

Original article:

Prevalence of stress in postmenopausal women with low back pain and without low back pain

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Abstract:

Background: The study sought to determine the prevalence of stress in postmenopausal women with and without low back pain. Menopause is not a disease but it is that phase in every women's life where the women deals with several changes such as ageing, physical problems stress disorder etc. Aim of the present research paper is to explore the difference between stress with low back pain and without low back pain postmenopausal women

Methodology: In this study 100 postmenopausal women, i.e. 50 with low back pain and 50 without low back pain were used as the research subjects. Questionnaire for back pain (Modified Oswestry back pain) and stress (PSS) was used as a research instrument.

Result: included that mean age attaining the menopause phase with low back pain females was 53.18 and in females without low back pain was 54. Among the females the level of stress found slightly more in those suffering with low back pain followed by 8% low, 8% severe and 84% moderate when compared with the females who were without low back pain i.e. 24%low, 68% moderate and 8% severe. No significant differences were observed with severity of stress between women with low back pain and women without back pain.

Conclusion: The results of study suggest that there is no significant difference between the mean perceived level of stress in postmenopausal women with low back pain and those without low back pain but it was also seen that perceived level of moderate stress was more among postmenopausal women with low back pain thus there is a need to address the issue of low back pain in order to decrease the level of stress.

INTRODUCTION

Low back pain is very common problem these days and affects all type of population which affects quality of life, work performances and so on (Duthey,2013). Low back pain is defined as pain and discomfort below the costal margin and above the inferior gluteal folds, with or without referred leg pain. It may be experienced as aching, burning, stabbing, sharp or dull, well defined or vague with intensity ranging from mild to severe (Duthey,2013). Prevalence of musculoskeletal pain have consistently shown that there is a relevant health problem with non- specific low back pain being the most commonly reported in adult women (Marini et al.2017). Low back pain being common among aged women. It is found that prevalence of low back pain was more frequent than mid or upper back pain (Marini et al.,2017). The menopause is a time period in a women's life that brings a lot of physiological and psychological changes. Physiological changes such as fatigue, joint pain, back pain etc and psychological problems like anxiety and depression that are result of less oestrogen level (Srivastava&Tanwar,2011). The most frequently annoying menopausal symptoms among pre and postmenopausal women were psychological in nature. Joint and muscular discomfort were also found in postmenopausal women when compared to premenopausal women (Rathnayake et al.,2019).

The quality of life is mainly impaired by menopausal symptoms during this phase such as psychological symptoms like irritation physical and mental exhaustion. The prevalence of menopausal symptoms and their severity were significantly higher among postmenopausal women as compared to premenopausal women (Rathnayake et al.,2019).

METHODOLOGY

A Comparative study designs was conducted in the study. The study included total 100 subjects of menopausal women i.e. 50 postmenopausal women with low back pain and 50 postmenopausal women without low back pain. Convenient sampling method is used to include subject in the study

STUDY DURATION

Six-months

INCLUSION

Age between 47-60 years.

Women with natural menopause.

Post-menopausal women (menopause period from 1-5 years).

Women with non-specific low back pain

Patient who are able to read and understand.

EXCLUSION

Patient who are unable to read and understand.

Other musculoskeletal disorders such as neck pain shoulder pain etc

Women with PIVD, lumbar spondylosis etc.

Women with an unnatural menopause e.g. surgical, radiotherapy for cervix cancer, hysterectomy.

Women with hormonal replacement therapy

Women with serious disease or mental retardation.

