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Level of Mental Stress of Postmenopausal Women

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Abstract

Objectives: *To assess the level of mental stress of postmenopausal women.*

Materials and methods: *A cross-sectional study was conducted to assess the level of mental stress of postmenopausal women. Among 213 postmenopausal women in selected areas of Bogra. Data was collected by semi-structured questionnaire after taking written consent. Mental stress of postmenopausal women was measured by Perceived Stress Scale. Data processing and analysis was done using SPSS (Statistical Package for Social Sciences) version 20. The test statistics was used to analyze the data is descriptive statistics and inferential statistic according to the demand of the study with 95% confidence interval. Level of significance was set at 0.05.*

Place and period of study: *The study was conducted at Bogra Sadar, Bogra. The period of study was from January 2017 to December 2017.*

Results: *Among 213 respondents 66.2% are in the age group 45-50 years with the mean age of 50.16 years and SD of ± 3.725 years are from nuclear family and 56.3% had only primary educational background and 42.7% respondent's monthly family income is in between 0-10000 TK. Most of the respondents 73.2% are moderately stressed, 24.4% are highly stressed and only 2.3% are low stressed. Mental stress is associated with education (P=0.004) and monthly family income (P= 0.031) but not associated with age, marital status, type of family, occupation after menopause (p=>0.05).*

Conclusion: *Mental stress present among most of the post-menopausal women irrespective of their age, education, occupation, monthly income of their family.*

Keywords: *Mental stress, postmenopausal women.*

Introduction

Human menopause is defined as menstrual cycle cessation and usually is recognized one year after the final menses (Col et al., 2009). According to World Health organization (WHO) menopause is the time of woman's life when reproductive capacity ceases due to inhibition of ovarian function and production of steroid and peptide hormone (World Health Organization, 1996). Menopause usually occurs on average between the ages of 50 and 51 and literally refers to a woman's last menstrual period, however age 40 is used as an arbitrary cut-off point for natural menopause (World Health Organization, 1996).

Mental health was considered as an important aspect of women's health and exposed to great stresses because of a particular social situation in the family and community (Heidari et al., 2015). Lim et al., stated that stress could lead to the emergence and exacerbation of mental and physical symptoms such as depression and anxiety during the menopause (Lim, 2013). Additionally, self-concept is called as one of the psychological factors affecting women. According to that study self-concept is defined as overall assessment of person from his or her character. Sexual selfhood is one of the subjects that had been put at the focal attention of researchers in recent decades. These terms included as sexual individuality and sexual self-schema, sexual subjecting and sexual self-perception (Esmail et al., 2010).

Mood changes associated with menopause-might result from a wide range of variables, including elevated sensitivity to environmental events secondary to decreased hormonal levels, changes in socioeconomic and/or marital status, culture, lifestyle factors, level of education, and history of depressive symptoms (Amore et al., 2004). Results from the prospective population-

based Melbourne Women's Midlife Health Project, indicated that depression scores were highest for women who were in the menopause transition stage (i.e., had not reached their final menstrual period) or who had experienced surgical menopause. Dennerstein et al stated that current use of HT was associated with less severe depressive symptoms (Dennerstein et al., 2004). A study demonstrated the significant benefit of short-term HT in perimenopausal women with depression (Cohen et al., 2003). Shepherd suggested that there are important dissimilarities between mood variability and major depression. Memory impairment is directly related to hot flushes in women who have undergone oophorectomy, but natural menopause itself does not necessarily result in significant cognitive dysfunction.

During a hot flush, blood flow decreases in the hippocampus, possibly impairing memory and cognition (Shepherd, 2001). It has been suggested that such reductions in blood flow may contribute to the decreased mental clarity and short-term verbal memory problems experienced by many perimenopausal and postmenopausal women (Shepherd, 2001). Jacobs and colleagues demonstrated cognitive test scores and verbal memory were superior in the women who received HT compared with those who did not (Jacobs et al., 1998).

Menopause is the cessation of a women´s reproductive ability, the opposite of menarche and it is usually a natural change. A woman´s earlier health status, reproductive pattern and environmental factors largely determine her health status during menopausal time. In Bangladesh there is no national and epidemiological record regarding menopausal women but different data shows that the rate of increasing the number of post-menopausal women is substantially faster in developing worlds then in the industrialized world. At present in our country life expectancy of women is about 72 years 9 months. So total number of menopausal women increasing with increase of life expectancy.

