

# Awareness and Knowledge of Andropause among Kuwaiti Males

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**Abstract:** Andropause is a physiological event occurring in men who reach midlife, accompanied by biological and endocrinological symptoms due to androgen deficiency. The objectives of this study are (1) to examine the level of awareness of andropause; and (2) to assess the relationship between men's perceptions and attitudes toward the andropause event. This study explores men's knowledge of andropause among 300 Kuwaiti males in the age group of 20-70 years old. The results indicated that 36.0% men were identified as andropaus - enlightened; 137 men said that they wanted to know more about andropause; 38.4% of Kuwaiti men said they think that men do not go through andropause; 53.4% reported they do not know at what age men experience andropause; and 46.9% said they think that andropause is a sign of aging. Participants who were aware of andropause were statistically significant ( $P < 0.01$ ) between age groups, education levels, and, marital status.

**Key words:** Aging men, Andropause, Awareness, knowledge, Aging, Men's health.

## Introduction

Aging is an ongoing process stage that cannot be stopped in women or men. It affects a variety of hormonal, psychological, and structural functions despite an individual's lifestyle, diet, exercise, and gene pool. Many men call these physical and hormonal changes during their mid-life "a silent crisis" (Charlton, 2004). Kuwaiti culture is conservative and traditional compared to Western culture, and topics related to men's health status pertaining to their sexual life (loss of libido, impotence, and

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erectile dysfunction) are considered embarrassing and taboo. Many men may not accept this midlife event because of the negative stereotype and social stigma associated with some of the symptoms of androgen deficiency. The majority of Kuwaiti men and women cannot express their sexual feelings or talk to others about their sexual behaviors because these topics are considered shameful, secretive, and personal. Others may simply deny the existence of this event because of the lack of knowledge and awareness.

The current study explores the level of awareness and knowledge of andropause among midlife Kuwaiti men, and examines the relationship between men's perceptions and attitudes toward the andropause event. The goal of this study is to educate men about the normal gradual decline of testosterone levels through time due to aging in order to avoid the health risk of this decline and encourage men to seek healthcare when they experience any andropausal symptoms. With better understanding of the chronology and physiology of andropause, men will seek reliable information regarding its prevention, diagnosis, and medical treatment so that they will be better prepared to accommodate this transition with fewer health risks (Chase, 1998; Cohen, 2003; Fatusi et al., 2003; Perry, 2001; Rose, 2000; Schieszer, 2004; Sun and Liu, 2007; Tan, 2001). The current study also aims to expand clinical care and to help set up health policy goals by healthcare providers and health organizations for men's health.

Andropause was first introduced in 1965 in an academic literature article titled "Is There Andropause?" (Charlton, 2004). Andropause is a syndrome that happens in a man's life after the age of 40, when some men experience symptoms (decreased libido, erectile dysfunction, osteoporosis, decrease in strength, fatigue, irritability, and hot flashes) caused by hypogonadism and reduction in total testosterone levels (Travison et al. 2008; Goel et al., 2009; Perheentupa & Huhtaniemi, 2007; Rose, 2000; Tenover 1998; Wespes & Schulmann, 2002). Morales (2008) stated that an estimated 1 in 200 men have abnormally low levels of testosterone. Diamond (2003) stated that about 40% of men in their 40s and above will experience some of the andropause symptoms associated with testosterone decline.

Both men and women in their midlife transition experience climacteric symptoms such as irritability, depression, decreased libido, and hot flashes due to decline in their sexual hormone levels (Diamond,

2003; Driedger,1998; Mirkin, 2002; Stuttaford et al., 1997). However, there are many differences between men and women during this stage, such as that women's sexual hormones (estrogen and progesterone) decline more rapidly than men's sexual hormone (testosterone) (Smokensky & Lambert, 2002). Moreover, menopause is easy to diagnose among women when their menstrual cycle stops, unlike men whose andropause may start many years before they experience any andropausal symptoms (Mirkin, 2002; Thomas, 1997).

In addition, because of the cessation of menstruation, women will not be able to reproduce, unlike men during this stage of midlife, who can continue to procreate (Stuttaford et al., 1997).

