



AWARENESS AND PERCEPTION ABOUT MENOPAUSE AND ITS SYMPTOMS -A CROSS SECTIONAL STUDY .

Obstetrics & Gynaecology

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ABSTRACT

Background: Menopause marks a significant physiological transition in women, typically occurring between ages 45 and 55, characterized by declining estrogen levels and associated symptoms such as hot flashes, mood disturbances, and sleep disturbances. Globally, over 1 billion women are expected to be postmenopausal by 2030, highlighting the importance of understanding menopausal health and improving quality of life during this phase. This study aimed to assess awareness, knowledge, and health perceptions related to menopause among women in both rural and urban settings. **Method:** Conducted as a cross-sectional study at MGM Medical College, Aurangabad, from September 2022 to March 2024, the study enrolled women aged 40 to 60 years who had experienced natural menopause. A structured questionnaire was used to collect data on demographics, menopause awareness, knowledge of HRT and calcium supplementation, health perceptions, exercise habits, and sexual activity. Data analysis employed appropriate statistical methods to assess associations and correlations among variables. **Results:** Among 139 participants, 74.1% were aware of menopause, with no significant difference across education levels. Awareness of HRT was reported by 56.1% of women, with higher awareness among urban residents (62.9%) compared to rural (49.3%). Knowledge of calcium supplementation was high overall (87.8%), significantly associated with higher education levels ($p = 0.018$). Health perception varied significantly between rural and urban areas ($p < 0.00001$), with 63.8% of rural women rating their health as excellent compared to 24.3% of urban women. Exercise habits did not significantly differ by residence or education level, with approximately half of the participants engaging in regular exercise. **Conclusion:** The study underscores varied awareness and perceptions of menopause among women in rural and urban areas, influenced by educational backgrounds. While knowledge of menopause and its management tools like HRT and calcium supplementation was generally moderate to high, disparities exist across different demographic groups. Educational interventions tailored to regional and educational contexts are crucial for enhancing awareness and promoting healthier lifestyles during menopause. Addressing these gaps can improve overall menopausal health outcomes and quality of life among women across diverse socio-economic backgrounds.

KEYWORDS

INTRODUCTION

Menopause, marking the end of a woman's reproductive years, typically occurs between the ages of 45 and 55 and involves a decline in estrogen levels. This transition can lead to symptoms like hot flashes, mood swings, and sleep disturbances, significantly impacting the quality of life. With over 1 billion women worldwide expected to be postmenopausal by 2030, understanding and addressing menopausal health is crucial.¹

Awareness and perceptions of menopause vary widely across different populations. In rural areas, a lack of accurate information often leads to misconceptions and inadequate management of symptoms. For example, a study in rural India found that only 18% of women had a basic understanding of menopausal symptoms.² In contrast, urban areas tend to have better access to healthcare and information, with 73% of women in a US survey reporting being well-informed about menopause.³

Knowledge about Hormone Replacement Therapy (HRT) and calcium supplementation, important for managing menopausal symptoms and preventing osteoporosis, also varies. Higher educational levels are associated with more positive perceptions and better-informed decisions about these treatments.⁴ However, misconceptions about HRT, such as the perceived cancer risk, persist and influence treatment choices.⁵

Addressing these disparities is essential for improving menopausal health education and care. Tailored health education programs can bridge knowledge gaps and promote healthier lifestyles among menopausal women, especially in underserved areas. The present study aims to assess the awareness, knowledge, and health perceptions related to menopause among women in rural and urban areas. Specifically, the objectives are to determine the level of awareness of menopause, evaluate knowledge and perceptions regarding HRT and

calcium supplementation, investigate the association between education level and awareness of menopausal health issues, and assess self-reported health status, exercise habits, and sexual activity in relation to menopause among the study population.