VARIABLES

Level of Stress

Low back pain

INSTRUMENTATIONS

Weighing machine

Measuring tape

Calculator

Modified Oswestry low back scale

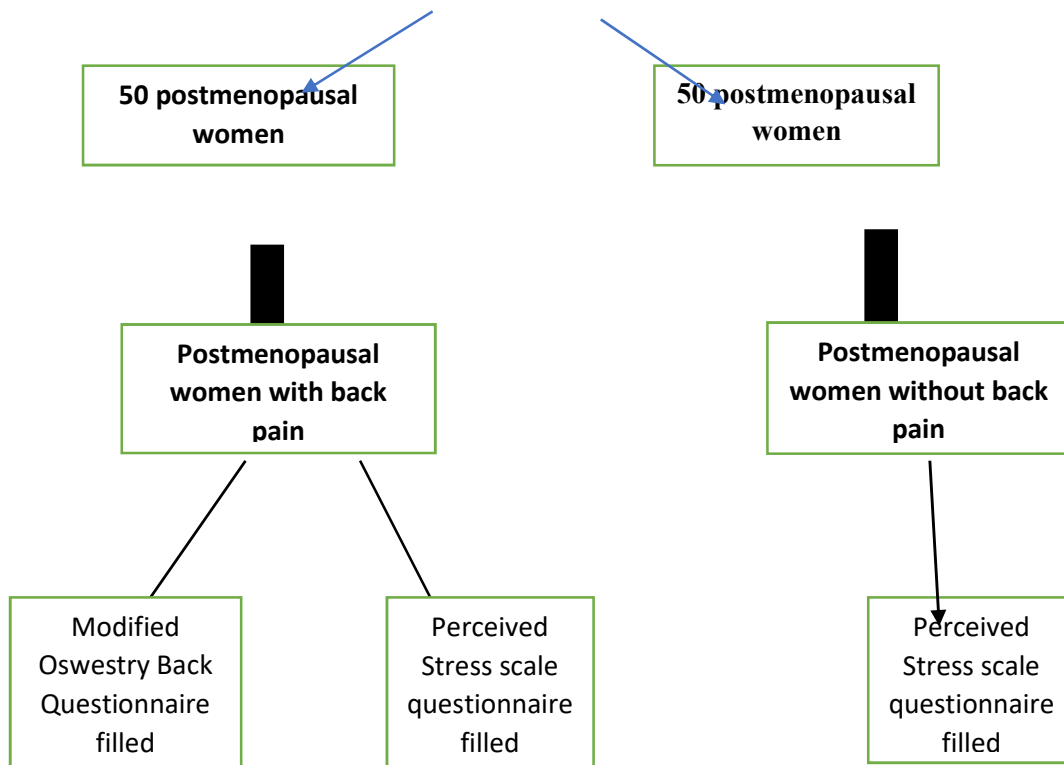
Perceived stress scale

PROCEDURE

The subjects included in the study was according to inclusion and exclusion criteria. The detailed procedure was explained to the subject. The consent was signed according to the interest of the subject.

50 post-menopausal women were taken to check the prevalence of stress with back pain by using modified Oswestry low back pain questionnaire & perceived stress scale. Other group which was taken were with similar characteristics except they were without back pain and the form filled by them was only the perceived stress scale.

