published in Germany in 1999, and today it has been available and published in 21 languages.[2]

The International Society for the study of Aging Male (ISSAM) recommended the definition of Aging Male as follows, a cluster of clinical and biochemical symptoms related with advanced age and characterized with the reduction of androgen serum level with or without the reduction of genome sensitivity against androgen. This may result in a

significant change in the quality of life and have adverse effect on organ system as a whole.[3]

Clinical manifestations and the diagnosis of Androgen Deficiency Aging Male (ADAM) are marked with the presence of significant changes in libido and erectile function, the reduction of muscular mass and strength, fatigue, depression, irritability, decreased mental capability, skin changes, hair distribution, reduced bone density that leads to osteoporosis, changes in body fat distribution, and vasomotoric symptoms (hot flushes).

Aging Male Symptoms (AMS) score consists of three subscores, i.e., psyhological, somatovegetative, and sexual subscores.[4] Age-related sexual function reduction has been shown in healthy males, but somatic and psychological scores are not influenced by age.[5]

OBJECTIVE

This study was intended to find correlation between male age and AMS score.

MATERIAL & METHOD

This study used cross-sectional analytic design. The study was performed in Cipto Mangunkusumo Hospital, Pertamina Central Hospital, and Pelabuhan Indonesia Dua (Pelindo II) Hospital, representing urban area, and the community in Subdistrict Jasinga, Bogor, representing rural area. The data were taken between October 2006 and January 2007. Subjects were males of more than 50 years old who filled the questionnaires for AMS score. Data collected were on age and Aging Male Symptom Score (AMS score). Data were analyzed descriptively and analytically with correlation using T-test with SPSS 15 program.

RESULTS

Most of the respondents belonged to age range of 51-55 years with number of respondents 146 persons (42,07%), and more than 60 years with the number of respondents 127 persons (36,60%) (Table 1, figure 1).

Table 1. Respondents' age proportion

Age ranges	Total respondents	
	n	%
≤ 50	26	7,5
51-55	146	42,07
56-60	480	13,83
>60	127	36,60
Total	347	100

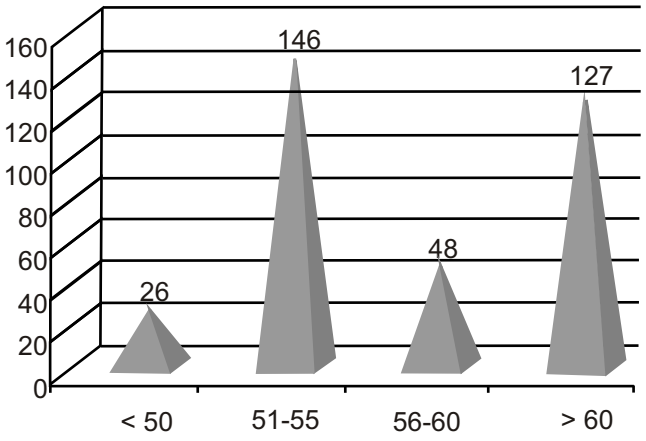

Figure 1. Respondents' age proportion.

Table 2 shows that the increase of psychological AMS Score was mostly found in those of more than 60 years with respondents comprised 87 persons (40,47%). The increase of somatovegetative AMS score was mostly found in age range of 51-55 years with total respondents of 114 (39,31%) persons. The increase of sexual AMS score was apparent largely in age range of 51-55 years in total respondents of 123 (39,68%) persons. The increase of total AMS score was mostly in age range of more than 60 years with total respondents of 96 (44,45%) persons.

Statistical assessment using t-test in Table 2 reveals that all AMS scores increase significantly in age 55 year, where the p value of psychological subscore is 0,005, somatovegetative subscore 0,000, sexual subscore 0,000, and total score was 0,000.

Table 2. Characteristics of respondents with abnormal AMS score according to age.

