Journal of Community Medicine and Primary Health Care. 25 (2) 45-52

JOURNAL OF
COMMUNITY MEDICINE
& PRIMARY HEALTH CARE

Awareness and Perception of Androgen Deficiency of Aging Males (ADAM) among Men in Osogbo, Nigeria.

Odu O.O[1], Olajide A.O[2], Olajide F.O[3], Olugbenga-Bello A.I[1]
[1]Department of Community Health / [2]Department of Surgery,
Ladoke Akintola University of Technology,
Ogbomoso, Nigeria.
[3]Department of Community Health,
Obafemi Awolowo University,
Ile-Ife, Nigeria.

KEYWORDS

Andropause, Hypogonadism, Androgen, Ageing.

ABSTRACT

Background
A clinical and biochemical syndrome associated with deficiency of androgen with ageing. Increased longevity of people has rekindled interest in hormonal alterations in the aged. Awareness of the entity is still low among men especially men of African descent.
Objective: To evaluate the awareness and perception about ADAM so as to provide basis for evidence based interventions addressing the subject in our environment.

Methods
A descriptive cross-sectional survey was conducted in Olorunda LGA , one of the LGAs that constitute Osogbo metropolis, the capital city of Osun State, Nigeria. A pre-tested, semi structured, interviewer administered questionnaire was applied to 400 men that had been selected using a multistage sampling technique. The sample size was calculated using fischer's formula for cross sectional descriptive surveys and the data was analysed using Statistical Package for the Social Sciences (SPSS) version 16.0 .

Results
The mean age of respondents was 42.3±14.8 years. Majority (95.5 %) of the respondents had formal education though up to variable levels. Many (43%) of them have never heard about andropause and 54.7% do not know anything about the symptoms. The commonest source of information about andropause among those who are aware is from friends (43.8%), none heard from health workers. Less than half (44.2%) of them believe it is due to aging, while majority (52%) have misconceptions like excessive sexual activity, or diabolical sources. Knowledge about andropause is better among older men ($p<0.05$) but educational status did not statistically affect it. ($p>0.05$).

Conclusion
Many men in this environment still have low levels of awareness about andropause . Among those that are aware, there are large knowledge gaps and wrong perceptions of it. Hence the need for more aggressive public education (irrespective of their educational status) about the existence, aetiology and possible negative health effects of andropause.

Correspondence to:
Dr A.O. Olajide
Department of Surgery,
LAUTECH Teaching Hospital, Osogbo, Nigeria.
+2348037251893
e-mail:lajidea@yahoo.com,

INTRODUCTION

The existence of androgen deficiency of the aging male (ADAM), though shrouded by some controversies, is an irrefutable fact [Morales 2004]. This condition is also known as 'symptomatic late-onset hypogonadism (SLOH)', or 'late onset hypogonadism (LOH)' or simply put 'andropause'. It is a clinical and biochemical syndrome associated with a deficiency in serum testosterone levels with advancing age [Nieschlag et al 2005].

In recent years, there has been a rekindling of interest in hormonal alterations associated with the aging process in both men and women partly because of the increased longevity of humans, which translates into a significant rise in the aging population around the world [Nieschlag et al 2005]. ADAM is characterized by reduced libido, and erectile dysfunction, changes in mood (depression and irritability) with concomitant memory

impairment, reduced physical strength and diminution of muscle volume, osteopaenia and osteoporosis [Nieschlag 2005, Lunefield 2007, Karazindiyanoglu 2008]. Loss of libido and erectile dysfunction features prominently among the androgen related complaints of aging men with resultant erosion of their self- confidence [Tan 2001].

Lack of knowledge on this subject among men can cause anxiety, depression and adverse effects on relationship with their sexual partner. Therefore, ADAM can significantly affect men's overall health and well- being, and severely compromise their quality of life [Karazindiyanoglu 2008].

While most women do not hesitate to complain about their mid-life changes, a high proportion of men inadvertently deny the presence of these changes, especially sexually related ones. These are often not explicitly discussed with health professionals while general practitioners and urologists are often reluctant to initiate discussions with older patients about sexual health.