100 Postmenopausal women were taken based on inclusion criteria and informed consent was taken.

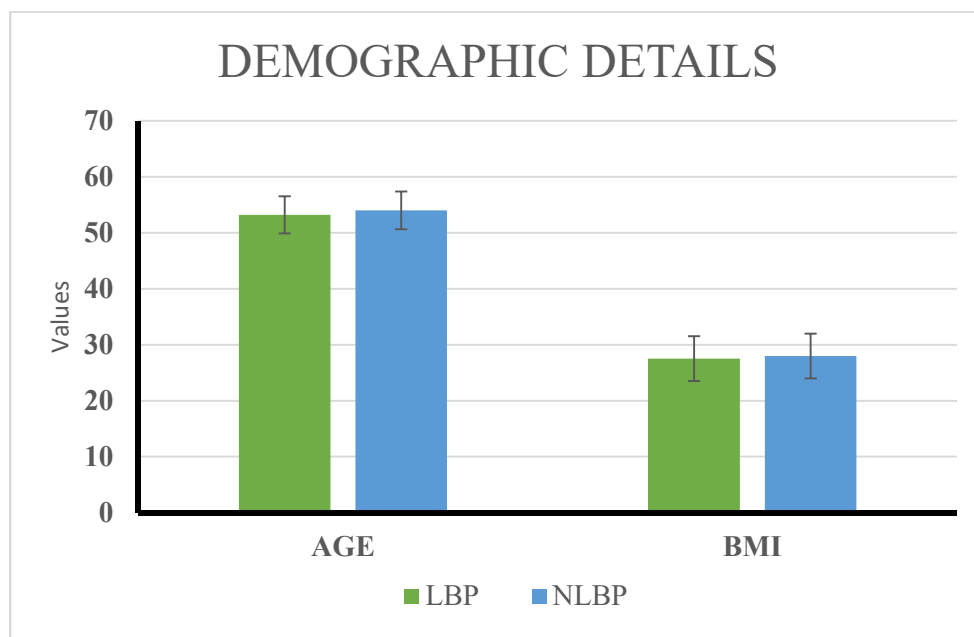


The study was conducted on postmenopausal women with and without low back pain subjects 100 i.e. 50 each. Data analysis was done by using arithmetic mean analysis of modified Oswestry low back pain and perceived stress scale.

The demographic details of the subjects with the average mean age is 53.18 ± 3.32 and BMI is 27.45 ± 3.36 in females with low back pain whereas in females without low back pain the average mean age is 54 ± 4 and BMI is 28 ± 4 respectively the following can be seen below in the given table

Table 5.1- Depicts the DEMOGRAPHIC DETAILS

Females	Mean Age \pm SD	Mean BMI \pm
With LBP	53.18 ± 3.32	27.45 ± 3.36
Without LBP	54 ± 4	28 ± 4



Graph: Showing the average mean and S.D. of age and BMI in postmenopausal with LBP and without LBP

Level of stress in post-menopausal women with or without Low back pain

Percentage of post-menopausal women with low back pain and without low back pain, having different levels of stress were calculated and the result shows that 8% of Post-menopausal women with and without low back pain had severe stress, 84% of postmenopausal women with low back pain had moderate stress whereas only 68% of post-menopausal women without low backpain had moderate stress. Whereas Low level stress was found in 8% of post-menopausal women with low back pain whereas 24% of post-menopausal women without low back pain had low stress. This shows that irrespective of low back pain Post-menopausal women have stress. It also shows that more percentage of post-menopausal women with low back pain have moderate level of stress compared to post-menopausal women without low back pain whereas low stress was found more in postmenopausal women without low back pain. Table 5.2 and Figure 5.2 (a) and (b) shows the females having low, moderate and severe stress

TABLE 5.2- Level of stress shown in postmenopausal women with and without low back pain.

Level of stress	Post-menopausal women with LBP	Post-menopausal women without LBP
Low stress	8%	24%
Moderate stress	84%	68%
Severe Stress	8%	8%

