

Evaluation of Treatment Regimens of Women with Osteoporosis Who Attended to Primary Health Care Services

BİRİNCİ BASAMAĞA BAŞVURAN OSTEOPOROZLU KADINLARIN ALDIKLARI TEDAVİLERE BAKIŞ

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Abstract

Objective: The aim of this study is to evaluate certain characteristic properties and treatment modalities of women at the age of 15 and over, with an osteoporosis diagnosis, who have applied for any reason to Mother and Children's Health Planning Centers (MCHPCs) in Ankara.

Material and Methods: Women at the age of 15 or over that applied to one of the five MCHPCs chosen among from Ankara City were included in the study. Of the 3465 patients, 2609 (75.3%) were interviewed using a face-to-face technique. Chi-square and Student's t-test were used for the statistical evaluations.

Results: Of 2609 women examined, 278 (10.7%) stated that they had previously received an osteoporosis diagnosis. The average age of the women with an osteoporosis diagnosis was 59.2 ± 9.5 . 243 women (87%) indicated they were in menopauses. While 27 women (9.7%) did not have any treatment for osteoporosis, it was determined that 90.3% had a treatment, with highest percentage of the drugs being Ca^{++} and D vitamin compounds.

Conclusion: It can be possible to determine the measures and training programs to be conducted for the benefit of the society according to the needs by determining the occurrence of the osteoporosis, which, with its complications, is an important public health problem, and by evaluating the properties related with the treatment.

Key Words: Women, osteoporosis, treatment

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Özet

Amaç: Ankara İli'nde Ana Çocuk Sağlığı ve Aile Planlaması (AÇSAP) Merkezleri'ne başvuran 15 yaş ve üzeri kadınlardan osteoporoz tanısı alanların temel tanımlayıcı özelliklerini ve tedavi durumlarını değerlendirmek amaçlanmıştır.

Gereç ve Yöntemler: AÇSAP Merkezleri'ne herhangi bir nedenle başvuran 15 yaş üzeri kadınlar araştırmaya dahil edilmiştir. 3465 başvurudan 2609'u (%75.3) için anket uygulanmıştır. İki haftalık süre içinde birden fazla başvurusu olanların sadece ilk başvuruları için anket uygulanmıştır. İstatistiksel değerlendirmelerde Ki-kare, Student t Test analizleri kullanılmıştır.

Bulgular: Bu çalışmada incelenen 2609 kadından 278'i (%10.7) daha önce osteoporoz tanısı aldıklarını belirtmişlerdir. Kadınların yaş ortalaması daha önce osteoporoz tanısı almış olanlar için 59.2 ± 9.5 'dir. Tanı alan kadınların %9.7'si hastalığa yönelik hiçbir tedavi almazken, %90.3'ünün tedavi aldığı, kullanılan ilaçlardan en yüksek yüzde Ca^{++} ve D vitamini preparatları olduğu görülmüştür.

Sonuç: Komplikasyonlarının ve tedavi durumlarının değerlendirilmesiyle; önemli bir halk sağlığı problemi olan osteoporoz hakkında halkın ihtiyaçlarını karşılayacak tarama ve eğitim programları geliştirmek mümkündür.

Anahtar Kelimeler: Kadınlar, osteoporoz, tedavi

Osteoporosis is defined by the World Health Organization as a disease characterized with an increase in the bone fragility due to low bone mass and to the deterioration of microstructure of bone tissue, having a high risk of fracture.¹

Approximately 40% of women over 50 years of age encounter at least one or more fractures resulting from osteoporosis, mostly observed in anterior vertebrae arm and proximal femur, and these fractures cause especially mortality increases besides pain, deformity and functional disorders.