More so, features of ADAM usually creep in gradually (may span many decades) unlike the female menopause which occurs at a more specific age range [Fatusi 2003]. These facts may partly explain the relatively poor state of knowledge and interest in the subject until recently. Consequently, the problem of ADAM has received far less attention compared to that of menopause.

Knowledge on the subject has increased in the developed nations because of the recent surge of interest, but very little attention is still being paid to male sexual issues in the developing nations with serious dearth of information in the literature on ADAM-related issues in sub-Saharan African countries, including Nigeria [Fatusi 2003].

This study evaluated the awareness and perception about ADAM among men living in Olorunda, one of the LGAs that make up Osogbo metropolis, the capital city of Osun State in southwestern Nigeria. This will provide basis for evidence based interventions addressing the subject in this environment.

METHODS

Study Location

The study was carried out in Olorunda Local Government Area (LGA), one of the 3 LGAs making up Osogbo metropolis, an urban city in the rain forest belt of southwestern part of Nigeria. Olorunda LGA covers about 600 square kilometres and has an estimated population of about 129,034 people. The LGA is inhabited majorly by the Yoruba speaking people of south-western Nigeria, with all the other major tribes in Nigeria represented (though in minority proportions) and few international settlers from adjoining African countries. The study location hosts a university teaching hospital (Ladoke Akintola University Teaching Hospital- LAUTECH) from where this study was conducted. Majority of the dwellers are traders, artisans and educated salary earners in public and private services.

Study Population

All the de-facto male residents from 18 years and above, who are living or working in the study area, were eligible to be selected as respondents to the study, giving a study population of approximately 25,000.

Sample Size and Sampling Technique

Using the Leslie Fischer's formula, the sample size was calculated to be 400. In anticipation of 5% non-response rate, the sample size was increased to 420. The respondents were selected by using the multistage sampling technique.

Instrument

The study was carried out using a pre-tested semi structured questionnaire developed in English-Language which was designed after a thorough review of relevant literature. The questionnaire was designed to gather information on respondent's socio-demographic characteristics, awareness,

knowledge and perception of the subject of 'ADAM'. The questionnaire was translated to Yoruba language so that the illiterate respondents could participate effectively in the study.

Data Collection

The survey was conducted over a period of one month after approval by the research and ethical committee of the teaching hospital (LAUTECH).

Data was collected by the administration of the pre-tested questionnaire to the selected respondents by a group of interviewers who were adequately trained to ensure accuracy and validity of data.

Data Analysis

All questionnaires were manually sorted and edited before entry into the SPSS (Statistical Package for Social Sciences) software, version 14. Association between variables was determined using the chi-square test and statistical significance was put at p values < 0.05.

RESULTS

Out of the 420 questionnaires administered, only 400 were recovered and properly filled, and same were analysed giving a response rate of 95.24%. The socio-demographic characteristics of the respondents as shown in table I reveal that 56.8% of the men were aged 44 years and below - the mean age of the respondents was found to be 42.3±14.8 years. Majority (95.5 %) of the respondents had formal education though up to variable levels and 28.5% had never been married.

Table I: Sociodemographic Characteristics of Respondents

SD Characteristics	Frequency	%
Age Category (years)		
24 years and below	28	7.0
25 – 34	125	31.3
35 – 44	74	18.5
45 – 54	72	18.0
55 – 64	70	17.5
65 and above	31	7.8
Educational status		
Non Formal education	18	4.5
Elementary Education	47	11.8
Secondary education	156	39.0
Tertiary education	179	44.8
Marital Status		
Single	114	28.5
Married	261	65.3
Divorced	10	2.5
Widow	15	3.8
Occupation		
Not employed	71	17.8
Unskilled labour	104	26.0
Skilled labour	128	32.0
Professional	97	24.3

Though more than half of the respondents (57%) claimed to have ever -heard about the subject of ADAM, lesser proportions demonstrated adequate knowledge of its symptoms. For example, less than half (45.3%) knew of some of the symptoms associated with andropause. The commonest source of information about andropause among those who reported awareness is mainly from friends (43.8%) followed by the newspapers (14.3%).

