

## Original Research Article

# Prevalence and severity of low back pain among postmenopausal women: a community-based study in block Hazratbal of Srinagar district

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## ABSTRACT

**Background:** Menopause brings with it a cluster of symptoms and health problems. Low back ache (LBA) decreases the quality of life both socially and economically by increasing sickness absenteeism. Women are more likely to have backache and more so after menopause. Objective of the study was to find out the prevalence of LBA among postmenopausal women and also to assess the severity of the LBA.

**Methods:** This was a cross-sectional community-based study conducted in block Hazratbal of district Srinagar, the field practice area of the department of community medicine, Government Medical College (GMC), Srinagar. The data was collected over a period of 3 months in 2018 by consecutive sampling by going door to door in the area. A woman who had attained menopause as per the definition was included in the study.

**Results:** A total of 198 women were included. Mean age at the time of contact was 53.56 years. The prevalence of LBA among these women was 77.8% (154 of 198 women) with almost 55% women having moderate LBA and 16% women grading their LBA as severe. Those in late menopause were 4 times more likely to have severe LBA than those in early menopause.

**Conclusions:** The magnitude of LBA among postmenopausal women is huge. About one quarter of these women have severe LBA. Therefore, to maintain a good quality of life of these women, specific measures to tackle this problem must be taken.

**Keywords:** Low back pain, Post menopause, Prevalence

## INTRODUCTION

Menopause brings with it a cluster of symptoms and health problems. Appropriate care must be taken by women at this stage of life to remain healthy. Besides the classical menopausal symptoms, the musculoskeletal degenerative diseases have been found to be related to the hormonal changes after menopause. Consequently, the prevalence of low back ache in these women is more than the men of the

same age and other younger women or the women not in this phase of life.<sup>1,2</sup> Low back ache (LBA) decreases the quality of life both socially and economically by increasing sickness absenteeism.<sup>3,4</sup> About 70 to 80% of individuals have at least one episode of back ache in their life. Women are more likely to have backache and more so after menopause.<sup>5</sup> LBA is the second most common reason for visiting a physician and the third most common cause of surgery.<sup>6</sup>

The objectives of this study were to find out the prevalence of LBA among postmenopausal women and also to assess the severity of the LBA.

## METHODS

This was a cross-sectional community-based study conducted in block Hazratbal of district Srinagar, the field practice area of the department of community medicine, Government Medical College (GMC), Srinagar. After obtaining the ethical approval from the ethical committee of the institution, the data was collected over a period of 3 months (September to November) in 2018 by consecutive sampling by going door to door in the area. A woman who had attained menopause as per the definition was included in the study. Consent was obtained before including the participant in the study. All the women who met the eligibility criteria were included in the study. Women not giving consent and women with mental health disorders were excluded. The women were asked about the demographic details and if they have had an episode of low backache in the past month. The severity of chronic low backache was assessed by using visual analogue scale using 7 emojis (0-6) denoting not bothering to extreme pain. While analysing the data scores of 0 to 2 were categorised as mild, 3 to 4 as moderate, 5 to 6 as severe.

Data was entered in Microsoft excel 2010 and analysed using statistical package for the social sciences (SPSS) version 23. Categorical data was expressed as frequencies and percentages while the continuous data was expressed as mean and standard deviation. Mann Whitney U test was used to test the relationship between a categorical independent variable and an ordinal dependent variable. Chi square test was used to test the relationship between two categorical variables. Logistic regression was used to calculate the unadjusted and adjusted odds ratio.

## RESULTS

A total of 198 women were included in 3 months in the study. Table 1 depicts the general characteristics of the study participants.

Mean age at the time of contact was  $53.56 \pm 4.697$  years. Majority of the women were in the age group of 42-55 years with almost 52% having passed 5 years in menopause. Most of the women had attained menopause at the age of 48-55 years. Majority (88.4%) of the women were illiterate and most of them were non-working house wives (93%). The prevalence of hypertension and diabetes among these women was 47% and 17% respectively.

Table 2 shows the prevalence of LBA and its severity among these women.

The prevalence of LBA among these women was 77.8% (154 of 198 women) with almost 55% women having moderate LBA and 16% women grading their LBA as severe.

**Table 1: General characteristics of the study participants.**

Characteristics	N	%
<b>Age (years)</b>		
42-55	133	67.2
56-65	65	32.8
<b>Time since menopause (years)</b>		
1-5	96	48.5
6-10	102	51.5
<b>Age at menopause (years)</b>		
40-47	89	44.9
48-55	109	55.1
<b>Education</b>		
Illiterate	175	88.4
Primary	9	4.5
Middle	7	3.5
Secondary school	3	1.5
Higher secondary	1	.5
Graduation	3	1.5
<b>Job</b>		
Non-working	184	92.9
Working	14	7.1
<b>Comorbidities</b>		
Hypertension	92	46.5
Diabetes	33	16.7

**Table 2: Prevalence of low backache and its severity.**

Pain	N	%
<b>Mild</b>	45	29.2
<b>Moderate</b>	84	54.6
<b>Severe</b>	25	16.2
<b>Total</b>	154	100.0

Table 3 shows the relationship of age, time since menopause and age at menopause with presence of LBA.

