

Original Article

The Relationship of Knowledge of Osteoporosis and Bone Health in Postmenopausal Women in Silesia Osteo Active Study

*E. Tabor,*¹ R. Kuźniewicz,² P. Zagórski,³ K. Martela,¹ and W. Pluskiewicz²*

¹Doctoral Studies, School of Medicine with the Division of Dentistry, Medical University of Silesia in Katowice, Poland;

²Department and Clinic of Internal Diseases, Diabetology and Nephrology, School of Medicine with the Division of Dentistry, Metabolic Bone Diseases Unit, Medical University of Silesia in Katowice, Poland; and ³Department of Orthopaedic Surgery, Sports-Clinic, Żory, Poland

Abstract

The Silesia Osteo Active Study was designed to assess osteoporosis-related knowledge and its relationships with skeletal status in an epidemiological population-based program. Participants were chosen randomly from postmenopausal women over 55 yr. The study group consisted of 388 patients (mean age 65 ± 7). All participants fulfilled medical and socioeconomic questionnaires and test concerning osteoporosis-related knowledge. They underwent proximal femur and lumbar spine densitometry. The mean level of osteoporosis knowledge was 7.3 ± 2.0 for 10 questions. Osteoporosis knowledge seems to have no influence on densitometry results in the population; nevertheless it improves femoral neck (FN) density in those without prior personal experience of osteoporosis ($r = 0.15$; $p < 0.05$). Higher knowledge of osteoporosis was connected with osteoporosis in family, hormone replacement therapy or smoking history, and higher educational degree. The level of knowledge was significantly better in younger than in older participants (7.4 vs 6.7 ; $p < 0.01$). Osteoporosis (T-score < -2.5) was established in 6.4%, 2%, and 33% for FN, total hip, and spine, respectively. As a conclusion, current study revealed a positive influence of the knowledge of osteoporosis on FN density in postmenopausal women without prior personal experience of the disease.

Key Words: Bone densitometry; epidemiological study; knowledge; postmenopausal women.

Introduction

Osteoporosis is a generalized bone disease that is characterized by decreased calcium levels in the skeletal system, its demineralization and, therefore, increased risk of bone fracture. Together with polymorbidity, increased risk of falls, sarcopenia in elderly patients, and sedentary life style bring serious complications to patients' health and increased social costs of treatment, rehabilitation, and nursing care (1). Despite all efforts, osteoporotic fracture often leads to death. In aging populations, osteoporosis is an increasingly rec-

ognized disease, but commonly, it is diagnosed after a first bone fracture.

Among the risk factors of osteoporosis are gender, menopause, history of osteoporotic fractures in the family, corticosteroids use, smoking, rheumatoid arthritis, and alcohol abuse (2–4). Risk factors can be classified as modifiable or non-modifiable (4). Although non-modifiable risk factors cannot be reversed or changed, knowledge of the relationship between these risk factors and bone metabolism can lead to earlier diagnosis and prevention of a first fracture. Adequate level of knowledge should influence health behaviors, such as physical activity and diet.

There is little research conducted on assessing osteoporosis knowledge, such that the role of densitometry (dual-energy X-ray absorptiometry [DXA]) in addressing osteoporosis is not fully known (5–8).

The aim of the Silesia Osteo Active Study was to assess in a population-based program the level of knowledge of

Received 06/5/16; Revised 08/6/16; Accepted 08/11/16.

*Address correspondence to: Elzbieta Tabor, MD, Doctoral Studies, School of Medicine with the Division of Dentistry, Medical University of Silesia in Katowice, Poland. E-mail: elizabeth-a@o2.pl

osteoporosis among the risk group and its connection with osteoporosis diagnosis.

