PREVALENCE OF MUSCULOSKELETAL COMPLAINTS AMONG POST-MENOPAUSAL WOMEN IN TWIN CITIES

Somiya Asif[1], Ayesha Habib Ullah[2], Zahra Shafiq[3], Tayyaba Asif[4]

[1]Bs-PT, Ms-NMPT, Assistant Professor, Department of Physical therapy, Ibadat International University, Islamabad, **Email:** somiya.asif@uipt.edu.pk
[2]DPT, Student, Department of Physical therapy, University of Lahore, Islamabad
Email: 70079235@student.uol.edu.pk
[3]DPT, Student, Department of Physical therapy, University of Lahore, Islamabad
Email: zshafiq815@gmail.com
[4]DPT, Student, Department of Physical therapy, University of Lahore, Islamabad
Email: atayyaba560@gmail.com

ABSTRACT

Background: Postmenopausal women experience a lot of health problems, often which musculoskeletal issues being very common. The drop in estrogen levels after menopause can bring on some problems like weaker muscles, bone loss, and weight gain affecting mental and physical health that leads to restrictions in daily life activities.

Objective: The objective of this study was to find out the prevalence of musculoskeletal complains among postmenopausal women in twin cities.

Methodology: This cross-sectional study was conducted in Rawalpindi and Islamabad, including housewives and OPD patients. A total of 370 postmenopausal women participated. Data on pain patterns were collected using the Nordic questionnaire. Data was analyzed using SPSS version26.

Result: Most participants were aged 50-60 years. The most common pain areas over the past year were the lower back (54.3%), knees (52.7%), and upper back (34.9%). In the past 7 days, knee (48.0%) and lower back pain (47.0%) were most frequent. Lower back pain limited daily activities the most (50%), followed by knee pain (44.6%). Many women sought treatment for these pains, particularly for the lower back and knees (36%).

Conclusion: Musculoskeletal pain, particularly in the lower back and knees, is far and wide among postmenopausal ladies. It influences day to day existence and leads numerous to look for clinical assistance. Further research is needed to improve treatment options.

Introduction:

Musculoskeletal complains are caused by musculoskeletal diseases which are a broad category of illness affecting numerous body areas such as neck, back, upper limb and lower limb [1]. Musculoskeletal disorders refer to more than 150 different diseases/conditions of the system caused by disabilities within the muscles, bones, joints and their connective tissues which may limit a person's ability to function or participate in activities permanently or for a short period of time. Musculoskeletal disorders are usually associated with pain (usually chronic) and decreased range of motions and dexterity which restricts the affected people's productivity and participation in society [2].

Musculoskeletal pain arising from musculoskeletal disorders is common in the general population, with a prevalence of 74.5% for the past 12 months, 44.4% for more than three months, and a prevalence of 44% for low back pain, 31% for neck pain, 30% for shoulder pain, and 18% for wrist and elbow pain [3]. The Most of these diseases increase in frequency and severity with age according to the standardized Nordic questionnaire, and that lifestyle variables like obesity and inactivity have a negative impact on the frequency and severity of these conditions. 40% of chronic diseases and 54% of long-term conditions were caused by musculoskeletal disorders of all days with restricted activities and 24% of all long-term disabilities [4].

Post-menopause is a term used for the period that comes after menopause has occurred [3]. The regard in menopausal problems has expand in recent years due to the enlargement of human life cycle. Women are go through more than one third of their survival in menopausal period [5]. Sexual complaints and problems in women are frequent during the entire reproductive life cycle but menopausal women may be more at risk to female sexual dysfunction as of a complex interplay of individual aspect variably affecting wellbeing including endocrine convert [6].

Women who are postmenopausal undergo physiological or musculoskeletal factors influencing advancement of age such as muscle loss, muscular weakness, and symptoms of osteoporosis which are related to lower levels of hormones, particularly estrogen. The deficiency of estrogen that's caused by turning into menopause has many effects marked by alteration in resting metabolic rate, decrease in energy expenditure, increase in fat deposits and fat depots in the abdomen [4]. Urogenital symptoms are one of the familiar symptoms of menopause. These symptoms involve vaginal dryness, itching, dyspareunia and urinary incontinence [7]. Musculoskeletal complaints are recurrent and have large reactions for public health [8]. With enlarge age, quality and quantity of sleep disturbance become more frequently in menopausal women. Studies reveal a prevalence of sleep disturbance at about 50%. So one of the vital symptom of menopausal change is sleep disturbance . In postmenopausal women elevated BMI and abdominal fatness are sources of sleep disturbances. [9]

Numerous studies have aimed to estimate the prevalence and patterns of musculoskeletal pain in postmenopausal women. For example, cross-sectional study conducted at Jinnah Hospital, by Kiran et al. 2021, enrolled 250 postmenopausal women with central or overall obesity through non-probability convenience sampling technique. Data were collected through Nordic musculoskeletal pain questionnaire and then analyzed using SPSS. Pain Location The locations of pain reported over the last 12 months and the last seven days indicate that low back and knee pain was the most commonly reported location. Shoulder and neck pain were commonly reported over the last 12 months but not in the last seven days.

