Original Article

Psychosocial issues and quality of life of women with post-menopausal osteoporosis

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Objective: To determine the relationship between psychosocial stressors and quality of life in females with post-menopausal osteoporosis.

Methodology: A total of 100 females with age from 50-63 years (Mean 56.13±3.16) were selected from two government hospitals and one private clinic through purposive sampling strategy. The patients were given Psychosocial Stressor Scale for female with Post-Menopausal Osteoporosis World Health Organization Quality of Life brief questionnaire along with a demographic performa.

Results: There was a negative relation between psychosocial stressors and quality of life in female with post-menopausal osteoporosis. Psychosocial stressors like lack of self-regulation and lack of social support negatively predicted different dimensions of Quality of life physical, social, psychological, and environmental.

Conclusion: It is important to identify psychosocial problems of females with post-menopausal osteoporosis. Early identification will help providing counselling services and to work in collaboration with mental health practitioners, and medical professionals to provide comprehensive treatment plan keeping in mind bio psycho social model. Rawal Med J 201;43:272-275).

Key words: Post-menopausal osteoporosis, quality of life, psycho social stressors.

INTRODUCTION

Health psychology is one of the most recently emerged and fast growing field. The core belief of health psychologists is that chronic illness could be caused by the multitude of factors, moving away from simple linear model of health and provides bio psychosocial explanation of human behavior. According to *Bio Psycho Social Model*, chronic illness is an interaction between biological factors (genetics), psychological factors (beliefs, attitude) and social factors (life style, familial stress).[1] This model does not solely acknowledge the role of biological factors, interplay of psychological and social factors that exacerbate the physical health condition.[2] Common chronic illnesses include arthritis, asthma, cancer and osteoporosis.[3] Among the chronic diseases, osteoporosis has become a major health issue as it effects 200 million women worldwide.[4]

The term Osteoporosis, literal meaning *porus bone*, is defined as a disease making bones fragile and reducing quality of the bones, leading towards breaking of bones. It increases the risk of fractures and difficulty in performing every day activities.[5] The risk factors for developing osteoporosis are old age, declining bone structure, medicines, toxin agents, genetic factors/family history,[6] poor nutrition, hyperthyroidism, amenorrhea in young women and low level of estrogen.[7]

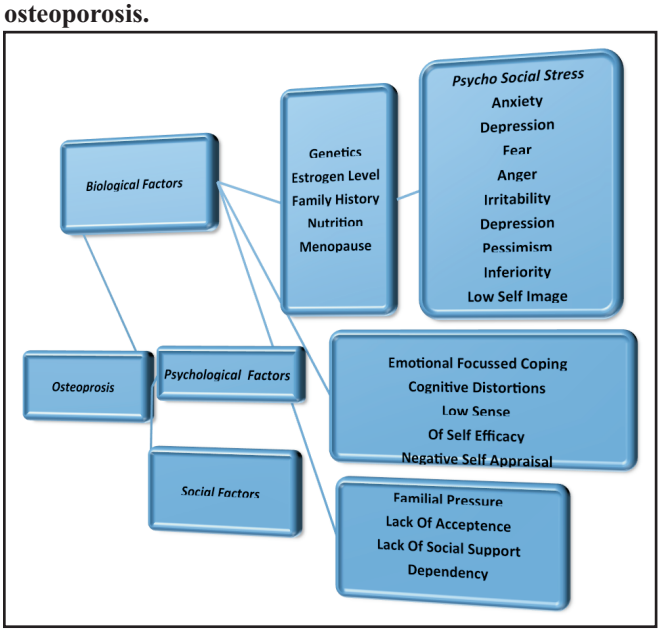
Different factors have debilitating effects on individual causing low mood, low self- esteem, and fracture fear of falling, making people reluctant to move.[8]

Postmenopausal osteoporosis (PMO) is defined as "a (silent) skeletal disorder characterized by compromised bone predisposing to an increased risk of fracture. During menopause, due to reduction in estrogen levels, rate of bone loss increases that leads to osteoporosis.[9] It reduces physical functioning, immobility, problem in maintaining social relations.[10] Females start to feel isolated, anger, irritability, helpless, loss of independence and apprehensive about future.