Many researchers emphasize diagnosing the drop in testosterone levels clinically by collecting a complete blood screen from men who experience symptoms at midlife, because these symptoms may be due to non-hormonal factors, such as men's life style (smoking, alcohol consumption, medication misuse), social and economic problems, stress, retirement, and empty nest (Charlton, 2004). Many of the symptoms are also concurrent with aging, such as loss of muscle mass, bone ache, depression, fatigue, and loss of libido, which makes it difficult to diagnose andropause. Thus, researchers stress the importance of identifying the cause of these symptoms before treating the patient with hormone replacement therapy that may have side effects on his health, such as prostate enlargement or cancer (Morley, 2000). Moreover, early detection of the etiology that causes the prevalence of symptoms will assist healthcare providers to treat the hormonal deficiency before any mental or physiological malfunctions in the patient (Leonard, 2004).

Andropause is becoming a global health concern, as the world's population of aging males increases. About a third of men in their 60s and more than 80% of men aged 80 and older experience physical and psychological changes referred to as "the andropause syndrome" (Adebajo et al., 2007). Schieszer (2004) stated that about 5% of four to five million American men diagnosed with low testosterone levels are treated in order to increase their libido. Smolensky and Lamberg (2000) stated that men are at risk in their cognitive capability as well as in their physical appearance due to decline in their hormone levels. Mirkin (2002) stated that men between 50 and 70 years old will experience more than 40% drop in their testosterone levels, causing bone loss, and they will

become overweight and less sexually active. The phenomenon of male aging has been studied to investigate the relationship between the social and cultural background of the aging process and the awareness and knowledge of andropause in many countries in North America, Europe, and Asia (Fatusi et al., 2004; Jankowska et al., 2008). Psychological and socio-demographic factors have been investigated, such as age, depression, education, marital status, and social environment that may also contribute to andropausal symptoms (Ichioka et al., 2006; Kratzik et al., 2004; Myon et al., 2005; Tan, et al., 2003; T'Sjoen et al., 2004).

Andropause has become a stigma of being non-masculine. Male menopause is considered to be a taboo and a sensitive subject among men because of the direct consequences of testosterone decline on their sexual activity and desire. Many men are too afraid to discuss andropause with their physicians. Others ignore this stage or simply accept it. Across cultures that value youth, masculine image, and fertility, andropause may affect men's self-esteem negatively at midlife (Calvaresi, 2003). In these cultures, men are expected to carry out a certain role in the household and to maintain a macho image as a sign of their masculinity. Thus, they feel sensitive and uncomfortable to discuss this natural stage of their lives because they believe that the change in their sexual hormones will affect their sex life and desire, which may make them feel sexually unattractive to their mates.

Sun and Liu (2007) reported that Chinese culture and values treated an individual's sexual relations as a personal and embarrassing topic. Men with erectile dysfunction feel embarrassed and uncomfortable to talk with their physicians about their problem. Thus, erectile dysfunction has a negative effect on men's quality of life. Only a few men consult a medical specialist to treat andropause, while the majority prefer to go to a traditional medical practitioner for treatment (Sun and Liu, 2007). On the other hand, Novak et al. (2002) conducted a clinical study in Toronto, Canada, and in Los Angeles, USA about the impact of andropause on men's quality of life, which revealed that andropausal symptoms such as depression, loss of libido, impotence, and lack of energy have a negative effect on men's wellbeing and quality of life. The study also showed that men with androgen deficiency were unaware that they were undergoing andropause until they were clinically diagnosed. During the focus group sessions, many men did not share their sexual performance experience with other men. Some reported that they felt embarrassed, and others said that they felt irritated.

## Methods

The sampling method is a non-probability, convenience sampling. The author used a structured questionnaire consisting of 22 questions that were administered by trained interviewers to a cross-section of 300 men between the ages of 20 and 70 after obtaining their verbal approval to participate in the study. This study aims to answer the following questions: How many men are aware of the term “andropause”? What is the primary source of their information? Are men in denial of andropause? And how do men view andropause? To answer these questions, the questionnaire consists of two main domains: the first part inquired about the demographic characteristics of the participants: age, IBM, educational level, marital status, employment status, medical history, smoking habit, and physical activity; and the second part used The Saint Louis University’s The Androgen Deficiency in Aging Male (ADAM) scale to answer the respondents’ awareness and knowledge of andropause.

The demographic characteristics will help if there is any statistical correlation between men’s awareness and knowledge about this stage and their age, education level, marital status, and employment. And the level of the participants’ knowledge was detected by using an open-ended question, “Are you aware of the term andropause?”. Participants were asked if they “believe that men experience andropause and if there is a treatment for andropause”; and if they “would like to learn more about andropause.” Each “yes” response was assigned a score of 1, and each “no” response received a 0 score. Responses were computed by summing the total number of “yes” responses to determine the level of the participants’ awareness.

