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### Exploring gaps in menopausal and self-care knowledge among rural women of Ambedkar Nagar

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#### Abstract

Menopause is a natural biological process that marks the permanent cessation of menstruation, typically occurring between the ages of 45 and 55. It signifies the end of a woman's reproductive years and results from a decline in estrogen and other hormone levels. This transition is often accompanied by a range of physical symptoms such as hot flashes, night sweats, weight gain and vaginal dryness as well as emotional changes like mood swings, irritability and sleep disturbances caused by hormonal fluctuations.

The purpose of this study was to assess the awareness and knowledge of menopause among women residing in rural areas. A total of 200 women aged 45-55 years, who had experienced cessation of menstruation, were selected from rural areas of Ambedkar Nagar district. The data was collected using a self-developed interview schedule designed to assess knowledge regarding menopause. The data was analyzed using frequency, percentages, mean, standard deviation and ANOVA tests. The findings of the study revealed that the majority of respondents had poor awareness about menopause. Furthermore, the statistical analysis indicated that the respondents' level of education had a statistically significant impact on their awareness about menopause.

**Keywords:** Menopausal women, knowledge, awareness, self-care

#### Introduction

The menopausal transition marks a significant stage in a woman's life, characterized by a series of hormonal and physiological changes that signal the end of her reproductive years. This phase, which can last anywhere from one to ten years, involves gradual adjustments as the body reduces its reproductive capacity. During this time, women may experience irregular menstrual cycles, hormonal fluctuations and various physical and emotional symptoms. The onset and progression of menopause vary among individuals, influenced by factors such as genetics, lifestyle and overall health. <sup>[1]</sup> Menopause, derived from the Latin words *meno* (month) and *pausia* (halt), marks the end of a woman's natural fertility. The years surrounding menopause, often referred to as the climacteric, represent a significant transition in a woman's life. During this time, menstrual periods cease permanently and women are no longer able to conceive naturally. <sup>[2]</sup> Menopause is a

universal phenomenon however, there is considerable variation among women in terms of the age at which it occurs and the way menopausal signs and symptoms are experienced. Globally, it is estimated that there are over 200 million post-menopausal women, with 40 million of them living in India. The average age at which Indian women experience menopause is 47.5 years <sup>[3]</sup>. Population projections show that in 1990, there were approximately 467 million women aged 50 and older worldwide. This number is expected to increase to 1.2 billion by 2030. By that year, the proportion of postmenopausal women living in industrialized regions will decrease to 24 percent, while 76 percent will reside in developing regions. In 1990, around 25 million women globally reached menopause and this number is expected to double by the late 2020s. The process of menopause occurs in several phases: pre-menopausal, peri-menopausal (which includes early and late stages) and post-menopausal. A woman is considered to be in the pre-

menopausal stage if she experiences amenorrhea for 12 consecutive months. <sup>[4]</sup> A woman is classified as being in the early peri-menopausal stage if menstruation has occurred within the past 2 to 3 months, with cycle lengths becoming irregular and lasting seven or more days. In the late peri-menopausal stage, menstruation has occurred in the past 12 months but not within the last 2 to 3 months. A woman is considered postmenopausal if menstruation has ceased for at least 12 consecutive months without surgical intervention. While menopause is a universal phenomenon, the timing of its onset, the duration of the menopausal transition and the timing of the final menstrual period vary significantly among individuals. <sup>[5]</sup> Menopause is typically a natural process, but it can occur earlier in individuals who smoke tobacco. Other factors that may induce early menopause include surgery that removes both ovaries or certain types of chemotherapy. Physiologically, menopause results from a decline in the ovarian production of the hormones estrogen and progesterone. Research has shown that the age at which menopause occurs can be influenced by a combination of biological factors such as genetics, nutrition and reproductive history, socio- cultural factors including education, occupation, smoking habits and urban or rural residence and lifestyle factors such as tobacco use and dietary habits <sup>[6]</sup>. Women undergoing postmenopausal changes have the potential to enhance their lives by approaching this stage with a positive mind-set, seeing it as a chance for personal growth and emotional maturity. As they face the challenges associated with menopause, difficulties in adjusting to these changes can significantly affect their overall well-being. Consequently, maintaining healthy lifestyle habits and fostering psychological resilience become essential. A deeper understanding of the physical, emotional and social changes that accompany menopause allows women to approach these transitions with greater confidence and preparedness, enabling them to navigate this life stage more effectively <sup>[7]</sup>.

