

Knowledge, attitude and practice of adults about osteoporosis prevention in Ahvaz, 2012

Sadighe Fayazi¹, Ghazaleh basiri^{1*}, Maryam Bagheri¹, Mansoureh Arabi¹, Hamed Tabesh², Zeinab Rabiee³

1. Department of Nursing, Ahvaz Jundishapur University of Medical Science, Ahvaz, Iran.

2. Department of Biostatistics and Epidemiology, School of Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

3. Department of Midwifery, Ahvaz Jundishapur University of Medical Science, Ahvaz, Iran.

Abstract

Introduction: Due to the need to maintain maximum bone mass before age 35, the preventive measures must be initiated; This study was aimed to determine the assessment of knowledge, attitude and practice of men and women over 35 years about osteoporosis in Ahvaz, Iran.

Materials & Methods: In this descriptive study 186 men and women over 35 years were recruited. Data collection was done through a questionnaire with four sections including 51 question. Data analysis was performed using SPSS version 20 and descriptive statistics, and Mann-Whitney test were used for statistical purposes.

Results: In terms of knowledge, 109 persons were moderate (58.3%), 147 persons had a positive attitude (78.6%); and 106 persons had practice in moderate level (56.7%). A direct relationship was found between the economic situation and practice and also between the knowledge and the education level. But, it was not any significant relationship between awareness and attitudes, and also between awareness and attitudes and practice.

Conclusion: We can conclude that due to the increase in the elderly population and the need for preventive measures concerning osteoporosis; Therefore, it is necessary that officials take essential decision to proceed the general awareness about prevention of osteoporosis, and by this means, reduce the level of disability and treatment costs.

Keywords: Osteoporosis, Knowledge, Attitude, Practice

Introduction

Osteoporosis is the most common metabolic bone disorder (1). The osteoporosis is an important risk factor for pathological fractures, and it is a multifactorial chronic disease that progress slowly and without symptoms in decades of life that impose mortality, morbidity and additional costs to society (2). Osteoporosis along with cancer, heart attack, stroke and diabetes is the most important common disorders throughout the world (3). Bone mass of each person reaches its maximum usually at ages of 30 to 35 years, then, bone

mass loss begins as a natural process of aging. Therefore, people should initiate precautionary measures at young ages in order to maintain maximum bone mass (4).

According to estimation of the World Health Organization (WHO), approximately 530 million men and women over 65 years old will live in Asia by 2050. For this reason, it is expected that growing population, along with other risk factors such as poor diet of calcium, vitamin D and a sedentary lifestyle, will make osteoporosis as a major health problem in these societies (5).

*Corresponding author:

Department of Nursing, Ahvaz Jundishapur University of Medical Science, Ahvaz, Iran.

Tel: +989168338569

Email: basiri89@ajums.ac.ir

Received: 1 Jul 2012

Accepted: 2 May 2013

Osteoporosis prevalence in all countries, particularly in Asian countries is growing. There are several risk factors for osteoporosis including: menopause and its age, gender, aging, thinness, inactivity, functional disorders, smoking, coffee consumption, steroid medications, family history of osteoporosis and bone fracture. The most important complication of osteoporosis is fractures in spine and pelvis region. Prevalence of fractures in Iran is 15.8% and 2.9% for spin and femur bone, respectively. Unfortunately, about 20% of patients die within a year after this complication, and 50% suffer with serious disorders and disabilities (6- 7).

Approximately 40% of women and 10% of men during their lifetime, face the risk of osteoporosis (8). This disease is an important health problem worldwide, and its prevalence is increasing. Mojibian et al. reported that one quarter of women and one-eighth of men in Canada suffer from osteoporosis (9). It is estimated that 30% of hip fractures and 20% of vertebral fractures occur in men (10-12), and one person from every eight men over 50 years old, suffer a fracture due the osteoporosis (8, 13).

Studies about this disease are very limited in Iran. Pajouhi and Komylyan confirmed that 70% of women over 50 have osteoporosis or decreased bone density (14). A recent study conducted by the Ministry of Health in Iran showed that 47 % of women and 44 % of men over 50 have low bone density, and 4.6 % of people 20 to 70 years suffer from osteoporosis in the spine. Furthermore, among every four Iranian women over 50 years, one person is with osteoporosis (8).

High prevalence and debilitating complications make osteoporosis one of the most important issues of health in Iran, which needs attention and funding for screening, treatment and prevention (15). Totally, the best solution to control this disease, which has no cure, is prevention. On the other hand, an important issue in the prevention is, recognition of attitude, lifestyle, changing daily habits in order to improve the quality of life and practice of persons (16).