Television and Radio were the least mentioned (10.1% and 12.1% respectively) sources. None of them heard about andropause from either a health worker or the internet.

Awareness of other symptoms associated with andropause apart from reduced sexuality (among those who know about the symptoms) is as shown in figure 1.

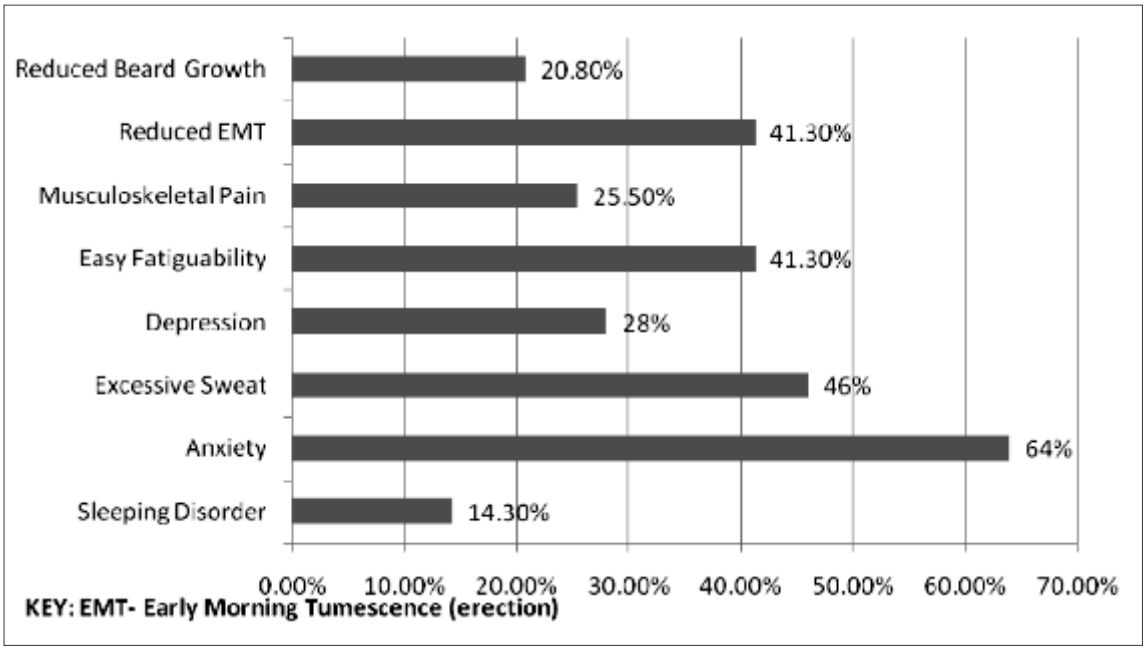

Figure I: Knowledge of other symptoms of ADAM

Anxiety, excessive sweating, easy fatigability and reduced early morning penile erection were the commonest symptoms among the respondents.

When asked about what they believe about the cause of andropause (table II), less than half (44.2%) believed it is due to aging. More than half (52%) have wrong beliefs about the cause of andropause (e.g. manifestation of some underlying diseases, excessive sexual activity, or diabolical) and 3.8% do not have any idea about the aetiology.

Table II: Knowledge about aetiology of ADAM

Aetiology	Yes	(%)
Aging process	177	44.2
Manifestation of some underlying diseases	128	32.0
Excessive sexual activity	52	13.0
Diabolical	28	7.0
Don't know	15	3.8
Total	400	100.0

Table III shows respondents' answers to awareness and perception of other health and social effects of andropause. Only 44% knew that it could be associated with other health related effects though 58.5% knows that the health related effects can be treated. Majority (62%) of respondents believed that it could be a source of strain on the relationship of such men with their sexual partners while 55.3% believe that it will affect the self- image and ego of such men making them "less than other men".

Table III: Perception of health effects Of ADAM

Effects of andropause	Agree (%)	Disagree (%)	Not sure (%)
Aware of health effects	176 (44)	127 (31.8)	97 (24.3)
Health Effects can be treated	234 (58.5)	25 (6.3)	141 (35.3)
Affects Relationship with partners	288 (62)	26 (6.5)	86 (21.5)
Becomes Incomplete/Shameful	214 (53.3)	81 (20.3)	105(26.3)

Relationship between the socio-demographic characteristics of the respondents and their knowledge about andropause is shown in table IV. Age and marital status of the respondents alone are shown to have statistically significant effect on their knowledge about andropause (p-<0.05), while the educational status and employment status do not have significant effects.