### Need for study

Menopause is a unique experience for each woman. Some may notice only minor changes in their bodies, while others may struggle to manage more intense symptoms. The most common symptom of menopause is hot flashes, which can lead to confusion and anxiety, as women may fear that something abnormal is happening to them. While attention is often focused on the health needs of women during their reproductive years, it is equally important to address the health concerns of menopausal women. Throughout their reproductive years and beyond, women face various health challenges, partly due to limited medical care during labor and delivery, along with high parity (Elias and Sherries,

2003). As women approach the end of their childbearing years and transition into menopause, they become at greater risk for symptoms related to hormonal changes, heart disease, stroke, gynecological cancers, osteoporosis and other genitourinary conditions (Elias and Sherries, 2003). <sup>[8]</sup> A study conducted by Kaur *et.al.*, (2012) aimed to evaluate the knowledge, attitudes, problems faced and remedial measures adopted by menopausal women, as well as to examine the relationship between these factors. A purposive sample of 200 menopausal women was selected for data collection using a structured interview schedule to assess knowledge, an attitude scale to measure attitudes and a checklist to identify problems faced and remedial measures adopted. The results indicated that 65 women had average knowledge, while 72 had a moderately favourable attitude. Most participants experienced a variety of problems and implemented various remedial measures to relieve menopausal symptoms. The study concluded that there is a need to improve women's knowledge about effective measures to manage menopausal challenges.

### Materials and Methods

A non-experimental, quantitative research approach with a descriptive design was employed to assess the knowledge and health-related issues of menopausal women in the rural community of Ambedkar Nagar district. The study targeted 200 women who had attained natural menopause, selected through purposive random sampling. Women who had undergone surgical menopause were excluded from the study. Data collection was conducted via structured interviews using two validated tools:

1. **Socio-Economic Status Assessment:** The Modified Kuppuswamy Socio-Economic Status Scale (2022) was utilized to evaluate the participants' socio-economic status based on education, occupation and monthly family income. This scale has been updated to reflect current economic conditions and is widely used in Indian research.
2. **Development of the Questionnaire:** A self-structured questionnaire was developed to evaluate awareness and self-care practices concerning menopause. The instrument comprised 35 questions, systematically categorized into seven domains, each containing five questions. These domains encompassed general awareness, physical changes, emotional changes, hormonal changes, symptoms and health risks, management and treatment and lifestyle and prevention. This structured approach ensured a comprehensive assessment of various aspects related to menopausal self-care. A pilot study was conducted to assess the validity and feasibility of the scale.

**Table 1:** Frequency Distribution of menopausal women according to their socio- demographic variable (N=200)

Demographic Variable		Frequency (f)	Percentage (%)
Age	45-50	48	24
	50-55	86	43
	Above 55	66	33
Educational qualifications of the respondents	Illiterate	75	37.5
	Primary	42	21
	Middle	27	13.5
	High school	24	12
	Intermediate	22	11
	Graduate	7	3.5
	Professional/honours	3	1.5
	Unemployment	64	32
Occupation of the respondents	Elementary	3	1.5
	Gardening	18	9
	Craft and related trade	17	8.5
	Agriculture work	42	21
	Shop and market	17	8.5
	Clerk	3	1.5
	Entrepreneur	32	16
	Medical profession	4	2
Marital status of the respondents	Unmarried	3	1.5
	Married	131	65.5
	Widowed	51	27.5
	Divorced	15	7.5

**Age group:** Table 1 revealed the information about the socio-demographic profile of the respondents. For the present study, 200 respondents were selected from Ambedkar Nagar district of Uttar Pradesh. It can be clearly seen from the table that majority of the respondent's (43%) were in the age group of 50-55 years, whereas 33 percent of the respondents were belonging to the age group of above 55 years of age. Approximately one-fourth of the respondents (24%) was belonging to the 45-50 years of age group.