Knowledge of the persons within the society plays an important role in prevention, and by knowledge, a person comes seeking preventive actions (15). Individuals also should be introduced to take extra calcium, vitamin D, exercise, good nutrition in accordance with the principles of prevention methods by focus on changing attitudes (16). Accordingly, some studies have been developed in this area. For example, according to Currey, those who have participated in training programs or trained through media, their osteoporosis prevention skills had increased (16). The results of Kassper's et al in Western University of USA research also showed that women are not aware of the danger of osteoporosis and the beneficial effects of exercise (17). Mobaraki et al, in Yasouj stated that 41% of women were informed of osteoporosis risk factors, 72.3% had a positive attitude, and 62.2% had good function to their disease (18). According to Eslamian et al, in Tehran, although 22-75% of people under 54 years old were aware of the causes of osteoporosis, but they did not show a suitable behavior (19).

Increased morbidity and mortality and costs of physical and psychological problems, and the increasing number of elderly in the population, indicating the importance of osteoporosis and the easiest and cost-effective way to deal with it is to teach preventive behaviors. To make important changes and provide guidelines for future planning, it is necessary to clarify the current status in the field and possible solutions for improving the conditions proposed. Therefore, This study was aimed to determine the knowledge, attitudes and behavior of men and women over 35 years about osteoporosis in Ahvaz, Iran.

Material and Methods

In this descriptive study, 186 men and women over 35 years old (93 women and 93 men) referred to the Golestan Hospital outpatient clinic in Ahvaz were recruited through simple random sampling. According to the similar studies, the sample size for the study was estimated 93 patients with $\alpha=0.05$, and $P=0.64$.

Data was collected using a designed questionnaire over two weeks period from referral patients at morning shifts in Golestan hospital in Ahvaz, Iran.

Participation in the research was totally voluntary, and no identifying information was elicited. To ensure anonymity and confidentiality, each participant was assigned a code number and all data were stored in locked files accessible only to the researchers until completion of the research. The questionnaire contains four sections:

1) Demographic: questions including; age, education level, marital and employment status.

2) The knowledge, including 15 questions for assessing knowledge of participants about the osteoporosis and ways to prevent it. The answers in this section were set as "Yes," "No," and "I do not know". Participants who scored from 0% to 50% was considered as poor, 51% to 75% was considered as moderate and more than 76% was considered as "good."

3) 10 question were designed to evaluate the beliefs and attitudes of participants about osteoporosis. The answers to this section also was set as; "Yes", "No" and "I do not know". Points less than 50% were considered as a negative attitude; and points above 50% were considered as a positive attitude.

4) Fifteen questions were esigned for assessing the practice. The answers were set with five options based on Likert scale including; "always," "often," "sometimes," "rarely" and "never".

The maximum score was five for each question, which showed the best practice; while score one showed the weakest practice. In total, for the practice section, participants who earned 25 to 50% were considered as average, 50 to 70% were considered as good and 71% to the top were considered as excellent.

Last question was considered for patient's weight and height. Since lighter weight causes to reduce pressure over the bones and this help expedite the process of creating osteoporosis; therefore, after calculating the body mass index (BMI) by a researcher If the participants' BMI was less than 18, she/he scored one, otherwise she/he scored five.

The content validity was used to determine validity of the questionnaire. To test the reliability we calculated Cronbach's alpha that was 0.85. Data analysis was carried out using SPSS version 20. Background variables and level of knowledge, attitude and practice correlations were examined using descriptive statistical tests and the Mann-Whitney test.

Ethical considerations

This study was conducted after obtaining the confirmation of the Ahvaz Jundishapur Ethics Committee and the informed consent from all subjects participating in the study.

Results

Finding showed that 82.4% of the participants in the study were married, and

35.8% had high school education. Furthermore, the majority of the samples were Fars in terms of ethnicity (39.6%), and 52.9% of them stated that their monthly incomes is between half to one million Tumans. More information on the demographic characteristics of the samples is presented in Table 1.

Findings from the study showed that knowledge 58.3% of the participants was at the average level, while attitude of 78.6% of the cases was in an acceptable level. The results showed that only 5.3% of the samples have a higher level of practice. Tables 2 show accurately results related to the knowledge and practice of the samples.