A descriptive analysis of frequency, ratio, and percentage was obtained. A statistical correlation and Pearson’s chi square ( $P < 0.01$ ) were used to detect statistical significance between demographic variables and questions related to men’s awareness and attitudes toward andropause. Confidentiality was assured by not having any information on the survey that would identify the participants. Participation was voluntary and participants were given the option to continue or withdraw from the study at any time. Data analyses were performed using SPSS for the Windows version, 13.0.1 (SPSS Inc., Chicago, USA).

## Results

### Socio-demographic Characteristics of the Participants

A total of 286 Kuwaiti men completed the questionnaires (response rate of 97.9%). Most of the participants (74.3%) were below the age of 49, and 24.3% were above the age of 50, with a mean age of 43.2. Table 1 shows that three-fourths of the study sample (75.7%) had completed middle-school education, while 15.1% of the participants had primary school education, and only 9.2% had higher education. Less than half of the participants (46.2%) were still unpaid employees, 17.1% were having private business, and 34.9% were not working, or were retired. The majority of the participants (71.2%) were either currently married (208 men) or previously married (17 men, 5.8%); 17 (5.8%) were widowers, and 44 (15.1%) were single.

**Table 1**  
**Socio-demographic Characteristics of the Participants**

<b>Descriptive Characteristic</b>	<b>Number</b>	<b>(%)</b>
<b>Age (years)</b>		
Below 49	217	(74.3)
50 years & above	71	(24.3)
<b>Educational level</b>		
Primary	44	(15.1)
Secondary	221	(75.7)
College or above	27	(9.2)
<b>Occupation</b>		
Still working	135	(46.2)
Private business	50	(17.1)
Retired	102	(34.9)
<b>Marital Status</b>		
Single	44	(15.1)
Married	208	(71.2)
Divorced /separated	17	(5.8)
Widowed	17	(5.8)

### **Awareness of Andropause**

Regarding awareness of andropause, more than half of the participants (173 men, 59.2%) claimed that they had not heard about it, while 105 men (36.0%) had heard about it. Among andropause-aware participants, the main source of information was the mass media (21.2%), followed by friends (16.1%), family (4.8%), and finally, doctors/healthcare providers (3.8%). In terms of opinions about andropause, 112 (38.4%) participants reported that they did not believe that men undergo andropause, compared to 74 (25.3%) men who believed that aging men could undergo hormonal changes and experience andropause, while 94 (32.2%) were not sure whether men do or do not undergo andropause. In terms of knowledge about andropause, only 57 (19.5%) thought that men undergo hormonal changes similar to women's menopause after the age of 39, and 7 (2.4%) participants believed that men undergo andropause between the ages of 20 and 38 years. The majority 238 (81.5%) of the participants claimed that their physicians did not discuss with them the hormonal changes that men undergo due to aging, compared to 22 (7.5%) participants who reported that their physicians did discuss with them this stage, and 18 (6.2%) did not remember either way. Half (49.0%) of the participants had male physicians compared to 62 (21.2%) whose physicians were women. The majority of the participants (81.8%) who discussed hormonal changes with their physicians said that their physicians were males, compared to only 18.2%, who said that their physicians were females (Table 2).

**Table 2**  
**Frequency of the Five study Questions Regarding Participants’**  
**Awareness of Andropause**

Question Numbers	Yes (%)	No (%)	Unsure (%)
16 - Are you aware of the term “andropause”?	105 (36%)	173 (59.2%)	14 (4.8%)
18 - Did your doctor discuss andropause during your visit?	22 (7.5%)	238 (81.5%)	18 (6.2%)
20 - Would you like to learn more about andropause?	137 (47%)	81 (27.7%)	63 (21.6%)
21- Do you believe men experience andropause?	74 (25.3%)	112 (38.4%)	94 (32.2%)
25- Do you think there is a treatment for andropause?	78 (26.7%)	76 (26%)	117 (40%)

The present study reveals that almost half (47.6%) of the participants believed that andropause was a natural aging process, 25.7% of the participants believed that men who undergo andropause will have lower ability to conceive, and one-fourth of the participants viewed andropause as a disease due to aging. The majority of the andropause-enlightened participants (58 men, 19.9%) expressed that andropause can be treated by surgical intervention, hormonal replacement therapy (HRT), and medication, followed by 36 men (12.3%) who believed that andropause can be treated by medication; 13 men (4.5%) believed that HRT would help, and 8 men (2.7%) believed in surgical intervention.