**Educational qualification:** The data indicated that a majority of respondents (37.5%) were illiterate, 21 percent of the respondents had completed primary education. Approximately 13.5 percent of the respondents had completed their education up to the middle school level, while 12 percent had passed high school and 11 percent had attained education up to the intermediate level. It is very fortunate to know that 1.5 percent of the respondents were

having educational qualification above than graduation.

**Occupational status:** Majority of the respondents (32%) were unemployed whereas among the employed respondents, 21 percent were involved in agriculture related work, while 16 percent identified as entrepreneurs. Gardening and craft-related occupations were reported equally by 8.5 percent of the respondents each. Another 8.5 percent of women worked in shops and markets. A small proportion of women were employed as clerks or in elementary roles 1.5 percent and only 2 percent were employed in the medical profession.

**Marital status:** The marital status of the respondents revealed that majority of the respondent's 65.5 percent were married. Approximately one fourth of the respondents (27.5%) was widowed, 7.5 percent were divorced and 1.5 percent were unmarried.

**Table 2:** Frequency distribution of respondents for menopausal self-care awareness (N=200)

S. No.	Menopausal Self-Care Awareness	Yes		No	
		f	%	f	%
1.	General Awareness	99	49.5	101	50.5
2.	Physical Changes	75	37.5	125	62.5
3.	Emotional Changes	70	35	130	65
4.	Hormonal Changes	46	23	154	77
5.	Symptoms and Health Risk	75	37.5	125	62.5
6.	Management and Treatment	54	27	146	73
7.	Life style and Prevention	77	38.5	123	61.5

Table 2 revealed the information about the menopausal self-care awareness of the respondents. There was a concerning lack of comprehensive awareness among the majority of women. Majority of the respondents (50.5%) lacks the general awareness regarding the menopausal self-care whereas 49.5 percent of the respondents were aware about

it. It is disheartening to note that although every woman faces menopause at some point in her life, but yet a significant proportion of the women (62.5%) were unaware of the physical changes associated with it. A significant proportion of the female respondents (77%) were unaware about the hormonal changes that occur during menopause

whereas only 23 percent were aware about it. Hormones play a critical role in regulating our emotions, it is not surprising that a majority of the respondents were unaware about the hormonal changes during menopause, they were also unaware about the emotional changes during menopause. Only 35 percent of woman were aware about the emotional changes associated with the menopause whereas 65 percent were unaware. It is very alarming to note that majority of the respondents (62.5%) were not aware about the symptoms and health risks during

menopause. It highlights a crucial need for targeted health education and community-based awareness programs for woman. It is very alarming to note that near about three-fourth of the respondents (73%) were unaware about the management and treatment during menopause. This lack of awareness can lead to various complications during menopause as they may be ill-equipped to address or manage the physical and psychological consequences associated with this phase of life.