Table IV: Relationship between socio-demographic characteristics and knowledge of ADAM.

SOCIO DEMOGRAPHIC CHARACTERISTICS	KNOWLEDGE		X^2	Df	P-value	REMARK
	POOR (%)	GOOD (%)				
Ages (years)						
44 and below	149(65.6)	78(34.4)				
45 and above	93(53.8)	80(46.2)	5.800	1	0.016	Significant
Educational Status						
Non formal	11(61.1)	7 (38.9)				
Formal education	231(60.5)	151(39.5)	0.003	1	0.957	Not Significant
Marital status						
Never married	5(4.4)	109(95.6)				Significant
Ever married	79(27.6)	207(72.4)	26.53	1	0.000	
Occupation						
Not employed	46(64.8)	25(35.2)				Not Significant
Employed	196(59.6)	133(40.4)	0.664	1	0.415	

DISCUSSION

With increasing life expectancy, increased focus on quality of life and advances in medicine and therapeutics, greater attention is being paid to research and programming in the area of male sexual health. As a result, there is increasing awareness of andropause and male sexual dysfunction among the general public and the health community [Morales 2004, Fatusi 2004].

Being an urban city, it is not surprising that a large percentage of the respondents (83.5%) are formally educated to at least high school level. Also, a large proportion of these respondents (43.3%) are 45 years of age and above. It is known that symptoms of andropause creep in gradually at a highly variable period in the life of elderly men and it is also known not to be universal as some men may not experience it [Morales 2004]. The fact that andropause related changes occurs at variable ages sometimes spanning decades (unlike menopause) may explain the poor state of knowledge about the subject until recently [Fatusi 2004]. Knowledge about topical issues like this should actually be known before a man begins to experience the manifestation, or else such a man might be caught up with all the adverse effects associated with andropause and suffer in silence.

In another semi-urban city in Western Nigeria, awareness of ADAM among married men was reported as 37.5% (Fatusi 2003).In our study, level of awareness (57%) is higher than the earlier report, though from different city but from same ethnic group with similar cultural beliefs. This may be due to increasing level of awareness with time (6 years interval between the 2 studies) and the fact that one is a semi urban community while the other is urban. The level of awareness in our respondents is however similar to that reported by Adebajo in Lagos [Adebajo 2007], which is also an urban city and a relatively more recent study. This may suggest that the level of awareness of andropause is gradually increasing among men in the western part of Nigeria.

Only 44.2% of our respondents knew that andropause is due to aging process, others have some erroneous beliefs as shown in table II. Likewise, less than half (44%) believed there are other health related issues associated with andropause. This finding is important as it has bearing on the health and health seeking habits of these men, it may also explain why most men do not complain about these important issues in the clinic. Elderly men who lack knowledge about the normal age related changes in sexual functioning are likely to adopt non-scientific societal attitudes about sexual activity in later life with anxiety regarding sexual expression [Fatusi 2003, Sugkraroek 2007]. Both these men and those involved in their care need to understand the variety of changes in sexual response which occur with age so that there may be no anxiety when these symptoms develop [Sugkraroek 2007].

More than half of these men (53.3%) believed that manifestations of andropause symptoms make the affected man incomplete and shameful while only 6.3% believed that this can be treated medically. These findings portend misconceptions about andropause related issues among the study population. Evidence in the literature indicates that andropause has a negative impact on the quality of life in men. In Nigeria and Africa at large, a lot of stigma is still attached to erectile dysfunction in the society which makes men not to talk boldly about sexual issues and sexually related problems are not usually volunteered.

Thus, while most women do not hesitate to complain about menopausal problems, a high proportion of men inadvertently deny the presence of these changes, especially sexually related ones, and suffer in silence [Fatusi 2003]. However, the first symptom that frequently persuades men to request a medical check-up is a urologic problem and at that time, other co-morbidities are revealed. Urologists are being encouraged to take a role in men's health similar to gynaecologists' role in women's health [Ratana-Olarn 2007].