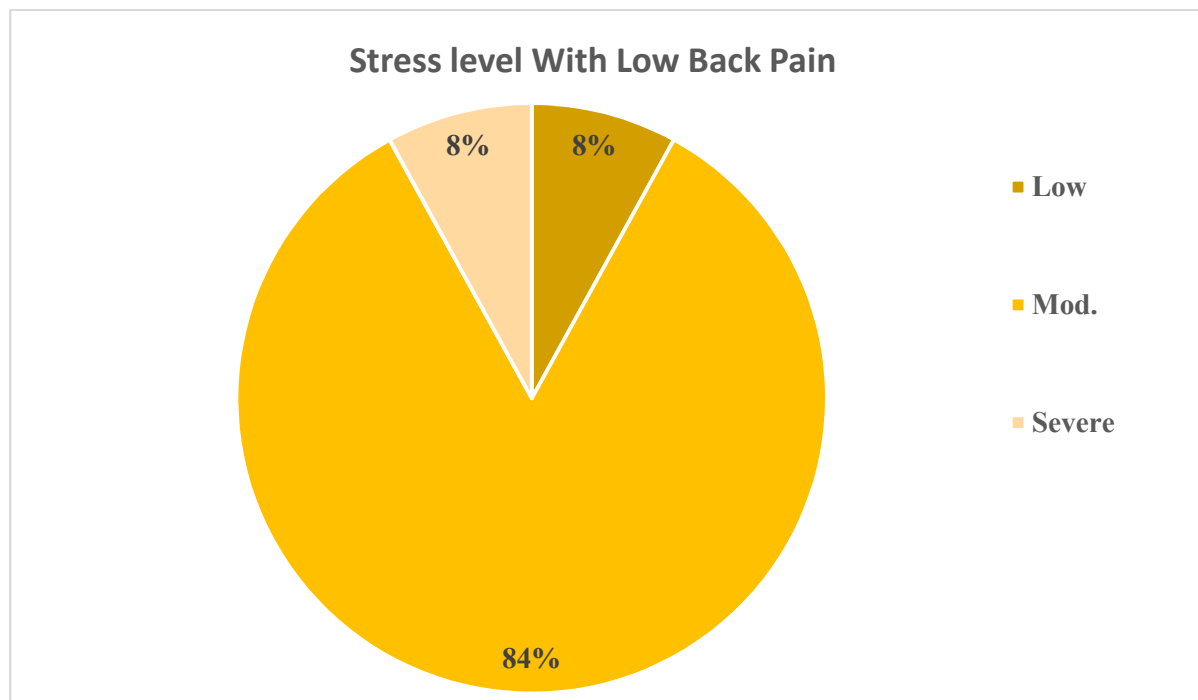


Fig. 5.2(a) Showing the percentage of postmenopausal women with low back pain having different levels of stress.

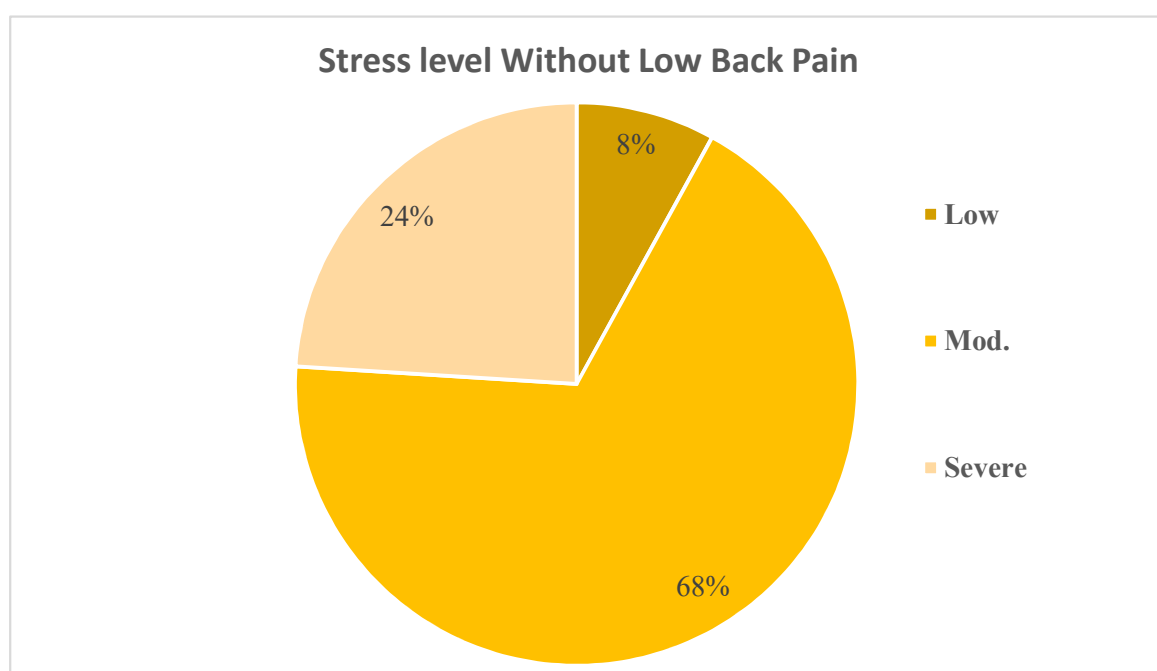
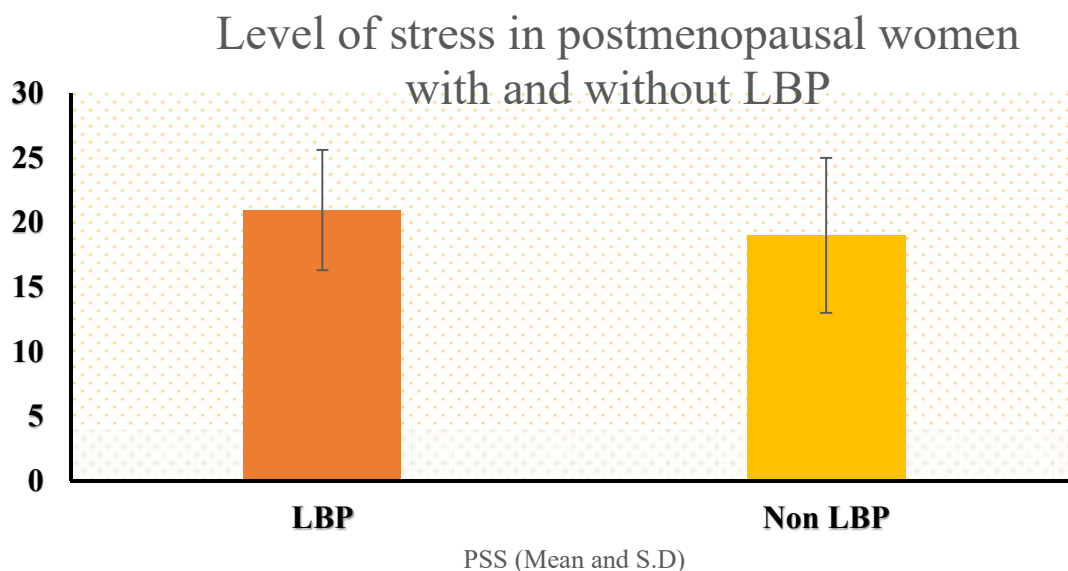