**Table 3:** Descriptive analysis Comparison of Village-Specific Awareness Levels with General Awareness (N=200)

Descriptives									
		N	Mean	Std. Deviation	Std. Error	95 % Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
General Awareness	Danpur	40	5.05	0.316	0.050	4.95	5.15	5	7
	Baddupur	40	7.88	2.388	0.378	7.11	8.64	5	10
	Bhiti	40	8.00	2.481	0.392	7.21	8.79	5	10
	Itifatganj	40	8.88	2.115	0.334	8.20	9.55	5	10
	Dharmupur	40	8.25	2.415	0.382	7.48	9.02	5	10
	Total	200	7.61	2.476	0.175	7.26	7.96	5	10
Physical Changes	Danpur	40	7.38	2.034	0.322	6.72	8.03	5	10
	Baddupur	40	8.13	2.451	0.388	7.34	8.91	5	10
	Bhiti	40	8.00	2.481	0.392	7.21	8.79	5	10
	Itifatganj	40	8.88	2.115	0.334	8.20	9.55	5	10
	Dharmupur	40	8.25	2.415	0.382	7.48	9.02	5	10
	Total	200	8.13	2.334	0.165	7.80	8.45	5	10
Emotional Changes	Danpur	40	8.00	2.253	0.356	7.28	8.72	5	10
	Baddupur	40	8.13	2.451	0.388	7.34	8.91	5	10
	Bhiti	40	8.00	2.481	0.392	7.21	8.79	5	10
	Itifatganj	40	8.88	2.115	0.334	8.20	9.55	5	10
	Dharmupur	40	8.25	2.415	0.382	7.48	9.02	5	10
	Total	200	8.25	2.346	0.166	7.92	8.58	5	10
Hormonal Changes	Danpur	40	7.45	1.811	0.286	6.87	8.03	5	10
	Baddupur	40	8.13	2.451	0.388	7.34	8.91	5	10
	Bhiti	40	8.00	2.481	0.392	7.21	8.79	5	10
	Itifatganj	40	8.88	2.115	0.334	8.20	9.55	5	10
	Dharmupur	40	8.25	2.415	0.382	7.48	9.02	5	10
	Total	200	8.14	2.293	0.162	7.82	8.46	5	10
Symptoms And Health Risks	Danpur	40	8.55	1.825	0.289	7.97	9.13	5	10
	Baddupur	40	8.13	2.451	0.388	7.34	8.91	5	10
	Bhiti	40	8.00	2.481	0.392	7.21	8.79	5	10
	Itifatganj	40	8.88	2.115	0.334	8.20	9.55	5	10
	Dharmupur	40	8.25	2.415	0.382	7.48	9.02	5	10
	Total	200	8.36	2.271	0.161	8.04	8.68	5	10
Management And Treatment	Danpur	40	7.08	1.118	0.177	6.72	7.43	5	8
	Baddupur	40	8.05	2.417	0.382	7.28	8.82	5	10
	Bhiti	40	8.00	2.481	0.392	7.21	8.79	5	10
	Itifatganj	40	8.88	2.115	0.334	8.20	9.55	5	10
	Dharmupur	40	8.25	2.415	0.382	7.48	9.02	5	10
	Total	200	8.05	2.225	0.157	7.74	8.36	5	10
Lifestyle And Prevention	Danpur	40	7.05	2.037	0.322	6.40	7.70	5	10
	Baddupur	40	8.13	2.451	0.388	7.34	8.91	5	10
	Bhiti	40	8.00	2.481	0.392	7.21	8.79	5	10
	Itifatganj	40	8.88	2.115	0.334	8.20	9.55	5	10
	Dharmupur	40	8.13	2.451	0.388	7.34	8.91	5	10
	Total	200	8.04	2.365	0.167	7.71	8.36	5	10

Table 3 illustrates the variations in general awareness of menopausal women across different villages, Itifatganj consistently ranking the highest (8.88) across all domains. Respondents from Itifatganj demonstrated the highest level of awareness regarding the physical changes associated with

menopause. In contrast, Danpur reported the lowest awareness, particularly in the domain of hormonal changes. The majority of respondents from Itifatganj were well-informed about the symptoms and health risks related to menopause. Moreover, Danpur showed the lowest

awareness in the area of management and treatment during menopause. When it came to lifestyle modifications and preventive measures, women from Iltifatganj exhibited significantly higher levels of awareness. Overall, menopausal awareness were found highest among women in Iltifatganj. This can be largely attributed to its

urban development, enhanced infrastructure, and improved educational opportunities following its elevation to Nagar Panchayat status. These factors have played a crucial role in raising awareness and understanding of menopause among the women in this village.