This study’s findings identified a number of demographic variables that differed significantly ( $P < 0.01$ ) between age groups, education levels, marital status, and participant awareness of andropause (see Table 3). Among the Kuwaiti men who participated in the study, 88 men (41%) below the age of 50 said that they have heard about andropause, compared to 15 men (23%) above the age of 50 who had heard about andropause. And 96 participants (35.3%) below the age of 50 described

andropause as a sign of aging, compared to 41 men (15.1%) above the age of 50 years. Regarding medication for andropause, 56 participants (41.2%) below age 50 believed that vitamins can be used to treat andropause.

There was a statistically significant correlation between the participants' level of education and how they viewed andropause. Participants with a lower level of education viewed andropause as a disease (-0.132). And 95 participants (34.4%) who had achieved middle level of education said that they view andropause as a stage when fertility decreases ( $p < 0.05$ ).

The findings of the current study also revealed a significant correlation between the participants' marital status and their ambition to know more about andropause. Among the married men, 79 (29.3%) viewed andropause as a stage when men's fertility decreases, compared to 22 single men (8.1%) ( $p < 0.05$ ). Moreover, 55 married men (20.6%) said they believe that there is a medication and cure for andropause, compared to 48 men (18.0%) who believed there was no treatment, and 93 men (34.8%) who said they were not sure ( $p < 0.0001$ ). The participants' BMI was also significantly associated with their view of andropause; 40 (15.6%) participants with high BMI above 30 viewed andropause as a disease.

**Table 3**  
**Demographic Characteristics of the Participants’**  
**Awareness of Andropause**

<b>Descriptive Characteristics</b>	<b>Have Heard of Andropause</b>	<b>Have not Heard of Andropause</b>
<b>Age (years)</b>		
Below 49	88 (41%)	122 (58%)
50 years & above	15 (23%)	50 (76%)
<b>Educational level</b>		
Primary	11 (25%)	32 (74%)
Secondary	81 (38%)	128 (61%)
College or above	13 (50%)	13 (50%)
<b>Occupation</b>		
Still working	60 (46%)	70 (53%)
Private business	16(32%)	33(67%)
Retired/not working	26(27%)	68(72%)
<b>Marital Status</b>		
Single	18 (43%)	23(56%)
Married	76(38%)	124 (62%)
Divorced /separated	5(29%)	12 (70%)
Widowed	5(35%)	9(64%)

## **Discussion**

Cross-cultural differences in awareness and knowledge of age-related androgen deficiency during midlife have not been comprehensively studied in Middle Eastern societies. Few epidemiological studies have reported a general awareness and knowledge of andropause among men and healthcare providers (Adebajo et al., 2007). This may be due to the sensitive nature of the topic related to men’s sexual and physical capabilities, impotence, aging, and intimacy in relationships that are considered personal to most Eastern men who tend to refuse to share

their thoughts and feelings about the topic with others. Another reason for a lack of studies on men's knowledge and attitudes toward andropause is that many refer to this physiological and psychological transition as a "midlife crisis," which may cause participants to refuse to participate in the study, and even those who participate may not answer questions honestly.

The findings of the present study revealed that mass media (21.2%) was the main source of information on andropause. This is similar to the findings of the study conducted by Yuk (2009) among Chinese men in Hong Kong. Yuk's (2009) study showed that 76.4% of the Chinese participants reported that mass media was the major source of information on andropause, followed by doctors/health care providers (10.8%). These findings were different than those of Fatusi et al. (2003), who researched andropause among Nigerian men. Fatusi et al. found that the main source of information on andropause was healthcare (63.7%), followed by friends (26.8%).

The current study's findings can be attributed to Kuwaiti culture and the image of masculinity among Kuwaiti men. Kuwait is a conservative country as are many other Middle Eastern countries. Topics about men's sexual life due to hormonal and physiological changes during middle age are considered sensitive. Most men feel uncomfortable to discuss their sexual issues because it affects their macho image. Most Middle Eastern men fear this hormonal transition because they believe that the decline in the male sex hormone production will decrease their sexual desire and they will be sexually unattractive to their mates.

The findings of the current study showed a general lack of andropausal knowledge among Kuwaiti men. Only one fourth of the participants reported that they believe men undergo andropause. These findings were similar to those of Anderson et al. (2002), Fatusi et al. (2004), Adebajo et al. (2007), and Tan and Philip (1999). Unlike the findings of the current study, Yuk's (2009) study among Chinese men revealed that 77.0% of the participants believed aging men could experience a decrease in their sexual hormones. The lack of consensus on this middle life-stage among many men can be attributed to the contradicting research data analyses and explanations of these changes.

Furthermore, many men can get confused between depression and the psychological symptoms of andropause (Hersen et al., 2007).