Fig. 5.2(b) Showing the percentage of post-menopausal women without low back pain having different levels of stress.

The average mean value of perceived stress scale questionnaire with low back pain is 20.96 ± 4.66 and the average mean value of stress without low back pain is 19 ± 6 respectively in the postmenopausal women. This shows the increase in the level of stress in postmenopausal women with low back pain as shown below in the table 5.3 and graph 5.3.

TABLE 5.3- Prevalence of stress in postmenopausal women with and without low back pain.

Females	Number of females	Average Mean (Stress) ± S.D
With Low Back Pain	50	20.96 ± 4.66
Without Low Back Pain	50	19 ± 6



Graph. 5.3 Prevalence of stress with back pain and without back pain in postmenopausal women.

DISCUSSION

The present study aimed to investigate the prevalence of stress level in postmenopausal women with low back pain and without back pain and then to compare the level of stress with back pain and without back pain in postmenopausal women. The perceived stress scale (PSS) was used for evaluating the prevalence of stress in postmenopausal women and modified Oswestry low back pain questionnaire was used to check the back pain for those postmenopausal women who were suffering with low back pain. In this study, a total of 100 postmenopausal women were taken i.e. 50 with low back pain and 50 without low back pain.

The results of our study show that low level of stress was more in women without low back pain than the women who were suffering with low back pain i.e. 8% of post-menopausal with low back 24% without low back pain respectively, Moderate level of stress was seen in 84% of post-menopausal women with low back pain whereas only 68% of postmenopausal women without low back pain had moderate stress. However, high level of stress was seen equal for both the groups i.e. 8% with and without low back pain postmenopausal women. The mean difference in the level of perceived stress between the two groups of post-menopausal women i.e with low back pain and without low back pain is 1.96. As the mean perceived level of stress in postmenopausal women with low back pain was 20.96 and without low back pain was 19 as per the result.

As previous studies have shown that menopause is a time period in women's life that brings a lot of physiological changes as well as psychological changes. According to a study conducted by (Ayranci.et al, 2010) where the samples of individual was aged 40-65 years among menopausal women and showed that the most common complaint was low back pain or muscle pain 95% (25% severe, 46% moderate, and 23.1% mild

respectively). One more study done by Marini et al(2017) showed that the common localization of pain was the spine ,mostly low back pain was more frequent with upper or mid back pain in healthy postmenopausal women which is similar to the earlier studies.

Natural menopause age of women in India was determined to be 46.2 ± 4.9 years according to the study done by (Ahuja 2016) and one more study which was done by (Ayranci et al, 2010) where the sample size of postmenopausal was taken from aged 40-65 years. Hence it can be determined by the studies that this is the most common age where the menopausal symptoms occur which has been shown in the present study as well.