Overall quality of life of the participants was impaired, especially with relation to the back and knees. [10].

According to Ogwumike et al. (2016), who did a study in Hong Kong, the greatest prevalence rates of musculoskeletal pain (MSP) were located in the lower extremity (189; 61.0%) and in the back (164; 52.9%). Lower extremity symptoms showed a significant relationship with the various BMI categories ($p < 0.05$) while waist-hip ratio and waist circumference categories showed a relationship with back and lower extremity symptoms respectively ($p < 0.05$). Women who were in the post-menopausal stage had higher odds in reporting musculoskeletal pain (MSP) at different BMI class levels. Hip to waist ratio stood out the most with back pain (odds ratio = 1.70, 95% confidence interval 1.07 – 2.75) and lower extremity pain (odds ratio = 2.33, 95% confidence interval 1.44 – 3.78) [11].

Similarly, Shrestha et al. in 2018 conducted a cross sectional study among 134 women aged 40 to 60 years using a semi-structured questionnaire adapted from the Nordic Musculoskeletal questionnaire. The most prevalent complaints among the respondents were low back pain (39%), knee pain (22%), neck pain (16%), and shoulder pain (9%). The pattern is also the same when considering postmenopausal women, and includes 37.7% complaining of low back pain, 24.6% knee pain, 14.8% neck pain and 11.5% shoulder pain. These were all complaints that were diagnosed as being due to spondylosis for low and neck pain, osteoarthritis for knee pain and frozen shoulder for shoulder pain. The relation was observed with the risk of osteoporosis, exercise status but not with menopausal status. Obesity increased the risks of shoulder and knee pain, and greater severity was related to comorbid conditions, menopausal status, and mood depression. [12]

Although international studies have been conducted on this topic, there is limited national data, highlighting the need for further research. This study aims to raise awareness about musculoskeletal issues in postmenopausal women, as many are unaware of the symptoms, leading to delayed intervention and treatment. Addressing this gap can enhance knowledge and encourage better health practices among postmenopausal women.

Materials and Methods

This study is a descriptive cross-sectional survey conducted to evaluate musculoskeletal complaints among postmenopausal women. The target population includes women living in Rawalpindi and Islamabad, including housewives and patients that visit general OPDs. This study period was six months after the approval of the synopsis. A total of 377 participants were selected using a non-probability convenience sampling technique, calculated using Rao soft software. The inclusion criteria for the study consist of women aged 40 to 60 years who have experienced menopause for more than one year and are willing to participate [13]. Women with any pre-existing neurological, metabolic, or musculoskeletal conditions before menopause, cancer diagnoses, psychiatric disorders, hysterectomy, or PCOS were excluded from the study. Data collection was accomplished through interviews using a self-structured questionnaire and the Nordic Musculoskeletal Questionnaire (NMQ). Musculoskeletal disorders act for a common reason for the general population to look care from health services. Standardized questionnaires are one of the globally accepted methods for gathering and analysis of relevant data [14]. Nordic musculoskeletal questionnaire can obey as reasonable instrument for finding and assessment of musculoskeletal risks in postmenopausal women [15]. The self-structured questionnaire was used to gather information on demographic details such as name, age,

ethnicity, marital status, educational background, age of menopause, and health-related information, including the presence of neurological, metabolic, musculoskeletal, or psychiatric conditions, history of hysterectomy, PCOS, medication usage, smoking, and alcohol consumption. The NMQ, developed by Kuorinka et al., assessed musculoskeletal complaints over the past seven days and twelve months. This tool has a test-retest reliability of 0.8, sensitivity ranging between 66% and 92%, and specificity between 71% and 88% [16]. This tool assesses musculoskeletal pain and activity deterrence in 9 body parts [17]. The data collected were analyzed using IBM SPSS Statistics Version 26. Descriptive statistics were applied, and results were presented in graphs and tables. Ethical approval for the study was obtained from the Institutional Review Committee (IRC) and the Ethical Review Board (ERB) of the University of Lahore, Islamabad Campus. Permission was also taken from the Head of the Department of the University Institute of Physical Therapy. Informed consent was obtained from all participants, and their involvement was entirely voluntary. All collected information was kept confidential and stored securely, ensuring accurate and ethical data collection practices.

