

Study of Orthopedic Morbidities among Postmenopausal Women in a Medical College Hospital in Rural Area of Western Maharashtra, India

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ABSTRACT

Introduction: It is estimated that a total of 130 million Indian women are expected to live beyond menopause by 2015. Health of postmenopausal women is of growing concern because of increased longevity and various morbidities associated with old age.

Objectives: 1) To assess various orthopedic problems among postmenopausal women in rural area. 2) To estimate magnitude of common orthopedic problems and associated sociodemographic factors. **Methodology:** A cross-sectional study was conducted at the medical college hospital in rural area of Western Maharashtra on 500 postmenopausal women availing healthcare in a medical college hospital. Data was collected with the help of predesigned questionnaire by interview technique and with the help of case records available from orthopedic department. **Results:** Backache (62%) and osteoarthritis (51.6%) were common orthopedic problems. Osteoarthritis was significantly associated with obesity.

Keywords: Postmenopausal women, orthopedic problems

Menopausal and postmenopausal health has emerged as an important concern owing to increased longevity and changing lifestyle of Indian women. It is estimated that a total of 130 million Indian women are expected to live beyond menopause by 2015.¹ The focus of women's health researchers and health policy planners has also shifted toward postmenopausal women since the trends suggest an increase in their numbers and life expectancy.²

Long-term consequences of changes in ovarian hormonal levels include morbidities associated with

aging such as cardiovascular diseases, osteoporosis, problems related to memorization, urinary incontinence, skin aging and others.^{3,4}

Postmenopausal women are generally affected by osteoporosis and fracture rates among them are approximately twice as high as men. The cause of osteoporosis is very complex but it is clear that hormonal changes after menopause increase the rate of bone resorption, leading to greater risk of osteoporosis. This silently progressing metabolic bone disease is widely prevalent in India and is a common cause of morbidity and mortality in women.⁵ The occurrence of osteoporosis in postmenopausal women is a very common problem especially in India, as Indian women are exposed to many risk factors like low calcium diet, lack of exercise, family history and in general, lack of health awareness. The prevalence of osteoporosis increases with age and it is estimated that 70% of women over the age 80 years have osteoporosis.⁶

The problem of backache becomes more pronounced in postmenopausal women.⁷ During this period of women's life, the likelihood of weight gain and manifestation of low back pain increases due to the changes of the muscles and skeleton structures as a result of aging, occupational or other factors. Osteoarthritis is also one of the common health problem among elderly women.

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Osteoarthritis strikes women more often than men and it increases in prevalence, incidence and severity after menopause.^{8,9}

There is a growing recognition that various morbidities occur in postmenopausal age group, yet information on the levels and patterns of these health problems experienced by women in India is sparse. Only a few studies have been undertaken to understand the effects of menopausal transition in relation to aging process on general health profile of women in postmenopausal life. Since, a large proportion of women suffer morbidity silently and are reluctant to seek care or to visit clinics and hospitals, it is difficult to assess the true magnitude of the problem or the patterns of morbidity from which women suffer. Yet the small amount of data available suggest startlingly high levels of morbidity, for which treatment is rarely sought.

Because of inadequate medical facilities in rural areas and poor resources to obtain treatment from private medical practitioners, women in villages often become a victim of a number of health problems. Hence, studies are needed in rural areas to investigate physical, physiological and social changes experienced during the menopausal transitions along with the nature and magnitude of health problems during postmenopausal life. Orthopedic problems are very common after menopause and significantly affect the health of Indian women. Therefore, present study was conducted among postmenopausal women attending medical college hospital in a rural area to assess morbidity pattern with special reference to orthopedic morbidity.

METHODOLOGY

Study Design

A cross-sectional study.

Study Setting

Study was conducted in the Dept. of Orthopedics, Rural Medical College and Hospital during January 2010 to December 2010.

Sampling and Sample Size

All the women in postmenopausal age group attending orthopedic outpatient department (OPD) during study period and who were ready to participate were included in the study. Women who had not achieved menopause and who were not ready to participate were excluded from the study. Five hundred women of

postmenopausal age who visited orthopedic department during study period were ready to participate, making the sample size 500.