Quality of life is multidimensional construct including four dimensions of physical, financial, social, and psychological (Fig.). It deteriorates individual's physical and social domains of life.[12] If we look at picture in Pakistan, population is

increasing day by day the prevalence of osteoporosis and osteopenia is16% and 34%, respectively.[13] In the North West Frontier Province, 29%, 42% and 75% were at risk for developing osteoporosis.[14] In Pakistan, people had to face different challenges; limited epidemiological data, lack of awareness about osteoporosis among the public, lack of number of diagnostic tools, ultra sound machines are mostly available in big cities, and costly treatments facilities. Secondly, in collectivistic culture the women have an extended social role which includes maintaining social relations, upbringing of children, care of family and home. Having difficulties in performing daily activities and social roles due to osteoporosis make them worried, depressed, angry and has great impact with relations with others. [15]

Fig. Bio psychosocial model of psychosocial stressors of osteoporosis.



Most epidemiological research has done on osteoporosis and its psychosocial impact is mostly ignored in Pakistan. The aim of this study was to determine the relationship between psychosocial stressors and quality of life in females with PMO.

METHODOLOGY

This cross sectional study was in two government hospitals orthopedic departments and one private clinic of Lahore, Pakistan. Purposive sampling strategy was used to collect data from female with PMO. A total of 100 diagnosed females suffering from PMO, married women with the age range of 50-63(Mean 56.13±3.16). Women suffering from osteoporotic fractures (hip, wrist, vertebrae) were included in the sample. Women having any other medical condition were excluded from the sample.

Study was carried out after obtaining informed consent from government and private clinics and the participants.

An indigenous scale was developed for measuring psychosocial issues of women with PMO.[16] The scale consisted of 34 items with two factors. Factor 1 was named as *Lack of Self- Regulation* and Factor 2 was named as *Lack of Social Support. Four point rating scale was used i.e. 0= "Not at all", 1=Rarely", 2="Sometimes", 3="Often*". Cronbach alpha of factor 1 is .93, factor 2 is .82 and factor total's Cronbach alpha is .87 the scale has high internal consistency. Test re test reliability was .84.

The self -administered scale WHO QOL-BRIEF, translated in Urdu was used.[17] It consisted of four factors i.e. physical health (7 items), psychological (6 items), social relationship (3 items) and environment (8 items). It consisted of 26 items. Overall internal consistency of the scale in the present study was $a = .94$ that was highly reliable.

Women were given indigenous scale, demographic form and WHOQOL-BRIEF. It took 30 minutes to complete the test. After completion of each form, the participant were thanked and asked about ambiguities in the procedure, statement or language. 10% of the data was checked for its accuracy. Information about participant's age, marital status, income, type of fracture, duration of illness and treatment were noted.

Data were analyzed through SPSS version 21. Hierarchical regression analysis was used to find out the predictors duration of problem (osteoporosis) Lack of Self Regulation and Lack of Social Support were found to be the negative predictors of lesser quality of life.

RESULTS

Age of participants ranged from 49-55 and 56-63 in 44% and 56%, respectively. The frequency of hip, wrist, vertebrae fracture, body aches and pains was

10%, 12%, 4% and 73%. Duration of problem was less than 5 years, less than 10 years and above 10 years is 29%, 51% and 20%. Duration of treatment was less than five years and less than 10 years is 58% and 42% (Table 1).

Table 1. Demographic Characteristics of Participants (N=100).

