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A Survey of Awareness and Attitudes of Men Aged Over 40 Years about Andropause

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ABSTRACT

Introduction: Andropause is a condition that affects men as they age, similar to menopause in women. Unfortunately, there is limited research on this topic in Iran, and many men are unfamiliar with this concept. To address this knowledge gap, a study was conducted to investigate the attitudes and awareness of andropause among men over the age of 40 in Ardakan City.

Methods: This study was conducted on 281 men aged over 40 years from Ardakan city in 2019. The sampling method used was cluster sampling and data were collected through a researcher-developed questionnaire. The collected data was analyzed, using SPSS software version 18 and the statistical methods of variance, Pearson correlation, and regression were used.

Results: Men have a low level of awareness about andropause, and their attitude towards it is negative. The study found that the mean score of participants' awareness about andropause was significantly impacted by age groups ($P < 0.05$), education level ($P < 0.05$) and occupation ($P < 0.05$). In terms of attitude towards andropause, the mean score was significantly impacted by age groups ($P < 0.05$) and occupation ($P < 0.05$), but not by education level ($P > 0.05$). The Pearson correlation coefficient shows that there is a statistically significant positive relationship between the mean score of awareness and the score of attitude.

Conclusion: The low awareness and negative attitudes towards andropause among men in Ardakan City emphasize the need for more education and awareness on this topic. Providing men with accurate information about the symptoms, causes, and management of andropause is crucial to help them make informed decisions regarding their health. By addressing the knowledge gap and promoting positive attitudes towards andropause, healthcare providers can enhance the overall well-being of men in this age group.

Keyword: Awareness, Attitude, Andropause, Aging, Testosterone

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Introduction

Andropause is a complex multifactorial syndrome that presents a reproductive health challenge in aging men. As life expectancy increases globally, the magnitude of this challenge is expected to expand. It is predicted that by 2050, the elderly will make up 22% of the world's population (Nemati-Vakilabad, Ajri-Khameslou, Jegargoosheh, Nikjou, & Momeni, 2023). According to the announced statistics, Iran is the second country in the world regarding the growth rate of the elderly population. In 2019, the population of people aged 65 and over is estimated at 4.6% and this proportion may increase to about 20% in 2040 and approximately 31% in 2050 (Ayoubi-Mahani, Eghbali-Babadi, Farajzadegan, & Keshvari, 2023).

Andropause is characterized by a gradual decline in androgen production, which typically commences during middle age (Jarecka, 2021). Andropause is a biological event that manifests itself through a constellation of symptoms which affect the sexual, physical, and mental domains. These manifestations can significantly affect the quality of life of those experiencing andropause and, as such, require careful management (Rozenberg, Nappi, Schaudig, Jannini, & Giraldi, 2023).

Given the multifaceted nature of andropause, its diagnosis and management require a comprehensive approach. Healthcare providers must be able to identify andropause symptoms, such as decreased libido, erectile dysfunction, and fatigue, and provide appropriate treatment (Mohammadi, Allahverdipoor, Ghanbari Moghaddam, & Matlabi, 2024). The most common therapeutic intervention for andropause is testosterone replacement therapy, which has been shown to improve sexual function, mood, and bone density in affected individuals (Nemati-Vakilabad et al., 2023). There have been many studies that show that interventions aimed at the micro biota can be effective in treating age-related illnesses and also in delaying the aging process and promoting longevity (Mohammadi, Allahverdipour, Ghanbari Moghaddam, & Matlabi, 2023; Salazar et al., 2023). Studies have shown that gut microbial are correlated to longevity. Studies have shown that it can have potential benefits and promote safety in pathologies often linked to aging, type 2 diabetes mellitus, metabolic syndrome, atherosclerosis, and neurodegenerative diseases (Mohammadi et al., 2023). However, the benefits and risks of testosterone therapy must be carefully weighed against each other, and treatment plans tailored to each patient's individual needs. Currently, clinical studies are exploring the potential therapeutic effects of vitamin supplements, especially vitamin D, on human longevity and age-related diseases (Ma et al., 2023; Park & Lim, 2023). Research has firmly established that the consumption of dietary ω3 fatty acids is directly linked to significant cognitive improvements in aging populations (Tenchov, Sasso, Wang, & Zhou, 2024).