According to the figures reported from USA only, every year 250,000 pelvic fractures are observed in women, of which 80% develops depending on the osteoporosis during post-menopauses period.² The bone mass showing a peak at around 30-35 years of age in human starts to decrease at

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various speeds depending on several factors. The level of the peak mass and the speed of mass loss are among the most important factors that define the period of the person to enter into osteoporosis.^{2,3}

Women have a lower bone mass compared to men, and although bone loss is observed in both sexes, the loss is more in women due to menopause. For these reasons, fractures arising from osteoporosis are observed more frequently in women than men.³

More and more people become involved in the risky age groups for osteoporosis as life expectancy increases. Since the bone loss is asymptomatic, the diagnosis is given mostly after the fracture has occurred or while a serious health problem is being investigated. Most women are unaware of preventable risk factors.^{4,5}

For a successful fight with osteoporosis, the patients should be made aware of alternative risk factors, treatment alternatives and the side effects of these modalities. Special effort should be given to patient education via health personnel, video displays, current media news etc. Several studies have proven that education provides behavior changes related with health.^{6,7}

Our aim in this study was to evaluate the treatment status of women at the age of 15 and over, who had applied to Mother and Children's Health Planning Centers (MCHPCs) in Ankara and received the diagnosis of osteoporosis.

Materials and Methods

The two first-stage establishments set up and supported by the State for the purpose of preserving and improving women health are MCHP Centers and Health Centers, where only the first stage diagnosis and treatment and polyclinic services are carried out. There are 20 MCHP Centers in Ankara, which has a population of 2.837.433 with the number of women between the ages of 25-49 being approximately 700.000.⁸ This study has been conducted in five MCHP Centers that are similar to each other with regard to the numbers of polyclinics and people interviewed (Demetevler, Hifzissi-

hha, Kurtuluş, Dikmen, Incirli). Data collection phase was completed within two weeks (17-31 January 2002).

Women at the age of 15 and over, who applied to the MCHP centers for any reason, were included in the study. An interview was made with 2609 (75.2%) of the total 3465 applications. For the patients with more than one application within the period of two weeks, the interview was conducted at the first application only.

Face-to-face technique was used in the interviews, comprised of questions on osteoporosis, menopause, urinary incontinence and AIDS information level, on their general health, proflificacy status and their satisfaction of the services provided. The data about the women with an osteoporosis diagnosis are presented in this study.

The term "bone thinning" was employed in the survey form used in the study, in order to ensure better understanding of osteoporosis since it is a commonly used definition among the public.

The data of the study were collected by the 25 intern doctors who were on Public Health training and by 6 doctors employed in Public Health research field. Before the application, the researchers provided a 4-hour instruction course for the application staff, and a pre-application trial study was performed in Gazi University.

Chi-Square and Student's t-test analyses were used in statistical evaluations.

Results

278 (10.7%) out of 2609 women that were examined in this study indicated that they had previously received a diagnosis of osteoporosis.

The average age of the women was 37.9 ± 15.4 for all groups whereas it was 59.2 ± 9.5 for the group that received an osteoporosis diagnosis (Table 1).

When the groups with and without an osteoporosis diagnosis were examined according to age distribution, a statistically significant difference was found between the two ($p < 0.05$). As the age

Table 1. Distribution of socio-demographic properties of the patients with an osteoporosis diagnosis, women at or over 15 years of age, Ankara, 2002.

Age groups*	Number (n)	%**
15-24	—	—
25-34	2	0.7
35-44	15	5.4
45-54	74	26.6
55-64	103	37.1
65 and over	84	30.2
Profession *		
Housewife	182	65.5
Still employed	11	3.9
Retired	85	30.6
Educational Status*		
Illiterate	27	9.6
Literate	14	5.1
Primary school	104	37.4
Medium School	35	12.6
Grammar school (Lycée)	45	16.2
Higher Ed./ University	53	19.1
Social security *		
Present	267	96.0
Absent	11	4.0
Smoking status*		
Smoker	50	17.9
Non-smoker	228	82.1

*n= 278

**% Percentage of the column

increased, the percentage of the patients with an osteoporosis diagnosis increased.