Demographics	Number	%
Participants 's Age		
49-55	44	44
56-63	56	56
Problems due to osteoporosis		
Hip fracture	10	10
Wrist fracture	12	12
Vertebrae fracture	4	4
Body pains	73	73
Duration of problem started		
Less than 5 years	29	29
Less than 10 years	51	51
10 years and above	20	20
Duration of treatment		
Less than 5 years	58	58
Less than 10 years	42	39

Table 2. Inter factor correlations of the Two factors of PSWO Scale & Four Factors of WHO QOL- Brief Scale

FACTORS	PSWOT	PSWO1	PSWO2	WHO1	WHO2	WHO3	WHO4	WHOT
PSWOT	-------	.98***	.86***	-.78***	-.77***	-.55***	-.66***	-.83***
PSWO1	----	----	.73***	-.72***	-.74***	-.56***	-.67***	-.80***
PSWO2	-----	------	-----	-.76 ***	-.70***	-.44***	-.51***	-.7.2***
WHO1	------	------	------	-------	.80***	.67***	.58***	.89***
WHO2	-----	------	-------	-------	------	.66***	.62***	.90***
WHO3	-----	------	-------	-------	------	-----	.57***	.79***
WHO4	-----	------	-------	-------	------	-----	------	.84***
WHOT	-----	------	-------	-------	------	-----	------	-------
M	69.42	45.45	23.97	16.83	16.46	8.69	21.95	64.13
SD	15.65	11.61	5.00	4.52	4.18	2.48	4.93	14.02

_F3=Social relationships, WHOQOL- Brief_F4= Environmental and WHOQOL- Brief _FT= Factor total; *df* =99, **p<0.05, **p< 0.01, ***p<0.001,*

Note. PSWO_F1= lack of self- regulation, Pswo_F2=lack of social support-, PSWO_FT= Factor total; WHOQOL- Brief _F1= Physical, WHOQOL- Brief _F2 = Psychological, WHOQOL- Brief

Table 3. Hierarchical regression analysis of predictors of psychosocial issues of women with PMO (PSWO) Scale (N=100).

Model	*SEB*	β	*t*	*p*<
Step 1(R=.32,△ R^2=.09)				
Age	3.90	-.06	-.43	.671(ns)
Monthly income	1.11	.014	.14	.890(ns)
Problem due to osteoporosis	1.22	.06	.59	.560(ns)
Duration of problem	3.20	-.35	-2.20	.030*
Duration of treatment	3.54	.22	1.55	.125(ns)
Step 2 (R=.83, △R^2=.69)				
Lack of Self -Regulation	.11	-.63	-6.59	.001***
Lack of Social Support	.25	-.29	-3.15	.002***

Note. Only significant results are presented in Step I and Step II.

Note. Step I, F (5, 89) =1.963, Step II, F (2, 87) = 82.246, ***p<0.001, **p < 0.01, *p< 0.05,

There was a negative relationship between psychosocial stressors lack of self- regulation and lack of social support with physical, social, psychological and environment related Quality of Life. Higher the psychosocial stressor lower the quality of life (Table 2). In step I, duration of osteoporosis was a significant predictor of lesser quality of life. In step II, lack of Self Regulation and Lack of Social Support were found to be the negative predictors of lesser quality of life (Table 3).

DISCUSSION

As the average age expectancy is increasing, people are suffering from chronic health problems due to aging. An upsurge interest in health psychology drew the attention of research to understand the psychosocial problems experienced due to chronic illness.[7]

Despite the extensive importance of impact of osteoporosis, little research has done in this area in Pakistan.[13] The results of our study showed that there was a significant negative relationship between factors of psychosocial issues due to osteoporosis lack of self- regulation and lack of social support with quality of life. Similarly, the results of hierarchical regression analysis revealed that psychosocial stressors are the negative predictors of quality of life in females with osteoporosis.

Although osteoporosis is biological in nature, it had

devastating effects on psychological health and social life, causing anger, irritability, low self-esteem, social isolation, and dependency on other for performing everyday life chores, fear, and immobility.[8] Quality of life is multidimensional construct effecting physical, financial, social, and psychological, deteriorating individual's physical and social domains of life.[17]

The plausible explanation of the psychosocial stressors is given by bio psychosocial model. Females are biologically inclined to reproduce, survival of species, nurturance of the family, losing their biological role causes stress in them.