**Table 4:** One-Way ANOVA Results Analyzing Differences in Menopausal Women's Knowledge Based on Education Level. (N=200)

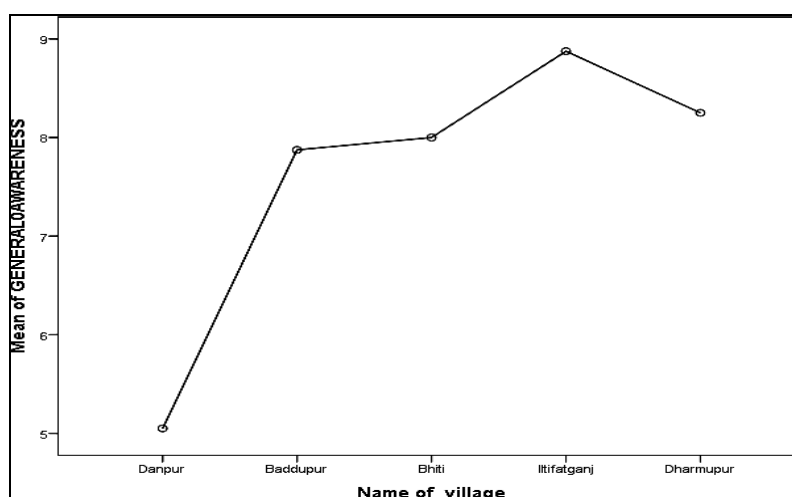
ANOVA						
		Sum of Squares	DF	Mean Square	F	Sig.
General Awareness	Between Groups	351.430	4	87.858	19.734	0.000*
	Within Groups	868.150	195	4.452		
	Total	1219.580	199			
Physical Changes	Between Groups	46.250	4	11.563	2.173	0.073
	Within Groups	1037.625	195	5.321		
	Total	1083.875	199			
Emotional Changes	Between Groups	21.250	4	5.313	0.964	0.428
	Within Groups	1074.250	195	5.509		
	Total	1095.500	199			
Hormonal Changes	Between Groups	41.930	4	10.482	2.036	0.091
	Within Groups	1004.150	195	5.149		
	Total	1046.080	199			
Symptoms And Health Risks	Between Groups	19.930	4	4.983	0.966	0.427
	Within Groups	1006.150	195	5.160		
	Total	1026.080	199			
Management And Treatment	Between Groups	66.950	4	16.737	3.553	0.008*
	Within Groups	918.550	195	4.711		
	Total	985.500	199			
Lifestyle And Prevention	Between Groups	67.730	4	16.933	3.160	0.015*
	Within Groups	1045.025	195	5.359		
	Total	1112.755	199			

\* The mean difference is significant at the 0.05 level.

The results of the one-way ANOVA revealed statistically significant differences in awareness regarding menopausal self-care among rural women. Specifically, a significant difference was found in general awareness ( $F = 19.734$ ,  $p < 0.001$ ), indicating that levels of general knowledge about menopause varied notably among the groups studied. Additionally, a significant difference was observed in the domain of management and treatment ( $F = 3.553$ ,  $p = 0.008$ ), suggesting that women's understanding of how to manage and treat menopausal symptoms differed across groups. In contrast, no significant differences were found in the awareness regarding physical ( $F = 2.173$ ,  $p = 0.073$ ), emotional ( $F = 0.964$ ,  $p = 0.428$ ) and hormonal changes ( $F = 2.036$ ,  $p = 0.091$ ), as well as in the domain of symptoms and

health risks ( $F = 0.966$ ,  $p = 0.427$ ).

These findings indicate that awareness in these areas was relatively low among the respondents, independent of group differences. Overall, the data suggested that while general awareness and knowledge of treatment options vary significantly, other aspects of menopausal awareness remain more uniform across the study population. In support of these findings, Sihag *et al.* (2024) reported a statistically significant difference in menopause-related knowledge when respondents were categorized according to their educational attainment ( $F = 13.08$ ,  $p < 0.05$ ). This result highlights the critical role of education in shaping women's awareness and understanding of menopausal health, particularly within rural populations.