In conclusion, andropause constitutes a significant reproductive health challenge in aging men, and its management requires a comprehensive approach. Healthcare providers must be able to identify and diagnose andropause symptoms. Based on extensive research, it can be confidently stated that calorie restriction is the most effective anti-aging intervention available (Tenchov et al., 2024). The objective of this study is to gain a comprehensive understanding of the socio demographic factors that affect men aged 40 years and above, in their awareness of andropause in Ardakan city. By identifying these factors, targeted educational interventions can be developed to enhance understanding and improve the quality of care for aging men.

This demographic shift is expected to have significant social, economic, and healthcare implications for the country. To address this issue, there is a growing need for health programs aimed at improving the sexual quality of life among older individuals. Unfortunately, there is limited epidemiological data available to guide the development of such programs. This highlights the urgent need for more research and data collection in this area. Despite these challenges, this situation also presents an opportunity for Iran to take a proactive approach towards creating a more supportive and inclusive society for its aging

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population. By developing innovative solutions that cater to the unique needs of older individuals, Iran can enhance the quality of life for its elderly citizens and promote their well-being.

Methods

This research was carried out in continuation of the study by Mazloumi et al. 2021 (Kebrieae & Dehghani, 2021) on 281 men aged over 40 years in Ardakan city. In this study, cluster sampling was utilized. The method involved dividing Meybod and Ardakan cities into 11 clusters and then people were randomly selected from each cluster. Considering the article of Ms. Forough Samipour Chirani et al. (12), the standard deviation of the awareness score was 4.9, the confidence level was 95%, the accuracy was 0.6, and the sample loss was 10%. The sample size was calculated 281 individuals using the following formula (Samipoor, 2017).

$$n = \frac{(Z_{1-\alpha/2})^2 \times (SD)^2}{d^2}$$

A number of 281 questionnaires were completed by men over aged 40 years in Ardakan (randomly) at their homes by the researcher. The present study adopted a descriptive research design, where data was collected through a structured and self-administered questionnaire comprising of four distinct sections. The data collection instrument was designed to ensure objectivity, accuracy, and reliability. The questionnaire was intended to extract relevant and specific information from the subjects, in order to achieve the research objectives. The study methodology was selected after careful consideration of its suitability to the research problem and its ability to provide a comprehensive analysis of the data. A questionnaire was designed by the researcher, comprising three parts: demographic characteristics, awareness, and attitude of men towards andropause. To ensure the accuracy of the content, the questionnaire was sent to a group of experts via email. The experts suggested certain amendments, which were incorporated to improve the questionnaire content validity ratio (CVR) and content validity index (CVI). The researchers tested the reliability of awareness and attitude questionnaire using test/retest method and Cronbach's alpha (Cronbach's alpha was 82% for awareness and 78% for attitude). The questionnaire face and content validity were confirmed by ten related professors and experts. The questionnaire format was designed to ensure that the questions were clear, concise, and unambiguous. The research instrument was pilot tested to assess its reliability and validity, and appropriate measures were taken to ensure that the data collected was accurate and reliable.

In the field of andropause disease, there are several queries regarding symptoms and general information. Regarding the awareness about andropause, they could score from 1 to 31 points. Its reliability was confirmed using Cronbach's alpha.

The data was analyzed using SPSS software version 18 through analysis of variance, Pearson correlation test, and regression test.

Results

The results of the study revealed that the knowledge about andropause among men in Ardakan city was low, and their attitudes towards andropause were negative. The mean score of participants' awareness about andropause varied significantly based on age groups, education level, and occupation. The mean score of their attitude towards andropause also varied significantly based on age groups and occupation. However, no significant difference was observed in terms of education level. The findings also indicated a statistically significant relationship between awareness and attitude scores.

The researcher completed 281 questionnaires with men over 40 years old in Ardakan city, randomly chosen and surveyed in their homes. The mean age of respondents was 52.45 and the standard deviation was 8.33. The most common age group was 45-55 years old with 48%. The highest level of awareness and attitude towards andropause according to education was related to post-graduate people. The highest level of awareness about andropause in terms of education was related to people with a postgraduate degree.

As the level of education increased, the level of awareness increased (Table 1).

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Table 1. The average level of awareness and attitude towards andropause in the research samples according to the level of education

Variable Education	N (%)	Attitude Mean± SD	P. Value	Awareness Mean± SD	
Elementary	58(20.6)	15.93±2.9		6.86±2.54	
Junior high school	57(20.3)	15.39±3.04		6.52±2.34	
Diploma	68(24.2)	15.5±2.85		6.31±1.42	
Associate degree	30(10.7)	15.27±2.72	0.000	6.53±1.48	0.252
Bachelor's degree	52(18.5)	15.31±2.61		10.65±4.74	
Master's degree and higher	16(5.7)	17.21±3.18		11±4.65	
Total	281(100)	15.6±2.87		7.56±3.41	

The mean score of the participants' attitude regarding andropause was not significant according to age groups. The highest level of attitude towards andropause according to age was related to the age group over 65 years old (Table 2).