Table 1: The socio-demographic characteristics of participants

Demographic	Characteristics	Frequency	Percentage
Age	Men	93	47.73
	Female	93	48.38
Marriage Status	Single	32	17.1
	Married	154	82.4
Education	Illiterate	19	10.2
	Elementary	46	24.6
	Secondary School	41	21.9
	High School	67	35.8
	College	13	7
Ethnicity	Fars	74	39.6
	Arab	65	34.8
	Lor	15	8
	Bakhtiari	15	8
	Kurd	9	4.8
	Turk	8	4.3
Monthly income (Tumans)	<500	60	32.1
	half to one million	99	52.9
	<1000000	27	14.4

Table 2: The frequency and percentage of knowledge, attitude and practice of samples

	Frequency	Percentage
Knowledge		
Weak	24	12.8
Average	109	58.3
Good	53	28.3
Attitude		
Negative	39	20.9
Positive	147	78.6
Practice		
Average	106	56.7
Good	70	37.4
Excellent	10	5.3

This investigation revealed that the basic indices such as knowledge, attitudes and practices were not related to gender and ethnicity ($p > 0.05$); moreover, the relationship between the economic and practice was direct ($p < 0.05$). There was a direct relationship between education and knowledge, so that the subjects with college education had better practice in comparison with illiterates, while there was no relationship between knowledge and attitude on osteoporosis, and the subjects' knowledge, and attitudes were not related to their practice. Data about dietary habits revealed that only 16 contributors (8.6%) used dairy products to the size of three glasses a day, as well as just 13 people (7%) frequently, consumed leafy- form vegetables.

Twenty four persons (12.9%) used more than twice a week of carbonated beverages; 55 individuals (29.6%) used more than three glasses of tea or coffee daily; 15 persons (8.1%) consumed red meat more three times a week.

The results indicate that 63 persons (33.9%) used to add salt to their food.

The data showed that most contributors were exposed to sunlight daily (79.5%) and 17 subjects (9.1%) had exercise regularly on most days during the week. Results showed that 104 of the subjects (55.9%) had never used tobacco and 67 (36%) were commonly used steroid medicines without a doctor's prescription.

Analysis of the data indicated that 145 individuals (78%) believed that inadequate intake of calcium and vitamin D causes osteoporosis. A number of 168 persons (90.3%) believed fish and sunshine were as sources of vitamin D and also coffee, tea and soft drinks are as the factors could reduce the density of the bones.

Totally 110 contributors (59.1%) had good knowledge towards the impact of exercise on reducing the probability of osteoporosis; and as well 167 persons (89.8%) believed that exercise is important in every age. 120 patients (64.5%) believed that excessive intake of edible salt cause osteoporosis; and 149 cases (80.1%) also had good knowledge about effect of smoking on bone mineral density.

Discussion

In this study, knowledge of the subjects in the field of osteoporosis was mostly mediocre, and no difference was found between men and women in terms of the knowledge that it is not unexpected due to the majority of the sample had a low education level. In this context; results of Dehghan Menshadi's et al's study in Tehran showed that the knowledge about osteoporosis in women vary from 50 to 92 % (2). Mobaraki et al in Yasouj showed that the knowledge of women was at the medium level and most of the knowledge was obtained as through the public media (18) that are consistent with results of the present research.

The results of this study showed that most patients had a positive attitude towards prevention of osteoporosis which is consistent with Alenjer et al's study in USA. Our investigation also revealed that 64% of women had a positive attitude that is in line with the study of Mobaraki et al and Dehghan Manshadi et al (2, 18, 20).

The majority of participants had a moderate level of income and was showed an average practice. Given the direct relationship between practice and financial condition, it can be concluded that the person who has a good financial situation, his practice will be better about the prevention of osteoporosis. There was also a direct relationship between the level of education and practice. This finding was consistent with results of Eslamian's et al's study (19), but was not consistent with Dehghan Menshadi's et al and Mobaraki's et al's studies (2,18). The discrepancy

between these studies may be because of subjects' different income levels and increasing inflation rate in the society comparing to other studies that have done previously.

The results showed that there were no relationship between contributors' knowledge and their attitude on osteoporosis. These results are consistent with Currey's et al in Western University in USA and Kasper's et al in North Carolina and Mobaraki's et al's study in Yasouj (16-18). The findings were consistent with other similar studies in light of knowledge of the exercise' benefits for both sex.

The present study showed that the majority of participants were aware of the negative effects of high consumption of tea and coffee, but their practice was not consistent with their knowledge. That could be due the traditional habits, as the drinking tea is a preferable drink at reception and refreshment. In the Mobaraki's et al's study, not only women were not aware of the negative effects of high consumption of tea on the bones, but also did not show a good practice. The discrepancy between present study and other studies might be due to increased knowledge levels in society after timing.

It should be noted that the participants' mental condition and correctness of their answers in the study can be affected by environmental conditions, which can change the results. Finally, it should be bear in mind that in the study, only a small part of the actual population is depicted, and for extensive planning, a large-scale investigations is inevitable.

Conclusion

It was concluded that according to the average knowledge, practice and positive attitude of participants for osteoporosis and considering increase of the elderly population; need for preventive actions such as exercise, good nutrition, healthy life style is important through education extension. Noticing that no matter how level of knowledge of the participant in a field is high, but there is required situation for actualizing knowledge. The prices of healthy nutrients as well as dairy products should be affordable for average people. Therefore it is responsibility of authorities to take appropriate decisions in this regard to reduce

make using healthy foods affordable for average people.