It was determined that 637 of the women examined in the study were in menopause status and that 243 (38.1%) of this menopause group had received an osteoporosis diagnosis. When the menopause status of the cases with an osteoporosis diagnosis was considered, it was noticed that the ratio of receiving an osteoporosis diagnosis during

the menopause status was 34.13 times more (Odds ratio) ($p= 0.0001$) (Table 2).

162 (59.1%) of 274 women who responded to this question stated that they had received the diagnosis of the illness during the last 4 years (Table 3). It was observed that while 9.7% of the women with the osteoporosis diagnosis did not take any medicine for the treatment, 90.3% received treatment, of which 84.8% continued with the regular treatment whereas 15.3% did not keep the treatment regularly. In the responds to the questions of "What are the drugs you use for the treatment of osteoporosis?", Ca and vitamin-D preparations rank highest with 77.6% while bis-phosphonates and calcitonin treatment were respectively 21.0% and 9.2% (Table 4).

Discussions

Primary osteoporosis is of 3 types. Idiopathic osteoporosis is encountered extremely rarely in children or young adults of both sexes, with a normal gonad function of both sexes. Type 1 osteoporosis (post menopausal osteoporosis) is the form that is frequently observed as developing between the ages of 51-75, with 6 times more occurrence in women than men. Type 2 osteoporosis (senile osteoporosis) is the form encountered during the normal course of aging, typically observed over 60 years of age, with occurrences twice more in women than men.⁹

In order to prevent osteoporosis and to achieve success in the treatment of osteoporosis, several views were put forward in "Australian Consensus Conference on Osteoporosis" held in 1996.¹⁰ While hormone replacement treatment with estrogen was recommended as the first

Table 2. Distribution of menopause status of the examined group depending on the presence or absence of an osteoporosis diagnosis, women at or over 15 years of age, Ankara, 2002.

Menopause Status	Osteoporosis Diagnosis		Total examined	X ²	P	OR	%95CI
	With	Without					
In menopause	38.1	61.9	637	665.28	0.001	34.1	23.2 -50.4
Not in menopause	1.8	98.2	1972			1,0	

Table 3. Distribution of drug use status over the time passing after the osteoporosis diagnosis, women at or over 15 years of age, Ankara, 2002.

Drug use status (n=274)	Time passing after the diagnosis					
	0-4 years		5-9 years		>10 years	
	Number	%*	Number	%*	Number	%*
Does not use	17	63.0	3	11.0	7	26.0
Uses	146	59.0	64	26.0	37	15.0
Regular	125	59.8	54	25.8	30	14.4
Not regular	21	55.3	10	26.3	7	18.4

* Percentage of the row

modality for majority of the patients in the treatment of post menopausal osteoporosis, drug treatment options such as Alendronate, Etidronate or Calcitriol were proposed for those who can not tolerate the drugs or who develop a contradiction against them. Usages of such drugs increased following this meeting, as a result of the development of more efficient bis-phosphonates, the introduction of estrogen receptor modulators such as raloxiphen, as well as the presentation of the data related with the safety of Alendronate and Calcitriol. Apart from this, increased Ca intake and usage of phyto-estrogens were encouraged through media. As a result, the benefits of all the various agents as well as side effect risks become more clear day by day.¹⁰

Evaluation of treatment modalities; Vitamin D and Calcium: Controlled studies carried out on this field indicate that Ca supplement prevents bone loss and reduces bone fracture in women during post-menopausal period. Vitamin D preparations are primarily recommended for persons with little sun exposure, who stay always at their homes or live in rest homes.^{10,11}

Ernest et al.¹² reported that the usages of Ca supplement and Vitamin D preparations in women with an osteoporosis diagnosis were respectively 35.4% and 14.6%. As for the figure in our study of the distribution of the drugs used in the treatment of osteoporosis, 177 (77.6%) patients said they were using Ca and Vitamin D preparations.