**Fig 1:** Mean value of general awareness during menopause according to villages

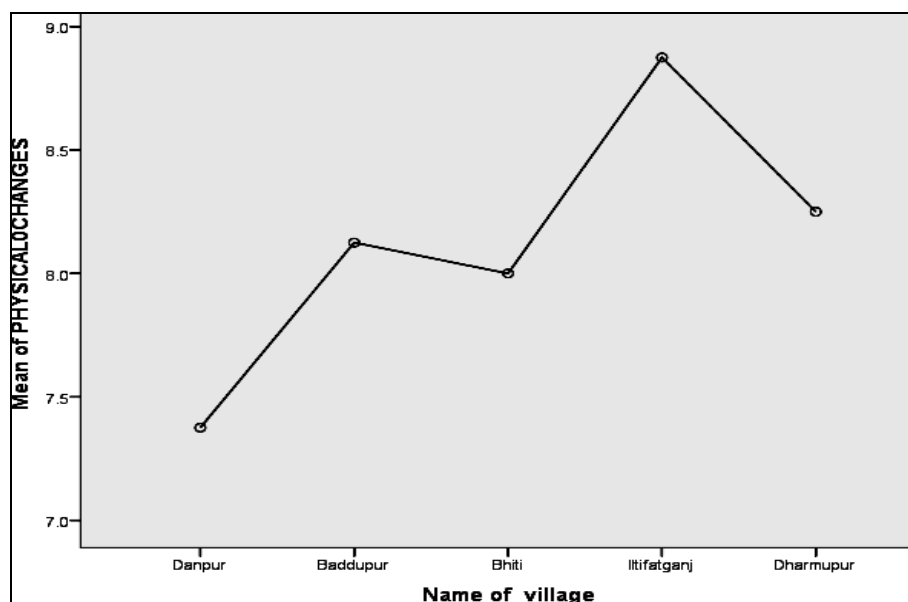


Fig 2: Mean value of awareness regarding physical changes during menopause according to villages

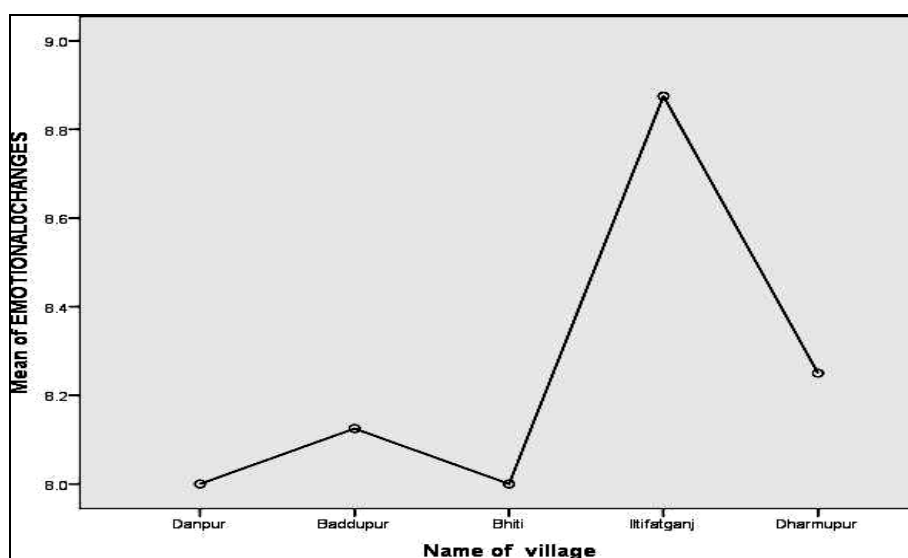


Fig 3: Mean value of awareness regarding emotional changes during menopause according to villages