The mean score of awareness regarding andropause, based on employment status, was 7.56 ± 3.41. (Table 3)

Table 2. The average level of awareness and attitude of andropause in the samples according to age

Age	N (%)	Awareness Mean± SD	P. Value	Attitude Mean± SD	P. Value
Up to 45	63(22.4)	7.5±3.31		16.01±2.44	
From46 to55 years	135(48)	7.94±3.93	0.03	15.6±2.94	0.116
From 56 to 65 years	59(21)	6.44±1.58		14.90±3.07	
More than 66 years	24(8.5)	7.54±3.34		16.21±2.89	
Total	281(100)	7.56±3.41		15.60±2.88	

Table 3. The average level of awareness and attitude towards andropause in the samples according to employment status

Employment status	N (%)	Awareness Mean± SD	P. Value	Attitude Mean± SD	P. value
Employee	69(24.6)	8.15±1.50		19.02±2.30	
Worker	89(31.7)	7.18±1.32		19.51±2.27	
Self employed	71(25.3)	6.85±1.26	0.08	19.84±2.61	0.000
Retired	52(18.5)	6.81±1.26		20.03±1.99	
Total	281(100)	7.26±1.44		19.58±2.34	

The mean scores of the subjects' awareness about andropause was 7.56±3.41 and the mean score of their attitude was 15.59±2.87 (Table 4).

Tables 4. Mean scores of awareness and attitude in the samples regarding andropause

	Sample size	The limit of score that can be obtained	Minimum	Maximum	Mean	SD
Level of awareness about men's menopause	281	1-31	2	24	7.56	41.3
Level of attitude about men's menopause.	281	1-31	7	24	15.59	87.2
Age	281	[redacted]	40	75	52.45	8.33

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The most common source that information about andropause was obtained was the doctor (83.6 percent). From the total of 281 people in the research sample, 274 people (97.5%) said that they need education about male menopause, and only 7 people (2.5%) said that they do not need education about male menopause. The mean score of attitude regarding andropause was not significant according to age groups (P>0.05), occupation (P>0.05), and level of education (P>0.05).

Discussion

The study results are in line with studies of Mohammadi et al. 2023 (Mohammadi et al., 2023). It is essential to provide men with accurate information about the symptoms, causes, and management of andropause to help them make informed decisions about their health. By addressing the knowledge gap and promoting positive attitudes towards andropause, healthcare providers can improve the overall well-being of men in this age group. In the World Congress on Health Promotion in Adelaide (1988), the public response to health was emphasized for the development of healthy public policy (Maha, 2013). Considering that this response relies on the coordination between programs, we should consider the group of men in the discussion of male menopause. Training is more effective and the mean score of 7.56 out of the total of 31 scores is very low, indicating complete disregard for this very important issue. Decrease in muscle mass and decrease in bone density (Bartl, 2023) should be seriously considered by the health authorities of the province.

The study of Kashtakaran et al. in 2013 is also in line with the present study, since its results show that cases of male menopause are few (Keshtkaran, 2013)

In the study of Abootalebi et al., it was observed that the level of awareness of doctors is low (Abootalebi, Kargar, Jahanbin, Sharifi, & Sharafi, 2016) and in the study of Samipoor et al., the level of awareness of men referring to Rasht health and treatment center was reported to be low (Samipoor, Pakseresht, Rezasoltani, & Kazemnajad Leili, 2017).

In the study by Maha in Kuwait (2013), only 36% of men knew about andropause, and 137 men (out of 300 male samples aged 20 to 70) said they wanted to know more about andropause, 53.4% of the samples reported that they did not know at what age men get andropause, and46.9% of the participants said that they think andropause is a sign of aging (Maha, 2013). Other studies in line with the results of the present study, including the study by Odu et al. (Odu, Olajide, Olajide, & Olugbenga-Bello, 2013), Munish Ashat et al. (Munish Ashat et al., 2011), Shia O Yang in China (Yang, 2012), and Yan in Hong Kong (Yan, 2010) also showed that the level of awareness and knowledge among health care providers and the general population about male menopause is low.