Methodology

This cross-sectional study was conducted in the Department of Obstetrics at MGM Medical College, Aurangabad, from September 2022 to March 2024. The study population comprised of women aged 40 to 60 years who attended the outpatient department of Obstetrics at MGM Medical College. To be included in the study, women had to have experienced natural menopause, defined as the absence of menstrual periods for 12 consecutive months. Women with surgical menopause, those on long-term hormonal therapy, and those with severe comorbid conditions that could affect their menopausal status were excluded from the study. A total of 139 women participated in the study. Data were collected using a structured questionnaire, which was developed based on validated tools from previous studies. The questionnaire included sections on demographic information, awareness of menopause, knowledge and perceptions regarding hormone replacement therapy (HRT) and calcium supplementation, and self-reported health status, exercise habits, and sexual activity. The questionnaire was administered by trained interviewers who ensured that participants fully understood the questions and provided accurate responses. Ethical approval for the study was obtained from the institutional review board of MGM Medical College. All participants provided informed consent prior to participation in the study. Data were anonymized to maintain confidentiality and analyzed using appropriate statistical methods to determine the level of awareness, knowledge, and perceptions related to menopause among the study population.

RESULTS

The results of this study highlight various aspects of awareness and

experiences related to menopause, hormone replacement therapy (HRT), calcium supplementation, health perceptions, exercise habits, and sexual activity among women. The data reveals significant insights into how these factors are influenced by education level, residence, and years since menopause.

Awareness of Menopause

Table 1-Awareness of menopause-

AWARENESS OF MENOPAUSE		
YES	NO	TOTAL
103	36	139
74.1%	25.9%	100.0%

Out of the 139 women surveyed, 103 (74.1%) reported being aware of menopause, while 36 (25.9%) were not. The awareness levels among difference education levels is shown in Table.The p-value of 0.663 indicates no significant association between education level and awareness of menopause.

Hrt Awareness

Table 2- Hrt Awareness

AWARE ABOUT HRT	NOT AWARE ABOUT HRT	Total
78	61	139

Table 3:rural/urban Vs Hrt Awareness

Table 3 : Rural/Urban vs HRT Awareness			
Residenc	NO	YES	Total
RURAL	35 (50.72%)	34 (49.28%)	69 (100.0%)
URBAN	26 (37.14%)	44 (62.86%)	70 (100.0%)
Total	61 (43.88%)	78 (56.12%)	139 (100.0%)
P-Value	0.14919 Not Significant, Chi-square test applied		

Among the 139 women, 78 (56.1%) were aware of HRT, while 61 (43.9%) were not. Rural areas had a 49.3% awareness rate compared to 62.9% in urban areas, but the p-value of 0.15 indicated no significant association based on residence. When considering education, awareness increased with higher education levels, however, the p-value of 0.12 suggests no significant difference based on education.

Table 4: Awareness Of Menopause And Hrt By Education Level

Education Level	Aware of Menopause (%)	Not Aware of Menopause (%)	Aware of HRT (%)	Not Aware of HRT (%)
Uneducated	2 (66.7%)	1 (33.3%)	1 (33.3%)	2 (66.7%)
Primary Education	8 (80.0%)	2 (20.0%)	3 (30.0%)	7 (70.0%)
Higher Secondary	28 (77.8%)	8 (22.2%)	17 (48.6%)	18 (51.4%)
Graduate	65 (71.1%)	26 (28.9%)	57 (62.6%)	34 (37.4%)
Total	103 (74.1%)	36 (25.9%)	78 (56.1%)	61 (43.9%)
p-value	0.66		0.12	

Knowledge Of Calcium Supplementation Table 5-

Yes	No	Total
122	12	139
87.77%	12.23%	100%

Table 6:- Rural/urban Vs Knowledge Of Calcium

Table 6: Rural/Urban vs Knowledge of calcium Supplementation			
Residence	YES	NO	Total
RURAL	60 (86.96%)	9 (13.04%)	69 (100.0%)
URBAN	62 (88.57%)	8 (11.43%)	70 (100.0%)
Total	122 (87.77%)	17 (12.23%)	139 (100.0%)
P-Value	0.97474 Not Significant, Chi-square test applied		

Knowledge of calcium supplementation was high overall, with 87.8% of participants being informed. Rural and urban areas showed similar levels of knowledge (86.96% and 88.57% respectively) with a p-value of 0.97 indicating no significant difference. However, there was a significant association between education level and knowledge of calcium supplementation (p-value of 0.02), with higher education levels correlating with better knowledge.