Although Etidronate is the first bis-phosphonate derivative used clinically, more effi-

Table 4. Distribution of the drugs used by the women with an osteoporosis diagnosis, women at or over 15 years of age, Ankara, 2002.

Distribution of the drugs used (n=228)	Number	%*
Ca and Vitamin D	177	72.0
Bis-phosphonates	48	19.5
Calcitonin	21	8.5
Total	246	

*%Column percentage

Since the same patients indicated more than one options.

cient type of new generation bis-phosphonates are used much more in our time. Controlled studies have indicated that especially Alendronate, a third generation bis-phosphonate derivative, reduces vertebral and even peripheral fracture rates by 50%, and it is also reported to have reduced pelvic fractures in some studies.¹¹ The usage of bis-phosphonates was reported as 8.3% in the study conducted by Ernest et al.¹² In the study performed by Gulbahar et al. on 42 patients with a diagnosis of osteoporosis, daily 10 mg Alendronate and 500 mg elementary calcium were administered, and it was observed that bone density increased between 3.78%-9.12% and that the efficiency of Alendronate was more as the age of the patient increased¹³ In our study group, 48 patients (21.0%) stated that they had been using bis-phosphonate.

Calcitonin is a peptide that is secreted from the parafollicular C cells of thyroid gland. It pre-

vents osteoclastic bone destruction. It is in less amounts in women than men, and some researches indicate that there is a progressive reduction in the calcitonin levels with the growing age.⁴ It prevents bone loss in early and late menopausal women. Studies conducted by using intranasal calcitonin compared versus placebo indicated that radiologic deformities decreased 19% for the group with calcitonin.¹¹ In our study, 21 patients (9.2%) reported using treatment modals containing calcitonin.

American Clinical Endocrinologists' Association defends the view that the standard to prevent and to treat post-menopausal bone loss is Hormone Replacement Treatment (HRT), with the alternative being bis-phosphonates.¹¹ In our study, when the women with an osteoporosis diagnosis were asked about the drugs they used for the treatment of osteoporosis, they did not mention HRT preparations. However, when the patients in menopause period were asked about the drugs they used, 47 gave the names of HRT preparations. The fact that HRT, having such an importance on the prevention and treatment of osteoporosis, is not known by the primary risk group constitutes a clear sign for the need of public education. Considering the education level of the rural section compared with the other areas of Turkey, which is a developing country herself, such a result is not very surprising, but it is interesting to encounter such high proportions in large cities.

United States Diseases Prevention Service recommends giving up smoking, regular exercise, intake of sufficient calcium and discussing with the patients the risks and benefits of hormone replacement treatment.¹¹ Preventing osteoporosis requires extended estrogen replacement. Adequate nutrition including elemental calcium and weight bearing exercise are also necessary. For those who have inadequate daily exposure to sunlight, vitamin D supplementation is indicated.¹⁴

In our study also, the women with an osteoporosis diagnosis were recommended by the doctors to make more exercise (64.6%), to consume foods with a higher calcium content (54%), to expose

themselves to the sun more (9.3%) and to have a physical treatment (1.3%).

Public education on what is osteoporosis, on its place and risks in women's lives, on the fact that it can be prevented rather than cured and that hormone replacement treatment is efficient in the protection seems an appropriate method of fighting against osteoporosis for public health in the long run. There are still some reservations today on the potential side effects that may arise with the hormone replacement treatment; patients should be provided with the consultancy on all the treatment approaches, with the final decision being made by the patient on the basis of benefits and harms. Correct and detailed information supply will constitute the base for a healthy decision. All these constitute the basis for the determination of the prevalence of the problem in the society and for understanding in a correct and full manner the behaviors and needs of the patients as well as the prevention and treatment methods by the health care providers service. Despite all the studies conducted so far, large-scale society-based investigations seem to be important with respect to determination of the needs and approaches in this field.

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