Almost half (46.9%) of the andropause-aware participants in the current study reported that they view andropause as a natural aging process. These findings are similar to Yuk's (2009) study results, which showed that 85% of the Chinese men believed that andropause is a consequence of the aging process, whereas Fatusi's study revealed that 38.9% of Nigerian men believed that andropause is a myth. However, Adebajo et al. (2007) conducted a study among Nigerian men in Lagos, which showed that 59% defined andropause as impotence. Again, these findings of men's lack of awareness of the concept of male menopause and their not regarding andropause as a reality can be attributed to the nature of the topic related to loss of libido, sexual performance, and men's fertility. Norman-alter (2005) explained in his study on male menopause in the Detroit-Metropolitan Area in the USA that men do not discuss andropause with other men because they feel embarrassed, frustrated, and have low self-esteem.

These findings are similar to those of Novak et al. (2002) about men's attitudes toward and awareness of andropause in the Toronto and Los Angeles focus groups. None of the men who participated in the Los Angeles focus group acknowledged the term andropause, whereas men who participated in the Toronto focus group were aware of the term. As the author stated, these differences in the groups' knowledge may be attributed to the differences in the participants' backgrounds and cultural attitudes toward andropause. Novak et al.'s (2002) study revealed that men who experienced andropausal symptoms such as night sweats, bone and muscle pain, impaired sexual performance, and anger became less motivated and had low self-esteem. These psychosomatic feelings contributed to adverse impact on the men's lives and their relationships with their families.

## **Conclusion**

Andropause is associated with clinical short-term and long term effects. The findings of recent studies revealed that andropause occurs in men's normal aging process. About halfway through their life cycle, men will experience psychological and physiological alterations along with increase in the prevalence of chronic disease. Thus, andropause may serve

as a biological sign of health and aging, as well. This study to my knowledge is the first community-based study on middle-aged Kuwaiti men about their attitudes toward and awareness of andropause.

The findings of this study showed that it is important to educate the public, especially men, about andropause. Kuwaiti men need to be educated and get more information about andropause from the media, healthcare providers, and health organizations. Additional information regarding andropausal signs, symptoms, screening, and treatment will help men to accept this life change and cope with it, and minimize any psychological and physiological discomfort by selecting the appropriate healthcare treatment. More clinical as well as cross-cultural studies are needed to discuss the bio-cultural context and social construction of andropause and aging.

In order to educate the community about this important midlife event in men's lives and to encourage men to seek health information and clinical examination, andrology clinics are needed comparable to gynecology services available for women. At the present time, these clinics are under urology clinics in most countries. Future research needs to highlight the variations among men's perceptions and attitudes toward andropause. In addition, more comparable studies are needed to focus on women and men's knowledge and perception of the hormonal, physiological, and psychological alterations in their midlife.

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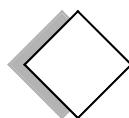
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## مدى الوعي والمعرفة بمرحلة سن اليأس لدى الذكور الكويتيين

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**ملخص:** سن اليأس عند الرجل، هو مرحلة فسيولوجية يتعرض لها الرجال عند منتصف العمر وتتزامن مع تغيرات بيولوجية وأعراض هرمونية تحدث بسبب نقص في مستوى هرمون الذكورة "الأندروجين". تهدف الدراسة الى (1) قياس مدى وعي الرجال بمرحلة سن اليأس و (2) قياس العلاقة بين مفهوم هذه المرحلة عند الرجال واتجاههم نحوها. تتكون عينة الدراسة من 300 رجل كويتي تتراوح اعمارهم ما بين 20 الى 70 عاماً. أشارت نتائج الدراسة الى ان 36% من الرجال لديهم معرفة عن هذه المرحلة، 137 رجل ذكروا رغبتهم بالتعرف على هذه المرحلة، 38,4% رجل يتصورون بأن الرجل لا يتعرض لهذه المرحلة. كما ذكر 53,4% من أفراد العينة عدم معرفتهم بالسن الذي يتعرض له الرجل لهذه المرحلة، 46,9% يعتقدون بأن سن اليأس هو علامة من علامات التقدم بالعمر. كذلك أشارت النتائج الى وجود علاقة ذات دلالة إحصائية بين معرفة الرجال بمرحلة سن اليأس و كل من العمر والمستوى التعليمي والحالة الاجتماعية.

**المصطلحات الأساسية:** التقدم بالسن عند الرجل، سن اليأس عند الرجل، الوعي، المعرفة، التقدم بالعمر، صحة الرجل.

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