Data Collection

After explaining purpose of the study and obtaining verbal consent, data was collected from them by interview technique. A predesigned, structured questionnaire was used to collect necessary information. Questions were mainly pertaining to their complaints related to orthopedic problems. The clinical findings and X-ray findings were obtained from individual case records prepared by resident doctors and other faculty members of orthopedic department. Modified BG Prasad's classification was used for determining economic status.¹⁰

Statistical Analysis

Data was tabulated and appropriate statistical analysis was done with the help of percentages and proportions. Test of significance was applied wherever required.

RESULTS

Our study was conducted among 500 women of postmenopausal age who visited orthopedic OPD during the study period. Majority of the women were from the age group of 55-65 years. Sixty-four percent women were married, 68.6% were illiterate and most of them were from low socioeconomic status (Table 1).

Majority of women seeking healthcare from orthopedic department had either joint pain (predominantly knee) or backache. Some of the women had backache as well as knee pain. Only few women in postmenopausal age group had other orthopedic complaints like fracture, sprain and ligament problems (Table 2).

Out of 500 women, 310 (62%) were suffering from backache. Degenerative disease (osteoporosis) was the most common cause of backache observed in our study. Common X-ray findings observed among our study subjects were osteoporotic changes in spine, osteophytes in vertebrae or wedge compression (Table 3).

Joint pain with predominant involvement of knee joint was another common symptom observed in our study participants. Out of 500 women having orthopedic problems, 258 (51.6%) were suffering from osteoarthritis. Reduction of medial joint space and reduction of bone trabeculae with increase in lucency were the X-ray

Table 1. Sociodemographic Profile of Study Participants

Age in years	No. of women
Age	
<50	9 (1.8%)
50-55	74 (14.8%)
55-60	111 (22.2%)
60-65	248 (49.6%)
65-70	47 (9.4%)
>70	11 (2.2%)
Total	500
Marital status	
Married	324 (64.8%)
Widow	159 (31.8%)
Unmarried	017 (3.4%)
Total	500
Educational status	
Illiterate	343 (68.6%)
Primary	118 (23.6%)
Secondary and higher secondary	37 (7%)
Graduate and above	2 (0.4%)
Total	500
Economical status	
Upper (I, II, III of BG Prasad)	186 (37.2%)
Lower (IV and V of BG Prasad)	314 (62.8%)
Total	500

Table 2. Symptom-wise Distribution of Patients (Multiple Response)

Symptoms	No. of patients
Backache	310
Joint pain	274
Others	053

findings observed in our study among patients suffering from knee joint pain. Body mass index of patients suffering from osteoarthritis was also calculated and it was observed that osteoarthritis was significantly associated with obesity in our study (Table 4).

Table 3. Distribution of Backache Patients According to Etiology (n = 310)

Age group (in years)	Degenerative disc disease (osteoporosis)	Facet joint arthropathy	Spondylo-listhesis
50-55	22	16	1
55-60	46	18	4
61-65	98	43	8
65-70	40	6	2
>70	5	0	1
Total	211	83	16

Table 4. Association of Osteoarthritis and Obesity

Osteoarthritis	No. of obese women	No. of nonobese women	Total
Present	147 (63.6%)	84 (36.4%)	231 (100%)
Absent	111	158	269
Total	258	242	500

$\chi^2 = 24.2$; d.f. = 1; $p < 0.001$; Highly significant.

DISCUSSION

The abrupt endocrine changes during menopausal transition have important impacts on the physiology of female body that exacerbate risks for many diseases and disabilities during postmenopausal life. Present study was conducted among 500 postmenopausal women to assess various orthopedic problems among them; majority of women in our study population were in the age group of 60-70 years (59%), illiterate (68.6%), and belonged to low economic status. Similar finding was observed by Mandal et al in their study, 58.6% women were in the age group between 60-70 years, 61% were illiterate and majority of them belonged to low economic status.¹¹

Backache and joint pain as a manifestation of osteoporosis and osteoarthritis, respectively, were the most common problems among our study subjects. Similar finding was observed by Scharla et al in their study, 85.1% postmenopausal women had back pain and 41.8% had joint pain.¹²

Many studies showed that the prevalence of osteoarthritis increases in old age and more so in women than men. Females are found to have more severe osteoarthritis and involvement of knee joint is more common.¹³⁻¹⁵

In our study, osteoarthritis was present among 51.6% women. Obesity is a well-known risk factor for osteoarthritis and in our study also it was significantly common among obese women. Similar to our finding, the prevalence of osteoarthritis was 49% in the study conducted by Mandal et al.¹¹ and 57% in the study conducted by Lena et al.¹⁶

CONCLUSION

Orthopedic morbidities are very common in postmenopausal women. Osteoporosis and osteoarthritis are the common orthopedic problems and large number of these health problems can be prevented and managed by simple measures like exercise, diet and proper healthcare.