More health education of the general public on the subject of andropause is still necessary. This is

buttressed by the fact that the media is not a major source of information on the subject among the responders. Fatusi and his colleagues reported a low level of awareness of andropause among health workers in Ile-Ife, Nigeria and recommended education of health professionals on the subject [Fatusi 2004]. We extrapolate that the situation may not be different in Osogbo because health workers did not feature among the common sources of information, though it is one of the options listed on the questionnaire. Health care providers have a lot to do in educating the public on the subject matter and family physicians and urologists should learn to probe the patients' sexual history especially when middle-aged and elderly men present with some vague symptoms or for "check-up". However, raising the level of awareness among the health workers may be a prerequisite to education of the public.

It is not surprising that age and marital status of the respondents significantly affected the knowledge of the respondents on issues of andropause while occupation and educational status do not have significant effect on their knowledge of andropause (Table IV). This is because symptoms of andropause creep in around middle age by which time most men are married. Several studies have also confirmed that the incidence of erectile dysfunction increases with advancing age [Gray 1991, Parrazzinin 2000, Rhoden 2002, Adebajo 2007].

CONCLUSION

Awareness of andropause may be increasing among men in the south-western part of Nigeria but there are still some misconceptions about it. The society needs to understand that it is a normal ageing process which can be managed. Hence, education of health care providers and the public about associated health related problems and aetiology of ADAM is still necessary. General Medical Practitioners and Urologists should learn to probe the patients' sexual history even when they present with other health problems.

REFERENCES

1 Adebajo S, Odeyemi K, Oyediran M, Anorlu R, Wright L: Knowledge and experience of andropause among men in Lagos, Nigeria. West Afr J Med 2007, Apr-Jun: 26(2);106-12

2 Fatusi AO, Ijadunola KT, Ojofeitimi EO, et al: Assessment of andropause awareness and erectile dysfunction among married men in Ile-Ife, Nigeria. Aging Male 2003; 6: 79-85.

3 Fatusi AO, Ijadunola KT, Ojofeitimi EO, et al: The influence of sociodemographic factors on awareness, knowledge and attitude toward andropause among health professionals in Ile-Ife, Nigeria. The Aging Male 2004;7:269-279

4 Gray A, Feldman HA, McKinlay JB, Longcope C: Age, disease, and changing sex hormone levels in middle-aged men: results of the Massachusetts Male Aging Study. J ClinEndocrinolMetab1991; 73:1016–25

5 Karazindiyanoglu S, Cayan S: The effect of testosterone therapy on lower urinary tract symptoms/bladder and sexual functions in men with symptomatic late-onset hypogonadism. The Aging Male, September 2008; 11(3): 146-149

6 Lunenfeld B, Niesschlag E: Testosterone therapy in the aging male. Aging Male 2007; 10:139-153.

7 Morales A: Andropause (or symptomatic late onset hypogonadism): facts, fiction and controversies. The Aging Male 2004; 7: 297-303.

8 Nieschlag E, Swerdloff R, Behre HM, et al: Investigation, treatment and monitoring of late-onset hypogonadism in males ISA, ISSAM, and EAU Recommendations. Eur Urol. 2005; 48:1-4.

9 Parrazzini F, MenchiniFabris F, Bortolotti A, et al: Frequency and determinants of erectile dysfunction in Italy. EurUrol2000;37:43–9

attitude of Thai Urologists on men's health. The Aging Male, November 2007: 10(S1); 3. (Abstract).

11 Rhoden EL, TeklokenC, Sogari PR, Vargas Souto CA: The use of the simplified International Index of Erectile Function (IIEF-5) as a diagnostic tool to study the prevalence of erectile dysfunction. IntJImpot Res 2002;14:245–50.

12 Sugkraroek P: Sex Management in Elderly Men. The Aging Male, November 2007: 10(S1); 7. (Abstract).

13 Tan RS: Memory loss as a reported symptom of andropause. Arch Androl 2001; 47: 185-9.