Results:

In our cross-sectional study we approached a total of 377 participants, out of which 7 participants were not fulfilling the eligibility criteria because 3 were having metabolic disease, and 4 had underwent hysterectomy. Out of included ,370 participants have postmenopausal musculoskeletal complaints.
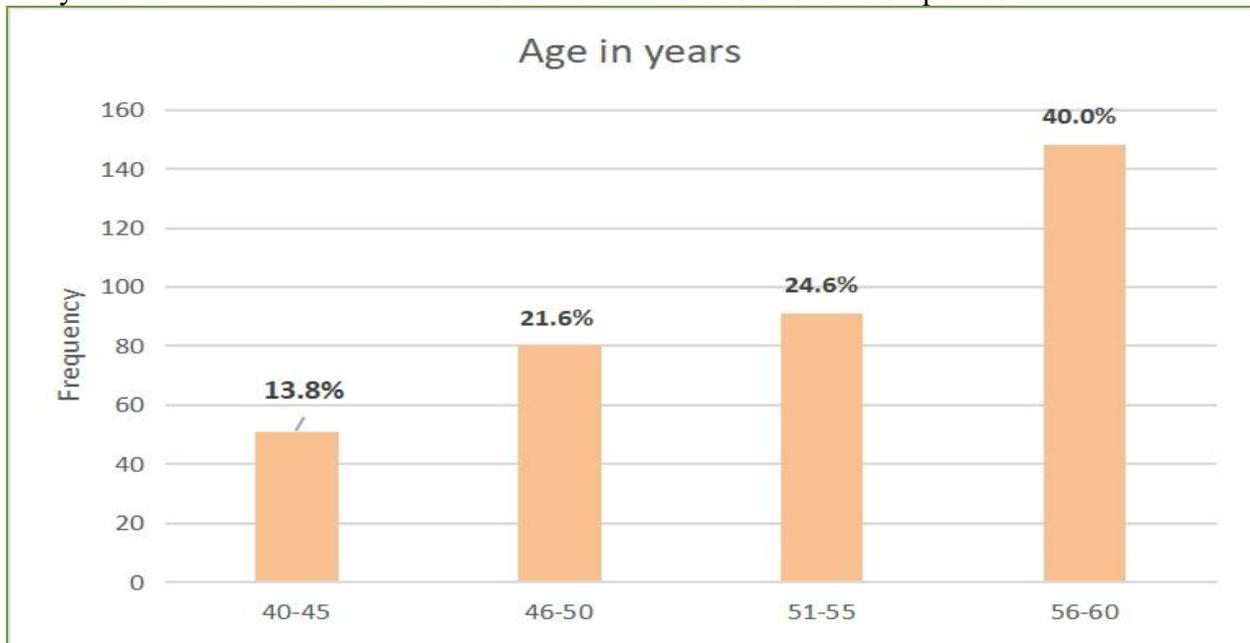
Figure 1 Shows frequency distribution of age

Out of data obtained, 369(99.7%) of the postmenopausal women were married and 1(0.3%) of the women were unmarried.
Among 370 respondents, a vast majority were Housewives 359(97.0%). Teachers represent a small portion of the sample 4(1.1%), The category of others represents different occupations which was 7(1.9%).
The study shows that, a large proportion 280(75.7%) of postmenopausal women were illiterate. Only a small percentage of participants have completed primary 63(17%),

secondary 13(3.5%), or higher secondary 14(3.8%) levels of education.

Table 1 represents Age of menopause

Variable	Mean	SD Deviation
Age of menopause	53.5730	5.74

Table 2 represents Musculoskeletal complaints among postmenopausal women

Body Regions	Past Week (Freq., %)	Last 12 Months (Freq., %)	Activities Prevented (Freq., %)	Physician Visit (Freq., %)
Neck	44(11.9%)	49(13.2%)	39(10.5%)	32(8.6%)
Shoulder	87(23.5%)	91(24.6%)	75(20.3%)	64(17.3%)
Upper back	110(29.7%)	129(34.9%)	99(26.8%)	86(23.2%)
Elbows	41(11.1%)	40(10.8%)	34(9.2%)	29(7.8%)
Wrists/Hands	47(12.7%)	45(12.2%)	37(10.0%)	29(7.8%)
Lower back	174(47.0%)	201(54.3%)	185(50.0%)	135(36.5%)
Hips/Thighs	92(24.9%)	97(26.2%)	88(23.8%)	71(19.2%)
Knees	178(48.1%)	195(52.7%)	165(44.6%)	136(36.8%)
Ankles/ Feet	84(22.7%)	71(19.2%)	62(16.8%)	45(12.2%)

The musculoskeletal complaints among postmenopausal women, as detailed in Table 2 showed various prevalence of different issues among body regions.