Table 7: Knowledge of Calcium Supplementation in Menopause by Education Level

Education Level	Aware (%)	Not Aware (%)	Total (%)
28	International Journal of Scientific Research		

Uneducated	1 (33.3%)	2 (66.7%)	3 (100%)
Primary	8 (80.0%)	2 (20.0%)	10 (100%)
Higher Secondary	30 (85.7%)	5 (14.3%)	35 (100%)
Graduate	83 (91.2%)	8 (8.8%)	91 (100%)
Total	122 (87.8%)	17 (12.2%)	139 (100%)
P-value:	0.018		

Perception Of Health

Table 8: Rural/urban Vs Level Of Perception Of Health

Residence	EXCELLENT	GOOD	Total
IRURAL	44 (63.77%)	25 (36.23%)	69 (100.0%)
URBAN	17 (24.29%)	53 (75.71%)	70 (100.0%)
Total	61 (43.88%)	78 (56.12%)	139 (100.0%)
P-Value	0.00001 Highly Significant, Chi-square test applied		

Table 9: Education Vs Level Of Perception Of Health

Table 9: Education vs Level of perception of health			
Health			
Educationm	EXCELLENT	GOOD	Total
UNEDUCATED	2 (66.67%)	1 (33.33%)	3 (100.0%)
PRIMARY	5 (50.0%)	5 (50.0%)	10 (100.0%)
HIGHER/SECONDARY	18 (51.43%)	17 (48.57%)	35 (100.0%)
GRADUATES	36 (39.56%)	55 (60.44%)	91 (100.0%)
Total	61 (43.88%)	78 (56.12%)	139 (100.0%)
P-Value	0.51560 Not Significant, Chi-square test applied		

Perception of health varied significantly between rural and urban areas. In rural areas, 63.8% of participants rated their health as excellent compared to 24.3% in urban areas, while good health perception was higher in urban areas (75.7% vs. 36.2%). The p-value of 0.00001 indicates a highly significant difference. No significant association was found between education level and health perception (p-value of 0.51560).

Exercise Habits

Table 10: Rural/urban Vs Exercise Habit

Table 10: Rural/Urban vs Exercise Habit			
Residence	NO	YES	Total
IRURAL	39 (56.52%)	30 (43.48%)	69 (100.0%)
URBAN	30 (42.86%)	40 (57.14%)	70 (100.0%)
Total	69 (49.64%)	70 (50.36%)	139 (100.0%)
P-Value	0.14948 Not Significant, Chi-square test applied		

Table 11: Education Vs Exercise Habit

Table 11: Education vs Exercise Habit			
Education	NO	YES	Total
UNEDUCATED	1 (33.33%)	2 (66.67%)	3 (100.0%)
PRIMARY	6 (60.0%)	4 (40.0%)	10 (100.0%)
HIGHER/SECONDARY	17 (48.57%)	18 (51.43%)	35 (100.0%)
GRADUATES	45 (49.45%)	46 (50.55%)	91 (100.0%)
Total	69 (49.64%)	70 (50.36%)	139 (100.0%)
P-Value	0.85764 Not Significant, Chi-square test applied		

Exercise habits did not significantly differ between rural (43.5% exercising regularly) and urban areas (57.1% exercising regularly), with a p-value of 0.14948. Education level also did not show a significant impact on exercise habits (p-value of 0.85764), although graduates had slightly higher rates of regular exercise (50.6%).

Knowledge About Menopause

Table 12: Rural/urban Vs Rate The Knowledge About Menopause

Table 12: Rural/Urban vs Rate the Knowledge About Menopause				
	GOOD	AVERAGE	POOR	Total
RURAL	17 (24.64%)	45 (65.22%)	7 (10.14%)	69 (100.0%)
URBAN	10 (14.29%)	52 (74.29%)	8 (11.43%)	70 (100.0%)
Total	27 (19.42%)	97 (69.78%)	15 (10.79%)	139 (100.0%)
P-Value	0.30429 Not Significant, Chi-square test applied			

Table 13: Education Vs Knowledge About Menopause

TABLE 13: EDUCATION VS KNOWLEDGE ABOUT MENOPAUSE				
	1GOOD	2AVERAGE	3POOR	Total
UNEDUCATED	2 (66.67%)	1 (33.33%)	0 (0.0%)	3 (100.0%)
PRIMARY	3 (30.0%)	7 (70.0%)	0 (0.0%)	10 (100.0%)

HIGHER/SECONDARY	6 (17.14%)	29 (82.86%)	0 (0.0%)	35 (100.0%)
GRADUATES	16 (17.58%)	60 (65.93%)	15 (16.48%)	91 (100.0%)
Total	27 (19.42%)	97 (69.78%)	15 (10.79%)	139 (100.0%)
P-Value	0.03184 Significant, Chi-square test applied			

Overall, 19.4% of women rated their knowledge about menopause as good, 69.8% as average, and 10.8% as poor. The rural-urban comparison showed no significant difference (p-value of 0.30429). However, education level had a significant impact on knowledge about menopause (p-value of 0.03184), with higher education correlating with better knowledge.