Among the population almost 50% are women. Women play multiple important roles in society. Women serve a lot to their family and society. But after menopause women facing different range of severity of physical problem as well as mental problem which may have direct impact on their family life and profession. The menopause transition is accompanied by physiological and psychological difficulties as well as mental stress. Women require sufficient information about their experiences and also alternative coping strategies beside hormone therapy to deal with these difficulties. Nonetheless, very little is known about menopause and its complications in our part of the world.

Materials and methods

The research has been undertaken with the objective to assess the level of mental stress among postmenopausal women. A cross-sectional descriptive study was carried out to assess the mental stress among post-menopausal women. To assess the mental stress among post-menopausal women, it was necessary to interact with post-menopausal women through a question answer session. As it is one-time question answer session, within a short period of time, the study demanded cross sectional study. Population comprises of postmenopausal women at selected area at Bogra District with some inclusion (The women whose age group between 45yrs-60yrs and were in menopause for more than one year was taken as the study participant) and exclusion criteria (The women who had attained menopause surgically, the women who were severely ill, physically and/or mentally**,** Menopausal women who were not willing to participate in the study). Total study period was one year from 1st January 2017 to 31st December 2017. The study focused on post-menopausal women of selected area of Bogra district, Rajshahi Division. The estimated final sample size was 213.

Households were selected by convenient sampling. Participants were selected in the community by knocking at the door and collecting the information about the availability of post-menopausal women. If more than two post-menopausal women were present youngest one was selected. Pre testing was done before data collection. Data were collected by face-to-face interview, of post-menopausal women using semi structured questionnaire constructed by Perceived Stress scale and Questionnaire developed by researcher of MUCG, scored on 4-point Likert scale. Interview was taken at home of the participant ensuring the privacy and confidentiality as far as possible. Before the interview, the detail of the study was explained to

each eligible respondent and written informed consent was taken.

Perceived stress scale

It is a classic stress assessment instrument. The tool, while originally developed in 1983. Perceived stress scale is created by Sheldon Cohen. The questions in this scale were about feelings and thoughts during the last month. In each case, were asked to indicate by circling how often they felt or thought a certain way. Total Number of questions was 10. First, reverse the scores for questions 4, 5, 7, and 8. On these 4 questions, change the scores like this: 0 = 4, 1 = 3, 2 = 2, 3 = 1, 4= 0.

Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress. Scores ranging from 0-13 were considered low stress. Scores ranging from 14-26 were considered moderate stress. Scores ranging from 27-40 were considered high perceived stress. So far, the scale has been translated in many languages such as Arabic, Swedish, Spanish, Chinese, Japanese, Turkish and Bengali. Very few studies have examined the psychometric properties of the PSS in general population by confirmatory factor analysis (CFA), which is considered as a valid approach to support the construct validity of the PSS. Validity (alpha value) for PSS-10 is 0.82 (Eleni et al., 2011).

After completion of data collection, each question was checked for completeness. Data were entered into computer using SPSS version 20. After frequency run data were cleaned and after thorough cleaning and editing of data, an analysis plan was structured in relevance to study objectives. Distribution was checked for normality. Construction of new variables and recoding of some variables were done.

Data analysis began with descriptive analysis. Means and standard deviations were calculated for continuous variables while frequencies and percentages were calculated for categorical variables, simultaneously to see the relationship and statistical significance Chi-Square test, ANOVA test and Pearson product-moment correlation test done. In order to find out association between two or more variables Chi-Square test and Fisher's exact test were performed to see the statistical significance. Graphical software was used for creation of charts by using Microsoft Excel.

Result

Socio-demographic characteristic of the respondents

This is a cross sectional study which was carried out among 213 post-menopausal women of selected area of Bogra district. Data were collected by face to face interview by using following instruments

Demographic data

Semi structured questionnaire will be used for demographic data.

Mental stress

Mental stress assesses by using Perceived Stress Scale

Table 1 showing distribution of respondents according to age. Most of respondents i.e. 141 (66.2%) belonged to age group 45-50 years, 63 (29.6%) were age group 51-55 and only 9 (4.2%) were in the age group 55-60 years. Maximum age of the respondents was 60 year and minimum age of respondents was 45 year. Mean age of respondents was 50.16 and SD (±3.725) years. Out of 213 respondents 154 (72.3%) were Muslim and 59 (27.7%) were Hindu.