The region wise musculoskeletal pain during the last 7 days', showed that maximum number of postmenopausal women had pain in knees 178(48.0%) and then in lower back 174(47.0%) and upper back 110(29.7%) making knee region more dominant. During the last 12 months showed that maximum number of postmenopausal women had lower back pain 201(54.3%) followed by knee pain 195(52.7%) and upper back pain 129(34.9%).

There was a great impact of musculoskeletal complaints on the daily activities. The region wise analysis showed that the maximum reported activities prevented during the last 12 months among the participants were due to the lower back 185(50%) and then knee pain 165(44.6%). 50% of participants reported that activities were prevented due to lower back pain making it susceptible for need for medical attention.

The body region with the highest percentage of participants visiting a physician for musculoskeletal complaints during the last 12 months were the lower 136(36.5%) and then knee pain 136(36.8%).

These results highlight the physical challenges faced by postmenopausal women due to musculoskeletal pain majorly affecting the low back and knee region that also prevents their daily life activities and emphasizing on medical attention.

Discussion: Our research concluded that musculoskeletal pain was familiar among post-menopausal women in the twin cities of Pakistan, affecting various parts of the body. In our study most of the contributors were in the age group 56-60 years. Meanwhile a study conducted in Nigeria showed that the bulk of women who participate in their study were of age group 50 to 60 years which is in some

way similar to age of our study (Ogwumike et al., 2016). Compared to another study done in India by Shweta Kulkarni, reveal that maximum number of postmenopausal women, participated in their study were in the age group of 50-59 years (Kulkarni et al., 2020).The mean age of menopause in our study was 53 years with 5.74 SD, when compared to Shweta Kulkarni's study , the mean age of menopause was 46yrs, which is in contrast to our study. In western and Arab countries, it was 48 and 50 yrs.' Accordingly which was somehow similar to our study (Kulkarni et al., 2020). Another study done in Dhaka Bangladesh, the mean age of participants was 49.49± 6.02, which is lower than the age of menopause in our studies (Shrestha, 2018).In terms of educational background, our study showed that (73.7%), of women were functionally illiterate, when compared to study done by Radhika in Bangladesh, most of women were illiterate (30%), (Shrestha, 2018). Omoyemi O. Ogwumike study in Hong Kong manifest that most of the participants were educated (81.6%), (Ogwumike et al., 2016).[11]

As Regarding occupational status, our study disclose that (97.0%), of the women were housewives, with only a few working as teachers (1.1%), or in other roles such as farmer, stitching, or household assistance (1.9%). When compared to Radhika's study, most of the interviewee were housewife (89%). Followed by other occupations (8%), of them were farmer (2%) and teacher (1%) and retired officers which was similar to our research(Shrestha, 2018). In Shweta Kulkarni, inquiry show in India, most of the women were housewives (56%), and working women (44%), which shows that both in our research and in her study bulk of women were housewives (Kulkarni et al., 2020).[12]

By Using the Nordic tool to assess pain, our study found that for 12 months, the most common parts reported were low back pain (54.3%), knee pain (52.7%), and upper back pain (34.9%). A past study done in Pakistan showed that most of women had lower back pain (84%), knee pain (75%), and upper back pain (61%) over the past 12 months (Kiran et al., 2021). Shewata Kulkarni study reveal that during 12 months' topmost number of postmenopausal women had pain in the low back (57%) and knee (72%) (Kulkarni et al., 2020).

In our study, during the last 7 days, women were reported with lower back pain (47.0%) and with knee pain (48.0%). Meanwhile in India, most women were complain with low back pain (57%) and knee pain as (72%) (Kulkarni et al.,2020). In Bangladesh, during 7 days most of ladies were reported with low back pain (39%) and knee pain (22.3%) (Shrestha, 2018).

Furthermore, this study has some limitations as sample size in the study was small so the result of the study could not be generalized, Future studies should consider large sample size including other regions of Pakistan. Moreover, musculoskeletal pain was only assessed; the severity of musculoskeletal pain was not assessed, which can be address in future. Some females were hesitating to talk about menopause. Studies on awareness could also be done as that can minimize the severity and progression of musculoskeletal pain timely. A comparative study of musculoskeletal pain in pre and post menopause women can also be conducted in future.

Conclusion

This study concluded that musculoskeletal complains was common among postmenopausal women, particularly in the lower back and knee region.

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