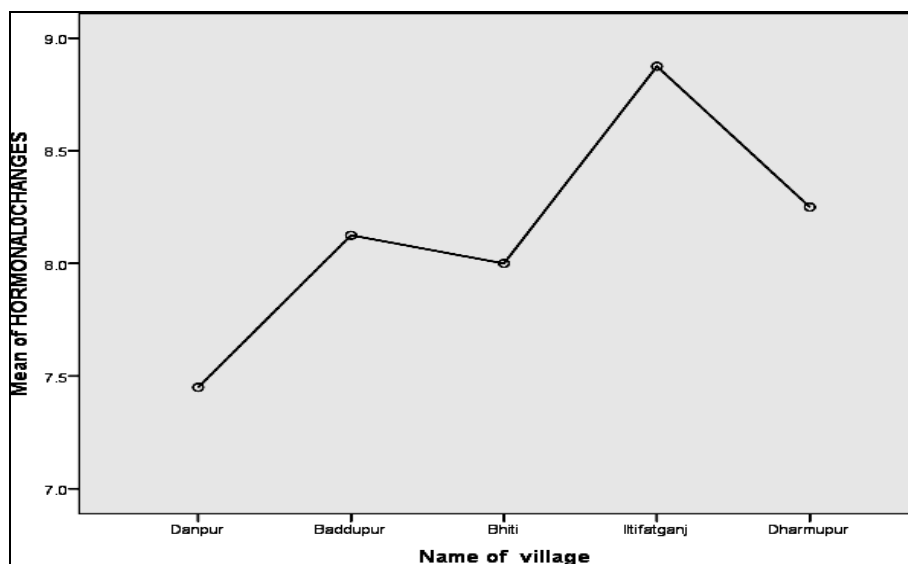


Fig 4: Mean value of awareness regarding hormonal changes during menopause according to villages



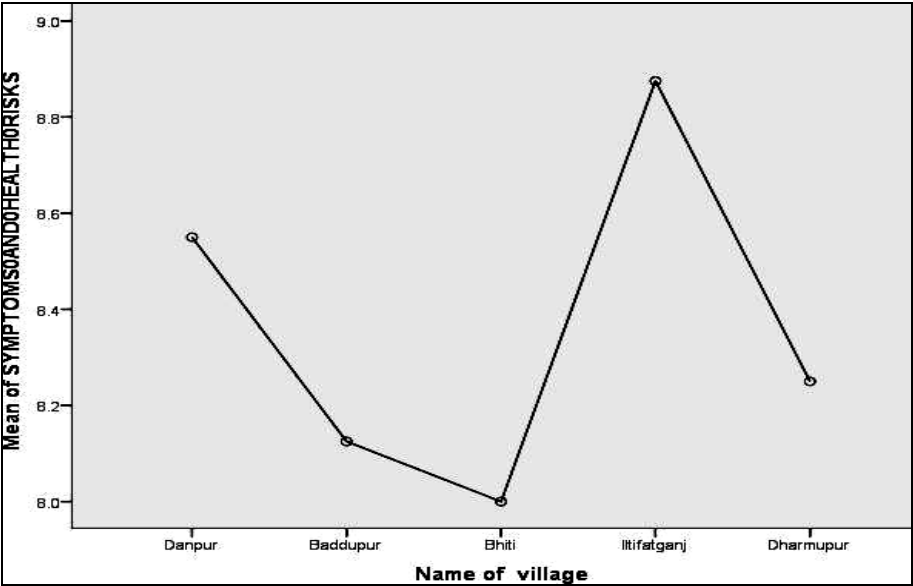


Fig 5: Mean value of awareness regarding symptoms and health risk during menopause according to villages



Fig 6: Mean value of awareness regarding management and treatment during menopause according to village