However, the present study results are in congruence with the conclusion from previous studies which shows the prevalence of stress among post-menopausal women with and without back pain, which also indicates the level of stress is almost same in post-menopausal women with low back pain when compared with the postmenopausal women who were without low back pain. Hence, this study shows that there is no significant difference between the level of stress in postmenopausal women with low back pain and without low back pain.

LIMITATION OF STUDY

The age of menopause was determined by recall and there can be some variations in it. No. of subjects included in the study were limited due to the duration of study. Evaluation of other causes for stress was not done.

FUTURE SCOPE OF STUDY

Sample size could be more.

Level of stress before and after treatment of low back pain in postmenopausal women with back pain can be done.

CONCLUSION

This study demonstrates the level of stress in postmenopausal women with and without low back pain, which reports that the women with low back pain suffered slightly more from perceived level of stress when compared post-menopausal women without low back pain. In the study we calculated the percentage of postmenopausal women with low, moderate and severe level of stress and it was observed that post-menopausal women with low back pain have more moderate level of stress. Hence, it can be concluded from the present study that back pain being a problem is associated with more stress in postmenopausal women and treatment strategies needs to be made to reduce the stress level.

REFERENCES

1. Ahuja M. age of menopause and determinants of menopause age: A PAN India survey by IMS.J midlife health 2016; 7: p-126-31
2. Wong AYL, Musculoskeletal pain in postmenopausal women- implications for future research, Hong Kong Physiotherapy journal (2016)
3. Nursing research and practice Volume 2019, Prevalence and severity of menopausal symptoms and the quality of life in middle aged women: A study from Sri Lanka
4. Musculoskeletal pain among post-menopausal women in Nigeria: Association with overall and central obesity Hong Kong Physiotherapy Journal (2016)34

5. Stress: Facts and Theories through Literature Review – International Journal of Medical Reviews, Volume2, Issue 2, Spring2015; p-230-241
6. Priority Medicines for Europe and the World ‘A Public Health Approach to Innovation’ Background Paper 6.24 Low back pain by Beatrice Duthey-2013
7. Defining the menopausal transition Sherry Sherman, PhD-The American Journal of Medicine (2005) Vol 118(12B), p-3S-7S
8. A Comparison of a Modified Oswestry Low Back Pain Disability and the Quebec Back Pain Disability Scale Physical Therapy Julie M Fritz& James J Irrgang Volume81. Numbe.2 February 2001
9. Menopause status and attitudes in a Turkish midlife female population: an epidemiological study Ayranci et al. BMC Women’s Health 2010
10. Menopausal symptoms of postmenopausal women in a rural community in Delhi, India: A cross sectional study Journal of Midlife Health Apr-Jun 2014 Vol 5 Issue 2
11. Marini M, Bendinelli B, Assedi M, Occhini D, Castaldo M, Fabiano J, et al. (2017) Low back pain in healthy postmenopausal women and the effect of physical activity: A secondary analysis in a randomized trial. PLoS ONE 12(5)
12. Social and Behavioural Sciences 5 (2010) 289-293 - Pain sensitivity among women with low oestrogen levels M Petkova
13. Psychology, 2010, 91: p-1-8 - Psychometric Evaluation of the Perceived Stress Scale in Early Postmenopausal Chinese Women
14. Singapore Med J 2018, 59 (4): p-170-171 Hans Selye (1907-1982): Founder of stress theory Siang Yong Tan, MD, JD. A Yip, MS
15. Stress and Well- Being in Menopausal and Postmenopausal working and non-working women- Indian Journal of Applied Research. October 2011 Volume:4 Issue:8
16. Australian and New Zealand Journal of Obstetrics and Gynaecology 2009;49: p-106-109 – Prevalence of menopausal symptoms and quality of life after menopause in women from South India
17. Honk Kong Physiotherapy Journal (2016) 34, p- 41-46 – Musculoskeletal pain among postmenopausal women in Nigeria: Association with overall and central obesity
18. Non-specific low back pain Prof Chris Maher, Musculoskeletal Division october10, 2016
19. Menopausal symptoms appear before the menopause and persist 5 years beyond: a detailed analysis of a multinational study Dr. P. Chedraui, Institute of Biomedicine2012

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Was informed consent obtained from the subjects involved in the study? YES

For any images presented appropriate consent has been obtained from the subjects: NA

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