Psychologically, PMO creates negative thoughts and view of one self. Socially, living in a collectivistic culture social support is necessity. Lack of social support from the family, fulfilling social responsibilities all these factors are the source of distress. Female tend to be helpless and dependent on others.[9] In Pakistan, people had to face different challenges like lack of awareness about osteoporosis among the public and lack of number of diagnostic tools.[15]

CONCLUSION

Despite the presence of psychosocial issues, medical practitioners focus on relief of physical symptoms and ignore psychological, emotional and social problems. If social support is given it could improve the functioning of the females and improving their quality of life.

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Conflict of Interest: None declared
Rec. Date: Jul 27, 2017 Revision Rec. Date: Jan 9, 2018 Accept Date: Feb 8, 2018

REFERENCES

1. Susan MC, Lynda HP, Nancy A, Sylvie NK, Kim DR, Hunter CM, et al. Health Psychology from Ideas to Efficacy: The ORBIT Model for Developing Behavioral Treatments for Chronic Diseases and for the Obesity Related Behavioral Intervention Trials (ORBIT) Consortium, 2015. Retrieved fromhttp://dx.doi.org/10.1037/hea0000161.
2. Sondik EJ, Huang DT, Klein RJ, Satcher D. Progress toward the healthy people 2010 goals and objectives. Annual Rev Public Health 2010;31:271-81.
3. Mithal A Ebeling P. The Asia-pacific regional audit: Epidemiology, costs & burden of osteoporosis in 2013. Retrieved from http:/ / www .iof bone health. org/ sites/default/ files/media/PDFs/Regional%20 Audits;2013.
4. Chronic Diseases. World health organization. Retrieved from http:// www. who. int/ topics/en/;2015.
5. Wan C, Chiu CY, Tam KP, Lee S L, Lau, I Y, Peng S. Perceived cultural importance and actual self-importance of values in cultural identification. J Personality Social Psychol 2007;92:33754.
6. Osteoporosis. In wikipedia the free encyclopedia. Retrieved from https ://en. wikipedia .org/wiki/ Osteoporosis; 2015.
7. Osteoporosis. International Osteoporosis Foundation. Retrieved from http:/ /www.iof bone health.org/what-is-osteoporosis; 2014.
8. Palacios S, Neyro JL, Chaves J, Rejas J. Impact of osteoporosis and bone fracture on health-related quality of life in postmenopausal women. Climacteric 2014;17:201-4.
9. Silverman SL. Quality-of-life issues in osteoporosis. Curr Rheumatol Rep 2005;7:39-45.
10. Kanis JA, Johansson H, Oden A, Johnell O, de Laet C, Melton III LJ, et al. Meta analysis of prior corticosteroid use and fracture risk. J Bone Mineral Res 2004;19:893-9.
11. Ogden J. Health Psychology: A Textbook. Buckingham: Open University Press; 2004.
12. Stroebe W. Social Psychology and Health. Buckingham: Open University Press; 2000.
13. Sultan A, Khan D A, Mushtaq M, Hassan MU. Frequency of osteoporosis and its associated risk factors in postmenopausal women in clinical practice at Rawalpindi. Pak J Pathol 2006;17:115-9.
14. Habiba U, Ahmed S, Hassan L. Predisposition to osteoporosis in postmenopausal women. J Coll Physicians Surg Pak 2002;12:297-301.
15. Chowdhury, B. A critical review of Psychological aspects of osteoporosis in elderly women. Indian J Basic Appl Med Res 2014;3:344-9.
16. Ali F, Naeem F. Psycho social stressors and quality of life in female with post -menopausal osteoporosis (un published dissertation). University of Management and Technology, Lahore 2015.
17. Khan M NS, Akhter MS, Ayub M Laghari, NU. Translation and validation of Quality of life scale, the brief version. J Coll Physicians Surg Pak 2003;13: 98-100.