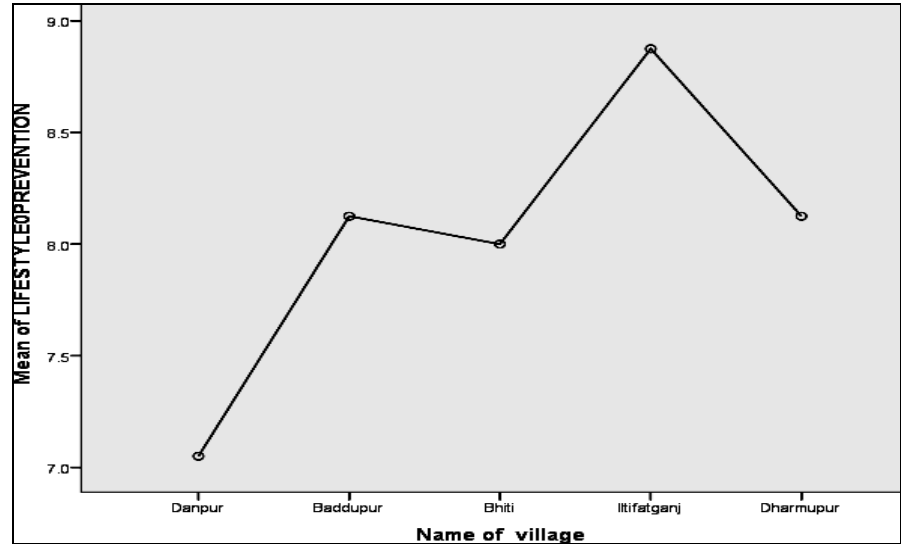


Fig 7: Mean value of awareness regarding life style and prevention during menopause according to villages

**Table 6:** Analyzing the Relationship between Education Level and Knowledge of Menopausal Women across Various Domains

		Correlations							
		Education of the respondents	General awareness	Physical Changes	Emotional Changes	Hormonal Changes	Symptoms and health Risks	Management And Treatment	lifestyle prevention
Education of The Respondents	Pearson Correlation	1	0.516**	0.595**	0.586**	0.619**	0.607**	0.607**	0.600**
	Sig. (2- tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	200	200	200	200	200	200	200	200

\*\* Correlation is significant at the 0.01 level (2-tailed).

The correlation analysis revealed a statistically significant positive relationship between the education level of the respondents and their knowledge across all domains of menopausal self-care. Pearson correlation coefficients indicated moderate to strong positive correlations, all significant at the 0.01 level (2-tailed). Specifically, education was positively correlated with general awareness ( $r=.516, p<0.001$ ), awareness of physical changes ( $r=.595, p<0.001$ ), emotional changes ( $r=.586, p<0.001$ ), hormonal changes ( $r=.619, p<0.001$ ), symptoms and health risks ( $r=.607, p<0.001$ ), management and treatment ( $r=.607, p<0.001$ ) and lifestyle prevention ( $r=.600, p<0.001$ ). These findings suggest that higher levels of education were associated with a greater understanding and awareness of menopausal self-care among rural women. This is consistent with existing literature which indicates that education plays a critical role in enhancing health literacy and health-seeking behavior among women, particularly in the context of reproductive and post-reproductive health (Baber *et al.*, 2016; Avis *et al.*, 2009). Similarly, by Khatoon & Jahan (2018) and Borker *et al.* (2013) similarly reported that women with higher educational attainment were more knowledgeable about menopausal symptoms, coping strategies and available treatment options. Moreover, according to the World Health Organization (2010), health education contributes significantly to empowering women to manage menopause-related challenges more effectively.

**Conclusion**

This study highlights the urgent need to strengthen awareness initiatives related to peri-menopause and menopause. Efforts should focus on educating women about expected symptoms, potential complications, risk factors and associated health concerns to empower informed health decisions during this transitional phase. There is a critical necessity to promote the adoption of healthy lifestyle modifications - including balanced diet, regular physical activity, dietary supplements and a positive mental outlook - as the first line of management. Such proactive measures can significantly reduce the distressing symptoms associated with the menopausal transition and enhance the overall quality of life for women. The findings shows that rural women with higher education levels have better awareness and understanding of menopausal self-care. This is consistent with data from the National Family Health Survey-5 (NFHS-5), which reports that premature menopause is more common among less educated women (6.8% for ages 30-39) compared to only 0.9 percent among more educated women. In light of these findings, it is imperative to implement targeted educational programs, especially in rural and

underserved areas. Bridging the knowledge gap through community-based interventions and public health initiatives will empower women to manage menopause more effectively, ultimately improving health outcomes and enhancing their quality of life during this critical stage.

**Limitations**

As the study is conducted on the population of the Ambedkar Nagar district of Uttar Pradesh with a small sample size, therefore the results and observations will reflect only those in this geographic area and not the whole country.

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**Conflict of interest**

None declare

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