

Osteoporosis is dangerous but preventable: needed extensive health education and exercises

Ciszek E¹, Szczygieł A¹, Górkiewicz M², Bac A¹

¹ Academy of Physical Education in Cracow, Faculty of Physical Therapy, Cracow, Poland

² Jagiellonian University of Cracow, Collegium Medicum, Institute of Public Health, Department of Epidemiology and Population Research, Cracow, Poland

Abstract

Purpose: The pilot study on efficacy of the new program for health education was examined. The program combines supervised exercises at the class with patient's self-reliant individual exercises at their homes and, in other plane, it combines physician's lectures with patient's discusses about own experiences and readings about rehabilitation in osteoporosis.

Material and methods: The study engaged 71 women at the age of 51-80 with osteoporosis diagnosed by densitometry (BMD: 2.6-4.2). The physical examination were made twice, on the beginning and on the end of the 6 month' program. The class tests and discussions were made every three weeks.

Results: The improvement of patient's health in the group was significant: the number of the best class progressed from 0 to 9 persons and of the worst class depreciated from 8 to 3 persons.

Conclusions: It was stated that patients can successfully exercise at the home settings. The group meetings enlarge the educational and therapeutic effects.

Key words: osteoporosis, health education, therapeutic group, self-reliant exercises.

Introduction

World Health Organisation defines osteoporosis as a value of BMD that is more than 2.5 SDs below young adult mean value [1]. Osteoporosis is a silent disease, which in itself causes no symptoms, but the morbidity of osteoporosis arises from bone fragility and the subsequent fractures. This result, causing not only pain, but also deformity and even immobility. It was estimated that in the USA and in Europe more than 50% of post-menopausal white women are osteopoenic and about 30% are osteoporotic [2,3]. Thus, there is a great need for appropriate early intervention before fracture occurs [4,5]. The physiotherapeutic approach based there on evidence that physical activity showed prevention effect of falls in old patients too [6], with observed the positive group's effects [7]. In the literature [4,5,7] there are showed a plenty valuable ways to prevent the disabling disorders, but in our opinion, on the beginning of each group therapy, we must carefully consider the goals which differ from one group of patients to another. While many physiotherapists are likely to focus only on transmitting knowledge and on training self-physiotherapeutic skills, many patients are likely to have trouble with their anxiety and other negative attitudes or beliefs towards rehabilitation. Such factors can impede efficacy of therapy or can induce patients to give up. In our opinion the other important goal of a therapy is to make patients more informed, critical readers of current news stories and Web advices on this how live safety with osteoporosis. The monthly face-to-face meetings with patients a physiotherapist should utilize to provide hands-on guidance. There the discussions among patients should not be considered as relax only but as helpful activity that strengthens the relationship between patients and physiotherapist, reduces stress, makes a meetings more interesting, and, if relevant to the subject, may even enhance recall of the consultations. All therapy must be developed in partnership with and between the patients.

ADDRESS FOR CORRESPONDENCE:

Elżbieta Ciszek
Academy of Physical Education in Cracow,
Faculty of Physical Therapy
Al. Jana Pawła II 78, 31-571 Cracow, Poland
Fax: (012) 683 13 00
e-mail: ccisz@gazeta.pl

Material and methods

During 6 months of the program the patients were obligated to 20 minutes of exercises at home every day. The class tests and discussions were made every three weeks. During each of such meeting the physiotherapist demonstrated some new exercise and patients learned it under his/her supervision. Besides patients reported their feelings and demonstrated their skills on all past exercises. The exercises was aimed to reinforce the pliability of patients, strengthen and endurance of their muscles. The 41 patients from initial 71 took active part to the end of program. The all above 30 leaves were not caused by decrease of a health or a danger of this.

The features of patients posture were examined with Metrecom computer-based system [8]. The obtained anatomical pictures were classified by physiotherapist into four ordered classes with double-blinded procedure (unknown patient and unknown time of measurement, that is either before or after program). The results of therapy were verified with chi-square test.

Results

The significant ($p=0.01$) improvement of patient's health in the group of 41 women was stated: the number of the best class progressed from 0 to 9 persons and of the worst class depreciated from 8 to 3 persons. Moreover, all group of 71 women found this program interesting and helpful, but to more embarrassing for 30 of them.

Discussion

The generally acknowledged goal of the primary prevention in the osteoporosis is to improve the health-related quality of life for people with possible musculoskeletal disorders. The

results of classical physiotherapy are there very hopeful but the cost is unacceptable. The key to this is to reduce ambulatory exercises under continuous therapeutic supervision. Consequently, physiotherapists are faced with the challenge of deciding how to maximize patients self-learning and self-reliant exercising. The other challenge is to minimize patient's anxiety and disaffection. The most obvious difficulty in the situation of the increasing patient's self-learning is that the physiotherapist has to learn new terminologies with aim to easy guide discussion using the notions from patient's readings.

Conclusions

The results of our pilot study encouraged us to continue the research. The used health educational program was intended for big group of patients rather, but is also fits for small groups or individual tutoring.

References

1. World Health Organisation. Assessment of fracture risk and its application to screening for postmenopausal women. WHO Technical Report Series 843. Geneva: WHO, 1994.
2. Jordan KM, Cooper C. Epidemiology of osteoporosis. *Best Practice & Research Clinical Rheumatology*, 2002; 16: 795-806.
3. The European Prospective Osteoporosis Study Group. Incidence of vertebral fractures in Europe: results from the European prospective osteoporosis study (EPOS). *Jornal of Bone and Mineral Research*, 2002; 17: 716-24.
4. Ernest E. Can exercises prevent postmenopausal osteoporosis? *BMJ*, 1994; 28 (1): 5-6.
5. Fitzsimmons A, Freundlich B, Bonner F. Osteoporosis and rehabilitation. *Crit Rev Phys Rehabil Med*, 1997, 9: 331-53.
6. Joakimsen RM, Magnus JH, Fonnebo V. Physical activity and predisposition for hip fractures: a review. *Osteoporosis International*, 1997; 7: 503-13.
7. Binder EF, Brown M, Craft S. Effects of a group exercise program on risk factors for falls in frail older adults. *JAPA*, 1994; 2: 25-37.
8. Norton BJ, Ellison JB. Reliability and concurrent validity of the Metrecom for length measurements on inanimate objects. *Physical Therapy* 1993; 73: 266-74.