Among 213 respondents 120 (56.3%) were primarily educated, 64 (30%) were illiterate. The rest of the respondents 29 (13.6%) were Secondary or above level of education. Among the 213 respondents 198 (93%) were married, 4 (1.9%) were divorced and 11 (5.2%) were widow. Among the 213, majority of respondents 175 (82.2%) were housewives and rest of the respondents 38(17.8%) were service holder. Among 213 respondents 150 (70.4%) were from nuclear family and 63 (29.6%) from joint family. More than half of respondents 117 (54.9%) were live in pacca house, 58 (27.2%) in semi pacca and rest of respondents 38 (17.8%) live in kaccha house. According to the income of family of post-menopausal women where monthly family income was ranged up to > 30000 & it was found that 91(42.7%) family were in the income group 0-10000 TK& 76 (35.7%) family were in the income group of 11000-29000 TK and only 46 (21.6%) family were in the income group >30000 Tk.

Distribution of respondents according to age of menopause started (n=213)

Table 2 showing distribution of respondents according to age of menopause started. More than

half of respondents i.e. 115 (54.0%) belonged to age group 38-44 years, 76 (35.7%) were age group 45-49 and 22 (10.3%) were in the age group 50-55 years. Maximum age of the respondents was 55 year and minimum age of respondents was 38 year. Mean age of respondents was 44.37 and SD (±3.699) year.

Distribution of respondents according to level of stress after Menopause (n= 213)

Table 3 shows distribution of respondents according to level of stressed. Most of the respondents 156 (73.2%) were moderately stressed, 52 (24.4%) were highly stressed and only 5 (2.3%) were low stressed after menopause.

Table 1. Socio-demographic characteristics of the respondents

Characteristics	Frequency	Percent % n= 213
Age (Years)		
45-50	141	66.2
51-55	63	29.6
56-60	9	4.2
Mean 50.16(SD ±3.725) years, Maximum 60, Minimum 45, Range 45-60		
Religion of respondents		
Muslim	154	72.3
Hindu	59	27.7
Level of Education		
Illiterate	64	30.0
Primary	120	56.3
Secondary	29	13.6
Marital Status		
Married	198	93
Divorced	4	1.9
Widow	11	5.2
Occupation of respondent		
House wife	175	82.2
Service	38	17.8
Type of family		
Nuclear	150	70.4
Joint	63	29.6
Type of housing		
Pacca	117	54.9
Semi pacca	58	27.2
Kacha	38	17.8
Family Income		
0-10000	91	42.7
11000-29000	76	35.7
>30000	46	21.6

Table 2. Distribution of respondents according to age of menopause started

Age in years	Frequency	Percent %
38-44	115	54.0
45-49	76	35.7
50-55	22	10.3

Table 3. Distribution of respondents according to level of stress after Menopause (n= 213)

Stress	Frequency	Percent %
Low Stressed	5	2.3
Moderate Stressed	156	73.2
High perceived stressed	52	24.4

Relationship between level of mental stress and age, occupation of respondents (n=213)

Table 4 shows among the 213 respondent's majority (141, 66.2%) were age between 45-50 years. Among them 105 (67.3%) were moderately stressed, 34 (65.4%) were highly stressed and only 2 (40.0%) were low stressed. To see the difference whether it is statistically significant or not we did a chi square test. The chi square test reveals the difference is statistically not significant, χ^2= (4, n=213) =4.324 (Exacts), P=0.349.

Table 4 shows out of 213 respondents' majority 175 (82.2%) were housewives. Among them 128 (82.1%) were moderately stressed, 42 (80.8%) were highly stressed and only 5 (100%) were low stressed. To see the difference whether it is statistically significant or not we did a chi square test. The chi square test reveals the difference is statistically not significant, χ^2= (2, n=213) =0.588 (Exacts), P=0.746.

Association between level of mental stress and educational status, monthly income of family (n=213)

Table 5 shows that among the respondents highest mean score found in primary (Mean=24.86) followed by illiterate (Mean= 23.61) then secondary and above group (Mean=22.34). To see the relationship between level of education and mental stress one-way ANOVA test was conducted. There is a

significant difference of mean score in relation to educational qualification is found with total score of mental stress (F=5.86, P= .004). To explore the statistically significant post hoc test done with assuming equal variance, where Games-Howell test reveals that there is a significant difference between primary (Mean=24.86, SD=3.11) and secondary and above educational group (Mean=22.34, SD=5.32).