Contrary to the mentioned studies, a study in Canada by Pommerville et al. showed that although the level of awareness among general practitioners is increasing, there is still a misunderstanding about andropause among them (Pommerville & Zakus, 2006). Anderson et al.'s study in the United States showed that most people had heard about andropause, but did not have accurate and reasonable knowledge and information about andropause (Anderson et al., 2002).

This may be because in these two studies, no age range was considered and people of different ages were participated. Since people under 40 are young and use social media more than others, it is reasonable that they had much more information. In general, the results of this study and most of the studies in different parts of the world showed that the level of awareness about andropause among people in the society and even doctors in different parts of the world, including Iran, is low. Despite the importance of andropause in men, this critical period of men has not been considered. On the other hand, the results of a similar study have shown that general practitioners, who play an important role in educating the society, do not have much information and knowledge about men's menopause. The lack of attention to men's health and the lack of knowledge

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of doctors can have serious consequences for the health of men in the society (Noh et al., 2012).The results of the study of women's attitudes towards menopause in most countries indicate the positive attitude of the people studied (Bahri & Latifnejad Roudsari, 2015). High awareness and acceptance of menopause in men can lead to the creation of a positive attitude towards menopause in men. For this reason, while androgen deficiency in men is associated with differences of opinion, menopause in women is an undeniable fact, and while most women do not hesitate to complain about their changes in the middle of life, a high proportion of men deny the existence of these changes, especially sex-related factors. It is not openly discussed with health professionals (Odu et al., 2013)

Limitations of the current research include the mental and emotional states of the research samples, lack of interest of participants to talk about andropause, and incomplete questionnaires due to old age. Self-reporting is another limitation and future studies should also evaluate clinical manifestations and testosterone levels. The research was limited to Ardakan city and conducting it in different geographical places would provide more accurate information about the whole of Iran.

Conclusion

Based on the survey findings, it is evident that there is a significant knowledge gap and a lack of awareness about andropause among men. Addressing this issue requires a multi-faceted approach, including education, destigmatization, and improved access to healthcare services. By empowering men with knowledge and support, we can enhance their well-being and quality of life during andropause period.

Healthcare providers and policymakers should work together to develop targeted educational programs and public health initiatives to address the knowledge gap and promote positive attitudes towards andropause. By doing so, we can improve the overall health and well-being of men in this age group. This study suggests that healthcare providers should prioritize andropause education and awareness programs targeting men aged over 40 years. Policymakers should also consider andropause-related topics in public health campaigns to promote healthy aging practices and encourage men to seek timely medical advice.

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Conflicts of interest

The authors declared that there is no conflict interest.

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Ethical considerations

Informed consent was obtained from all the people who participated in the study. All procedures performed in the study were following the national ethical standards and the ethics committee of the university.

Code of ethics

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Authors' Contributions

The authors confirm their contribution to the paper as follows: study conception and design, M.M.S.S., K.M.; literature search, F.F.; interpretation, M.M.S.S., K.M, F.F.; manuscript preparation, M.S.S., F.F. All authors read and approved the final manuscript.

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References

Abootalebi, M., Kargar, M., Jahanbin, I., Sharifi, A. A., & Sharafi, Z. (2016). Knowledge and attitude

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[Downloaded from sbrh.ssu.ac.ir on 2026-11-21]
[DOI: 10.18502/jsbch.v8i2.16978]

about andropause among general physicians in Shiraz, Iran 2014. International journal of Community based Nursing and Midwifery, 4(1), 27.

Ali, I. N. Impact of Selected Lifestyle Factors on Semen Quality in Iraqi Men1.

Anderson, J. K., Faulkner, S., Cranor, C., Briley, J., Gevirtz, F., & Roberts, S. (2002). Andropause: knowledge and perceptions among the general public and health care professionals. The Journals of Gerontology Series A: Biological Sciences and Medical Sciences, 57(12), M793-M796.

Ayoubi-Mahani, S., Eghbali-Babadi, M., Farajzadegan, Z., & Keshvari, M. (2023). Facilitators and Barriers to Active Aging in Iran: A Gualitative Study. Salmand: Iranian Journal of Ageing, 18(3), 438-459. doi:10.32598/sija.2023.3604.1

Bahri, N., & Latifnejad Roudsari, R. (2015). A critical appraisal of research evidence on Iranian women's attitude towards menopause. The Iranian Journal of Obstetrics, Gynecology and Infertility, 18(178), 1-11.

Bartl, R. (2023). Variants of Osteoporosis According to Sex and Age Osteoporosis in Clinical Practice (pp. 149-163): Springer.

Jarecka, K. (2021). Symptoms of hormonal changes in Polish men and women in the second half of life. Andropause and menopause–similarities and differences. Health Psychology Report, 9(3), 252-263.