Acknowledgements

This project is a result of the joint collaboration of Faculty of Nursing and Midwifery, Ahvaz Jundishapur University of Medical Sciences, and Student Research Center. The authors are grateful to all who worked on this project, particularly, Mr. Latifi; we acknowledge deputy Vice-Chancellor for research affairs of Ahvaz Jundishapur University Medical Sciences for financial support, and particularly Research Consultation Center (RCC) for technical support.

References

1. Mirza aghaee F, Moeinfar Z, Eftekhari S, Curreymi khezri M, Mazidi M, Aliramezani M et al. School girl's level of knowledge about osteoporosis. *Hayat*. 2006; 12(3):43-50. [Persian]
2. Dehghan Menshadi F, Azari A, Kohpayezade J, Ghasemi M. Student's level of knowledge, attitude and practice about osteoporosis in summer camping. *Modern Rehabilitation*. Tehran University of Medical Sciences. 2008;3(2):47-54. [Persian]
3. Mosavi H, Mir Curreymi Z. Osteoporosis. *JGBFNM*. 2006; 3(2):46-52. [Persian]
4. Rasooli F, Haj Amiry P, Mahmoodi M, Abdoli S. Assessment of the application for preventive factors of osteoporosis, in menopausal women referred to the health care centers in Tehran University of Medical sciences. *Hayat*. 2001;8(15):4-11. [Persian]
5. Guidance of prevention and treatment of osteoporosis (Part one) [online]. 27 April 2002; [1 screens]. Available from: URL: <http://www.tebyan.net/index.aspx?pid=67156>
6. Hadi N, Shirali R. The study on level of knowledge and attitude about osteoporosis in Shiraz's general physician. *HMJ*. 2006; 10(4):371-378. [Persian]
7. Jamshidian Tehrani M, Kalantari N, Azad Bakht L, Esmaeil Zadeh A, Rajaei A, Hoshyar Rad A et al. Risk factor of osteoporosis in Tehran's women aged 40-60. *IJEM*. 2004; 6(2): 139-145. [Persian]
8. Rohollahi F. Look at out break of osteoporosis in universe and Iran. *Hmshahri newspaper*. October 2005; number 4150. [Persian]
9. Mojibian M, Owlia M.B, Beiki Bandarabadi O, Kochak Yazdi L. Osteoporosis in postmenopausal women. *IJS*. 2006; 14(1): 71-78. [Persian]
10. Campion JM, Maricic M. Osteoporosis in men. *Am Fam Physician*. 2003; 67(7): 6-15
11. Pande I, Francis RM. Osteoporosis in men. *Best Pract Res Clin Rheumatol*. 2001; 15(3): 27-415
12. Shreyasee A, Felson D. Osteoporosis in Men. *RDCNA*. 2001; 27(1):19-47

13. Soheili Azad A, Golestan B, Jahan Bakhsh S. Determination of the Relation between Osteoporotic and Osteopenic Risk Factors among Women Referring to BMD Center, Baharloo Hospital. *RJMS*. 2006; 14(57): 91-99. [Persian]
14. Derakhshan S, Salehi R, Reshadmanesh N. Prevalence of osteoporosis, osteopenia and their related factors in postmenopausal women referring to Kurdistan densitometry center. *SJKU*. 2006; 11: 59-67. [Persian]
15. Larijani B. Osteoporosis in Iran. 1st international seminar of Osteoporosis: Prevention, diagnosis and treatment. 2003. september.2-3, Tehran, Iran. [Persian]
16. Currey SS, Blalock SJ, Devellis RF, Devellis BM, Giorgino KB, Anderson JJ and et al. Effects of educational materials concerning osteoporosis on women's awareness beliefs, and behavior. *Am J Health Promot*. 2000; 14(3):161-9.
17. Kasper Mj, Peterson MG, Allegiant IP, Galsworthy TD, Gutin B. Awareness , beliefs, and behaviors among college women can concerning the treatment and prevention of osteoporosis. *Arch Fam Med*. 1994; 3(8): 696-702.
18. Mobaraki A, Garmaznejad S, Zadehbagheri GH. Women's level of knowledge, attitude and practice about osteoporosis in Yasouj 2006. *Dena*. 2007; 1(2): 36-40. [Persian]
19. Eslamian L, Jamshidi A, Kaghaz Kanani R. Knowledge, attitude and behavior regarding osteoporosis among women in three age groups: Shariati Hospital, Tehran. *TUMJ*; Vol. 65, Supplement 2, 2007: 16 - 21. [Persian]
20. Ailinger RL, Emerson I. Women's knowledge of osteoporosis. *Appl Nurs Res*. 1998; 11(3):111-4.