Table 5 shows that among the respondents highest mean score found in TK 0-TK10000 income group (Mean=24.60) followed by TK 11000-TK 29000 (Mean= 24.41) then secondary and > TK 30000 (Mean=22.78). To see the relationship between monthly income of family and mental stress one-way ANOVA test was conducted. There is a significant difference of mean score in relation to monthly income of family is found with total score of mental stress (F=3.529, P= .031). To explore the statistically significant post hoc test done with assuming equal variance, where Games-Howell test reveals that there is a significant difference between TK 0-TK 0000 income group (Mean=24.60, SD=3.60) and > TK30000 income group (Mean=22.78, SD=5.13).

Table 4. Relationship between level of mental stress and age, occupation of respondents (n=213)

Age of respondent	**Level of Mental Stress**			**Total**	**Significance**
	Low Stress	Moderate Stress	High perceived Stress		
45-50	2(40.0%)	105(67.3%)	34(65.4%)	141(66.2%)	χ^2=4.324 (Exact)
51-55	3(60.0%)	46(29.5%)	14(26.9%)	63(29.6%)	df =4
56-60	0(0.0%)	5(3.2%)	4(7.7%)	9(4.2%)	P=0.349
Total	5(100%)	156(100%)	52(100%)	213(100%)	
Occupation of respondent	**Level of Mental Stress**			**Total**	**Significance**
	Low Stress	Moderate Stress	High perceived stress		
House wife	5(100%)	128(82.1%)	42(80.8%)	175(82.2%)	χ^2=.588(Exact)
Service	0(0.0%)	28(17.9%)	10(19.2%)	38(17.8%)	df=2
Total	5(100%)	156(100%)	52(100%)	213(100%)	P=0.746

Table 5. Association between level of mental stress and educational status, monthly income of family (n=213)

Level of education of respondents	**N**	**Mean**	**±SD**	**F**	**P value**
Level of mental stress					
Illiterate	64	23.61	4.47	5.68	.004
Primary	120	24.86	3.11		
Secondary and above	29	22.34	5.32		
Total	213	24.14	3.99		
Monthly income of family	**N**	**Mean**	**±SD**	**F**	**P value**
Level of mental stress					
0-10000	91	24.60	3.60	3.529	0.031
11000-29000	76	24.41	3.48		
>30000	46	22.78	5.13		
Total	213	24.14	3.99		

Discussion

The study entitled "Mental Stress and Coping Strategies among Post- Menopausal Women" was a cross sectional study. The duration of the study was from 1st January to 31st December, 2017. The study was carried out among 213 post-menopausal women of selected area of Bogra District. The selection of respondents was purposive. Sample selection was made on the basis of inclusion and exclusion criteria and included those who were willing to participate. Data was collected with a semi-structured questionnaire for socio-demographic variables. Perceived Stress Scale was used to assess the mental stress. The aim of the study was to assess the mental stress among post-menopausal women.

Socio-demographic characteristics of post-menopausal women

Among the 213 respondents 141(66.2%) represented the age group 45-50 years, followed by 63(29.6%) was age group 51-55 years, 9(4.2%) was age group 56-60 years. Maximum and minimum ages of the menopausal women were 60 years and 45 years respectively. The mean age of the post-menopausal women was found 50.16 years with SD ± 3.72 years. The findings were nearly similar with the study of kiranpreet et al., 2016 where the study was conducted among 50 post-menopausal women at selected community health center at Sahnewal, Ludhiana. Among 50 respondent's majority 26(52%) were age group 45-50 years. Another study of Sheema Mushtaq and Yasmeen Ashai., 2014 which was conducted among 100 post-menopausal women in Srinagar, 63% of post-menopausal women were in the age group of 40-50 years (Mushtaq and Ashai, 2014). Another study which was conducted in Kushtia, Bangladesh by Shahedur et al.,2011, where among five hundred and nine women mean age of respondents was 54.50 with SD=±5.70. As Shahedur et al., 2011,had large number of respondents, Mean age of respondents was different from this study (Rahman et al., 2011).