Materials and Methods

Study Population

The epidemiological study was conducted in a population of postmenopausal women living in Zabrze, South Poland. The group was chosen randomly—we acquired from the City Hall of Zabrze the addresses of 3000 women over 55 yr old (which was 10% of overall population of women >55 yr old (9)) to whom we sent invitation letters. The invitation was answered by 394 women. Six patients were withdrawn because of exclusion criteria—advanced rheumatoid arthritis, weight over 150 kg, or the presence of metal implants that can interfere with DXA result. Mean age was 65.2 ± 6.9 yr (55–87 yr old), and body mass index (according to WHO definition (10)) was 29.7 ± 5 kg/m² (16.2–47.5 kg/m²). Full demographic data are presented in Table 1.

All patients were at least 1 yr post menopause. The mean age of menopause was 49.4 ± 5.2 , which is consistent with the Polish population (11). Of the participants, 47.9% complained about irregular periods or premenstrual syndrome in the past. Of these, 26.3% had received hormonal therapy replacement in perimenopause.

Methods

Knowledge Assessment

For knowledge assessment we chose Magnus et al questionnaire (12) with Polish translation. The participants had to choose the answer: “yes”, “no,” or “I don’t know.” The first question was: “Do you know somebody that suffers

from osteoporosis?” Next, participants were given statements and had to assess which of them were true and which were false. The statements were as follows:

- “Osteoporosis may sometimes cause great pain.”
- “Osteoporosis means increased calcium in the skeleton.”
- “It is possible to prevent osteoporosis.”
- “It is important to be engaged in physical activity to avoid osteoporosis.”
- “Osteoporosis mostly affects men.”
- “Osteoporosis can be cured.”
- “Osteoporosis mostly affects older individuals.”
- “Osteoporosis increases the risk of fracturing bones.”
- “Osteoporosis is a minor health problem.”
- “Those with osteoporosis should not engage in physical activity due to the risk of falling causing a fracture.”

For each correct answer, the patient got 1 point. The maximal available score was 10 points. The answers “I don’t know” were classified as incorrect answer (0 points).

Densitometry

All participants underwent DXA of the lumbar spine and proximal femur with use of Hologic Explorer (Hologic Inc., Waltham, MA). For the needs of the study, we analyzed bone mineral density (BMD), T-score and Z-score of femur (total hip [TH]), femoral neck (FN), and BMD for lumbar spine L1–L4, T-score and Z-score for each of those vertebrae, and summed values of BMD, T-score, and Z-score. According to WHO guidelines, we diagnosed osteoporosis, osteopenia, or normal skeletal status (healthy individuals) (2). All analyses were performed by one experienced technician. The same DXA technician measured 25 women twice, and coefficients of variation were 2.03%, 2.26%, and 1.6% for FN, TH, and lumbar spine, respectively.

Statistical Analysis

Statistical analyses were performed with use of the Statistica 12.0 program (StatSoft; Tulsa, OK). Descriptive statistics for quantitative variables were presented as mean values and standard deviations. Due to categorized character of analyzed data, all analyses were performed with use of nonparametric test. Comparisons of quantitative features between subgroups were performed with Mann-Whitney *U*-test. Correlation analysis was done by Spearman’s correlation test. Chi-square test was applied for comparison of qualitative data. A *p* value less than 0.05 was regarded as statistically significant.

Results

Research Group Profile

Of the participants, 51.8% (201) were cigarette smokers; of these, 64.2% (129 patients) smoked for 20 and more years. There were 62.2% (241) participants who suffered from cardiovascular disease (hypertension, ischemic heart disease,

Table 1
Descriptive Data of Study Group

	Number (pts)	Percentage (%)
	388	100
BMI (kg/m ²):		
Underweight	5	1.3
Normal weight	65	16.8
Overweight	148	38.1
Obese	170	43.8
Educational level		
Primary	59	15.3
Vocational degree	104	26.8
High school or equivalent	156	40.2
University degree	69	17.8
Marital status		
Married	226	58.2
Widow	99	25.5
Divorcee	26	6.7
Single	37	9.5

Download English Version:

<https://daneshyari.com/en/article/8723018>

Download Persian Version:

<https://daneshyari.com/article/8723018>

[Daneshyari.com](https://daneshyari.com)