**Table 3: Relationship of LBA with age, time since menopause and age at menopause.**

Parameters	LBA (%)	$\chi^2(p)$
<b>Age in years</b>		
42-55	108 (81.2)	2.75 (0.097)
56-65	46 (70.8)	
<b>Time since menopause in years</b>		
1-5	83 (86.5)	8.124 (0.004)
6-10	71 (69.6)	
<b>Age at menopause</b>		
40-47	70 (78.)	0.071 (0.789)
48-55	84 (77.1)	

The frequency of LBA was more in the women in early menopause (86.5%) than those in post menopause (69.6%) and it was statistically significant ( $p=0.004$ ). No relationship was found between severity of LBA and age, time since menopause and age at menopause (Table 4).

Table 5 shows the relationship of these variables with severity of low back ache with back ache classified as severe or not severe.

Those in late menopause (6-10 years post menopause) were 4 times more likely to have severe LBA than those in early menopause (1-5 years). The other factors were not found to affect the occurrence of LBA.

**Table 4: Relationship of LBA severity with age, time since menopause and age at menopause.**

Parameters	N	Mean rank	Median LBA severity	U (p value)
Age category (in years)				
42-55	108	78.94	2	2328.000 (0.493)
56-65	46	74.11	2	
Time since menopause in years				
1-5	83	75.00	2	2739.000 (0.403)
6-10	71	80.42	2	
Age at menopause (in years)				
40-47	70	78.61	2	2792.500 (0.646)
48-55	84	75.64	2	

**Table 5: Relationship of severe LBA with age, time since menopause and age at menopause.**

Parameters	Severe LBA, N (%)	COR (p value)	AOR (p value)
Age category (in years)			
42-55	15 (13.9)	1.722 (0.230)	0.720 (0.587)
56-65	10 (21.7)		
Time since menopause			
1-5	7 (8.4)	3.687 (0.007)	4.113 (0.014)
6-10	18 (25.4)		
Age at menopause (in years)			
40-47	11 (15.7)	1.073 (0.837)	1.007 (0.989)
48-55	14 (16.7)		
Hypertension			
Yes	14 (19.2)	1.510 (0.349)	0.876 (0.781)
No	11 (13.6)		
Diabetes			
Yes	6 (25)	1.947 (0.211)	0.700 (0.538)
No	19 (14.6)		

COR=Crude odds ratio, AOR=adjusted odds ratio

## DISCUSSION

LBA is a public health problem affecting the young as well as adult and elderly population.<sup>7,8</sup> LBA makes an individual less productive socially and economically. Women especially postmenopausal women suffer more often as a result of hormonal changes after menopause.

Mean age at the time of contact was 53.56 years which corresponds well with the postmenopausal age.<sup>9</sup> The literacy among postmenopausal females in our study was very low (11.4%) as this is an old age group who didn't get the opportunities to study when they were young. Consequently, only 7% of the women in our study had an earning of their own.

In our study the prevalence of LBA among the women was 77.8% which is quite high. According to Dugan et al 61% of the postmenopausal women in their study experienced LBA.<sup>10</sup> Mitchell and Woods reported that 80.6% of the

women experienced LBA.<sup>11</sup> Poomalar and Bupathy found the prevalence in late menopause to be 79% and that in early menopause as 76%.<sup>12</sup> Non-specific LBA is found to affect 85% of people.<sup>13</sup> In addition to LBA, 46.5% of the women in our study had documented hypertension and 16.7% had documented diabetes. The prevalence of these diseases in more than the women in general population and it had been found by other studies as well and is also explained by the chronic oestrogen deficiency in these women.<sup>9,14-16</sup> These disorders together with low back ache worsen the quality of life of these women.

About 16% of the women in our study experienced severe LBA and women in late menopause were 4 times more likely to have severe LBA compared to those in early menopause. Although the prevalence of LBA was found to be more in early menopause than in late menopause, the frequency of severe LBA was more in late menopause. It may reflect recall bias by the participants who might have experienced LBA more than a month ago.

## Limitations

Diagnosis of LBA was based on recall by the participants. Therefore, there may be some recall bias. Also, the classification of severity was based on subjective perception of the participants. Therefore, same level of pain might have been moderate for a woman and severe for another which might have resulted in some misclassification of the pain.

## CONCLUSION

The magnitude of LBA among postmenopausal women is huge. About one quarter of these women have severe LBA. Therefore, to maintain a good quality of life of these women, specific measures to tackle this problem must be taken.

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