Ages	Respondents with Abnormal AMS Subscores (%)			
	Abnormal Psychological AMS (Skor > 5)	Abnormal Somatovegetative AMS (Skor > 8)	Abnormal Sexual AMS (Skor > 5)	Abnormal Total AMS (Skor > 26)
≤ 50	18 (8,37)	20 (6,90)	20 (6,45)	14 (6,48)
51-55	75 (34,88)	114 (39,31)	123 (39,68)	71 (32,87)
56-60	35 (16,28)	44 (15,17)	45 (14,52)	35 (16,20)
>60	87 (40,47)	112 (38,62)	122 (39,35)	96 (44,45)
Total				

Table 3. Sensitivity and specificity of AMS score according to age threshold.

Age threshold	AMS Subscores							
	Psychological AMS		Somatovegetative AMS		Sexual AMS		Total AMS	
	Sens (%)	Spes (%)	Sens (%)	Spes (%)	Sens (%)	Spes (%)	Sens (%)	Spes (%)
50	61,37	30,77	84,11	23,08	90,34	23,08	62,93	46,15
55	69,71	45,93	89,14	22,09	95,43	16,86	74,86	50,58
60	68,5	41,82	88,19	19,09	96,06	14,55	75,59	45,45

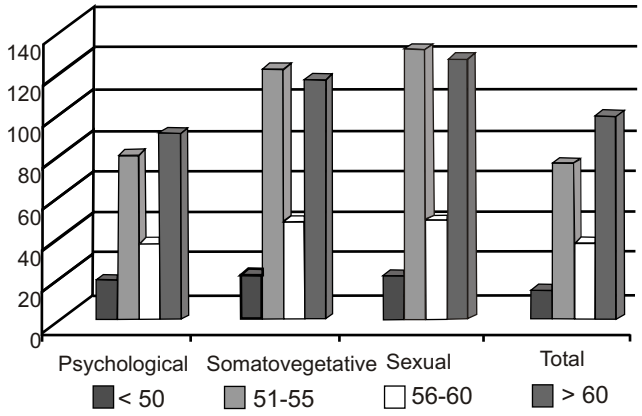

Figure 2. Characteristics of respondents with abnormal AMS score according to age.

Table 3 shows that a study using AMS score questionnaire as an instrument to measure aging symptoms in males reveales that the assessment of the increase in psychological subscore should be started at the age of 55 years, somatovegetative score at the age of 55 years, sexual subscore at the age of 50 years, and total score at 55 years.

DISCUSSION

Testosterone is a hormone responsible for the growth and development of male sexual organs and maintains secondary sexual characteristics in males.[6] The reduction of testosterone level may induce effects that present as a cluster of various symptoms, as mentioned in Aging Male Symptom (AMS) Score.[7]

Based on various studies, it was found that the decrease of serum testosterone level is gradual and related to the increase of age. The reduction is estimated to be 1% a year in males of more than 30 years old. Testosterone deficiency reaches 20% in males aged 60-69 years and more than 50% in those of more than 80 years,[8] while the study by Ponholzer et al (2005) concluded that serum androgen level does not correlate with age, body mass index, and cigarette smoking,[9] and the study by Jankowska EJ et al. and T'sjoen G et al. showed no correlation between AMS score and testosterone level.[10]

Aging Male Symptom Score (AMS score) is a scale to assess health-related quality of life. A study by Ichioka et al. showed that total score and sexual subscore increase significantly along with age, but not the psychological and somatic subscores. Study shows that the moderate to severe increase of sexual subscore occurs in age 40s.[11]

This study showed that there was significant increase of AMS score in the subscores of

psychological (p=0,005), somatovegetative (p=0,000), and sexual (0,000), and the total score (p=0,000) in age 55 years.

In this study, using AMS score as instrument for assessing aging symptoms in males, it can be inferred that AMS score, as the indicator of the emergence of aging symptoms in males, starts to increase in age 55 years in psychological subscore (sensitivity 69,71, specificity 45,93), somatovegetative subscore (sensitivity 89,14, specificity 22,09), and total score (sensitivity 74,86, specificity 50,58), while in sexual subscore, the increase starts at the age of 50 years (sensitivity 90,34, specificity 23,08).

CONCLUSION

Total AMS scores, psychological subscore, somatovegetative subscore, and sexual subscore increase significantly at the age of 55 years and sexual score start already after 50 years.

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