Maximum post-menopausal women were Muslim 154(72.3%) and then 59(27.7%) were Hindu. Educational qualification of maximum post-menopausal women was primary 120 (56.3%) then illiterate 64(30%) and then secondary and above 29(13.6%). Out of all post-menopausal women majority were married 198(93%), 11(5.2%) were widow and only 4(1.9%) were divorced. Most of the post-menopausal women 175(82.2%) were housewife, rest of the respondents 38(17.8%) were in the service. The pattern of family showed that 150(70.4%) were from nuclear family and 63(29.6%) were from joint family. Highest and lowest income was TK 2000 and TK 300000. Monthly income of the family 91(42.7%) were within 0-10000 TK, 76(35.7%) family were within 11000-29000 TK and 46(21.6%) family were > TK 30000. The findings were compared with a cross sectional study of Kiranpreet et al., 2016 were among 50 post-menopausal women 24(48%) were from Sikh community, 22(44%) were Hindu and only 3(2%) were muslim. 23(46%) post-menopausal women had no formal education and 10(20%) were primarily educated. Among 50 post-menopausal women 45 (90%) were married, only 5(10%) were widow. Most of the respondents 42(84%) were unemployed, 30(60%) were from nuclear family, 19(38%) from joint family, only 1(2%) were from extended family, 20 (34%) of them had monthly income between 5001-6000 TK. Another study of Constance Anash, 2016 which was conducted among 140 women at the Anglican Church (Abossey Okai), Ghana, in which participants age were between 20 and 70 years. Out of 140 respondents 33% were above the age of 45 years, 30% were between the ages 41-45, 20.7% were between 35-40 years and 15.7% were less than 35 years. In terms of respondent's education 39.3% had senior secondary school education, 19.3% had primary education, 17.9% had junior secondary school education, 6.4% had no formal education and 17.1% of total respondents had tertiary education. Then 47.9% of total respondent were married, 35% were single and 17.1% were divorced(Ansah, 2016).

Description of level of mental stress and factors related to mental stress

The finding of this study showed that among 213 respondents most of postmenopausal women 165(73.2%) were moderately stressed followed by highly stressed 52(24.4%) and only 5(2.3%) were low stressed. Another cross-sectional study of Bener et al., 2016 was conducted in a primary health care center among 252 Qatari women. Among them 22.9% were stressed (Bener, 2016).

Kiranpreet et al., 2016 found that among 50 respondents 37(74%) of post-menopausal women were having moderate psychological problems, 13(26%) were having mild psychological problems and none of them were having severe psychological problem.

Association between mental stresses, demographic variables

The findings of the study showed that educational status of the post-menopausal women had a significant effect on their mental stress (F=5.68, P=.004). There is a significant difference between primary (Mean= 24.86) and secondary and above group. That means women who are primarily educated are more stressed than secondary and above. Similarly, there is a significant effect of monthly income of family with mental stress (F= 3.529, P= .031). There is a significant difference between 0-10000 income

group (Mean=24.60) and >30000 income group (Mean= 22.78). It indicates than post-menopausal women who were from >30000 income groups were less stressed than who were from 0-10000 income group. But there is no significant association between age (P=0.34), marital status (P= 0.922), occupation (P= 0.67), type of family (P=0.190) with mental stress among post-menopausal women at 0.05 level of significance.

Result of the study were compared with another study of Bener et al., 2016 where stress of post-menopausal women is significantly associated with age (P=<0.001), educational status (P=<0.01), occupation (P=<0.01) but there is no significant association with income (P= .09)(Bener, 2016). And educational status (χ^2= 7.68), monthly income (χ^2=24.88) and no significant association with age (χ^2= 3.06), marital status (χ^2= 2.71), occupation (χ^2= 1.33). Another study of Potdar et al., 2014, where the study revealed that there is no association between ages, occupation, education, marital status with psychological problem after menopause. In this study almost all post-menopausal women suffering from mental stress but who are form secondary and above educational group and >30000 income group are less stressed.

Conclusion

The main aim of the study was to assess the mental stress among the post-menopausal. The study result shows that among the respondent's majority are from the age group of 4th decade, educational background is primary and are from nuclear family. The mean age of menopause identified from the study is 44.37±3.699 years. Finding from the study reveals that among 213 respondents 73.2% suffer from moderate mental stress. This mental stress is not associated with age, type of family or other symptoms of menopause but significantly associated with education of respondents and monthly income of family. The study therefore, concludes that almost all post-menopausal women of this study experience significance stress.

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