Kebrieae, A., & Dehghani, A. (2021). A Survey of Knowledge and Attitudes of Men Over 40 Years Old in Meybod about Andropause. Tolooebehdasht, 20(2), 1-11.

Keshtkaran, Z. (2013). Parvinian nasab AM, Kashfi H, Jourkesh F. Investigating level of knowledge, attitudes and practices of health personnel in Larestan regarding Andropause. Journal of Academic and Applied Studies, 3(8), 42-50.

Ma, G., Li, J., Xie, J., Li, Y., Xu, K., He, Y., . . . Liu, X. (2023). Pulse pressure and its association with body composition among Chinese men and women without diagnosed hypertension: the China Kadoorie Biobank. Journal of Hypertension, 41(11), 1802-1810.

Maha, A.-S. (2013). Prevalence of andropausal symptoms among Kuwaiti males. American Journal of Men's Health, 7(6), 516-522.

Mohammadi, M., Allahverdipoor, H., Ghanbari Moghaddam, A., & Matlabi, H. (2024). Factors Affecting the Management of Andropause Syndrome from the Perspective of Affected Elderly Men - A Content Analysis Study. Salmand: Iranian Journal of Ageing, 18(4), 0-0. doi:10.32598/sija.2023.3133.2

Mohammadi, M., Allahverdipour, H., Ghanbari Moghaddam, A., & Matlabi, H. (2023). The Prevalence of Andropause and Its Relationship With Sexual Quality of Life Among Older Iranian Men. American Journal of Men's Health, 17(2), 15579883231161050.

Munish Ashat, M. A., Sonia Puri, S. P., Amarjeet Singh, A. S., Sarpal, S., Goel, N., & Vipin Koushal, V. K. (2011). Awareness of andropause in males: A North Indian study.

Nemati-Vakilabad, R., Ajri-Khameslou, M., Jegargoosheh, S., Nikjou, R., & Momeni, P. (2023). The prevalence of andropause symptoms and its relationship with social well-being among retired male nurses: A preliminary cross-sectional study.

Noh, Y.-H., Kim, D.-H., Kim, J. Y., Park, J., Kim, O. H., Han, D., . . . Heo, S.-H. (2012). Improvement of andropause symptoms by dandelion and rooibos extract complex CRS-10 in aging male. Nutrition Research and Practice, 6(6), 505-512.

Odu, O., Olajide, A., Olajide, F., & Olugbenga-Bello, A. (2013). Awareness and Perception of Androgen Deficiency of Aging Males (ADAM) among Men in Osogbo, Nigeria. Journal of Community Medicine and Primary Health Care, 25(2), 45-52.

Park, S. J., & Lim, Y. S. (2023). Challenges and Experiences of Men Who Have Undergone Andropause: Insights from a Focus Group Study. Korean Journal of Adult Nursing, 35(3), 290-301.

Pommerville, P. J., & Zakus, P. (2006). Andropause: knowledge and awareness among

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[DOI: 10.18502/jsbch.v8i2.16978]

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primary care physicians in Victoria, BC, Canada. The Aging Male, 9(4), 215-220.

Rozenberg, S., Nappi, R. E., Schaudig, K., Jannini, E. A., & Giraldi, A. G. (2023). Couplepause: deconstructing sick menopause and andropause during midlife. The Journal of Sexual Medicine, 20(11), 1270-1273.

Salazar, J., Durán, P., Díaz, M. P., Chacín, M., Santeliz, R., Mengual, E., . . . Bernal, M. (2023). Exploring the relationship between the gut microbiota and ageing: a possible age modulator. International Journal of Environmental Research and Public Health, 20(10), 5845.

Samipoor, F., Pakseresht, S., Rezasoltani, P., & Kazemnajad Leili, E. (2017). Awareness and experience of andropause symptoms in men referring to health centers: a cross-sectional study in Iran. The Aging Male, 20(3), 153-160.

Tenchov, R., Sasso, J. M., Wang, X., & Zhou, Q. A. (2024). Antiaging Strategies and Remedies: A Landscape of Research Progress and Promise. ACS Chemical Neuroscience.

Yan, Y. Y. (2010). Awareness and knowledge of andropause among Chinese males in Hong Kong. American Journal of Men's Health, 4(3), 231-236.

Yang, X. (2012). Investigation of male residents' cognition, attitude toward andropause syndrome in Changzhi City and intervention study. Jornal of Qiqihar university of medicine, 21, R697.

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