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REFERENCES

1. Sengupta A. The emergence of the menopause in India. *Climacteric*. 2003;6(2):92-5.
2. World Health Organization. Women Aging and Health. WHO: Geneva, 2000. Fact sheet No. 252.
3. Genazzani AR, Gambacciani M, Schneider HP, Christiansen C; International Menopause Society Expert Workshop. Postmenopausal osteoporosis: therapeutic options. *Climacteric*. 2005;8(2):99-109.
4. Isles CG, Hole DJ, Hawthorne VM, Lever AF. Relation between coronary risk and coronary mortality in women of the Renfrew and Paisley survey: comparison with men. *Lancet*. 1992;339(8795):702-6.
5. Gupta A. Osteoporosis in India - the nutritional hypothesis. *Natl Med J India*. 1996;9(6):268-74.
6. Osteoporosis in Postmenopausal Women: Diagnosis and Monitoring. Summary, Evidence Report/Technology Assessment: No.28. Agency for Healthcare Research and Quality Publication No. 01-E031, Feb 2001. Available at: <http://www.ahrq.gov/clinic/epcsums/osteosum.htm>
7. Popkess-Vawter S, Patzel B. Compounded problem: chronic low back pain and overweight in adult females. *Orthop Nurs*. 1992;11(6):31-5, 43.
8. Felson DT. The epidemiology of knee osteoarthritis: results from the Framingham Osteoarthritis Study. *Semin Arthritis Rheum*. 1990;20(3 Suppl 1):42-50.
9. Kellgren JH, Lawrence JS, Bier F. Genetic factors in generalized osteoarthritis. *Ann Rheum Dis*. 1963;22:237-55.
10. Kumar P. Social classification - need for constant updating. *IJCM*. 1993;18(2):60-1.
11. Mandal PK, Chakrabarty D, Manna N, Mallik S. Disability among geriatric females: an uncared agenda in rural India. *Sudanese J Pub Health*. 2009;4(4):377-82.
12. Scharla S, Oertel H, Helsberg, et al. Skeletal pain in postmenopausal women with osteoporosis. *J Bone Miner. Res* 2005;20(Suppl 1):318-98.
13. Felson DT. The epidemiology of knee osteoarthritis: results from the Framingham Osteoarthritis Study. *Semin Arthritis Rheum*. 1990;20(3 Suppl 1):42-50.
14. Slemenda CW. The epidemiology of osteoarthritis of the knee. *Curr Opin Rheumatol*. 1992;4(4):546-51.
15. Eti E, Kouakou HB, Daboiko JC, Ouali B, Ouattara B, Gabla KA, et al. Epidemiology and features of knee osteoarthritis in the Ivory Coast. *Rev Rhum Engl Ed*. 1998;65(12):766-70.
16. Lena A, Ashok K, Padma M, Kamath V, Kamath A. Health and social problems of the elderly: a cross-sectional study in Udupi Taluk, Karnataka. *Indian J Community Med*. 2009;34(2):131-4.

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One in Three New Students hasn't Attended Physical Classes due to Pandemic, Says Report

One in every 3 children in classes 1 and 2 has never attended physical school before because of the COVID-19 pandemic, suggests the Annual Status of Education Report (ASER) 2021.

The report said that among government school students of classes 1 and 2, about 36.8% never attended pre-primary classes. The figure is 33.6% in private schools. It further stated that around one-third of all children in classes 1 and 2 did not have access to smartphones. Additionally, only about 33.5% of children in these classes of yet to be reopened schools have received learning material from their schools, either as print or virtual worksheets, online or recorded classes or other video clips.

The survey was conducted across 25 states and 3 Union Territories, reaching 76,706 households and 75,234 children aged 5 to 16 years, besides teachers or head teachers from 7,299 government schools... (NDTV – PTI)