Feelings About Menopause

Table 14: Rural/Urban vs Feelings About Menopause

Residence	POSITIVE	NEGATIVE	AMBIVALENT	Total
RURAL	16 (23.19%)	26 (37.68%)	27 (39.13%)	69 (100.0%)
URBAN	18 (25.71%)	21 (30.0%)	31 (44.29%)	70 (100.0%)
Total	34 (24.46%)	47 (33.81%)	58 (41.73%)	139 (100.0%)
P-Value	0.63183 Not Significant, Chi-square test applied			

Table 15: Education vs Feelings About Menopause

	POSITIVE	NEGATIVE	AMBIVALENT	Total
UNEDUCATED	0 (0.0%)	3 (100.0%)	0 (0.0%)	3 (100.0%)
PRIMARY	1 (10.0%)	8 (80.0%)	1 (10.0%)	10 (100.0%)
HIGHER/SECONDARY	12 (34.29%)	9 (25.71%)	14 (40.0%)	35 (100.0%)
GRADUATES	21 (23.08%)	27 (29.67%)	43 (47.25%)	91 (100.0%)
Total	34 (24.46%)	47 (33.81%)	58 (41.73%)	139 (100.0%)
P-Value	0.00464 Significant, Chi-square test applied			

Out of the 139 women, 84 had positive feelings about menopause, 47 had negative feelings, and 58 were ambivalent. The rural-urban comparison showed no significant difference (p-value of 0.63183). Education level significantly influenced feelings about menopause (p-value of 0.00464), with higher education levels associated with more positive and ambivalent feelings.

Self-Breast Examination

Table 16- Correlation between education level and the practice of self breast examination-

	UNEDUCATED	PRIMARY	SECONDARY	GRADUATE	TOTAL
YES	2(2.80%)	7(9.90%)	24(33.80%)	38(53.50%)	71
NO	1(1.50%)	3(4.40%)	12(17.60%)	52(76.50%)	68
TOTAL	3(2.20%)	10(7.20%)	36(25.90%)	90(64.70%)	139

P value -0.044987 significant

In our study, 71(51.07%) performed self breast examination and 68(48.92%) did not perform self breast examination. There was a significant correlation between education level and the practice of self-breast examination (p-value of 0.044987). Higher education levels were associated with a higher likelihood of performing self-breast examinations, with 53.5% of graduates performing them compared to 2.8% of uneducated individuals.

Sexual Activity Since Menopause

Table 17 sexual activity status among year since menopause

	Sexually active		
Yrs SINCE MENOPAUSE	YES	NO	TOTAL
< 5 YRS	44(78.60%)	12(21.40%)	56
5-10 Yrs	13(39.40%)	20(60.60%)	33
11-15 Yrs	11(50.00%)	11(50.00%)	22
> 15 Yrs	10(35.70%)	18(64.30%)	28

P value -0.000148 significant

Sexual activity varied significantly with years since menopause (p-value of 0.000148). Within 5 years since menopause, 78.6% were sexually active, compared to 39.4% in the 5-10 years group, 50.0% in the 11-15 years group, and 35.7% in the more than 15 years group.

When comparing those with 10 years or less since menopause to those with more than 10 years, the p-value of 0.011953 indicated a significant difference.

Prevalence of Menopause Symptoms

Table 18 prevalence of symptoms of menopause

Symptoms	Number	Percentage
Vasomotor symptoms -		
Hot flushes	120	87%
Night sweats	139	100%
Difficulty getting to sleep	58	42%
Difficulty in staying asleep	99	71.70%
Palpitations and sweating	139	100%
Central nervous system symptoms-		
Feel more tired than usual	139	100%
Difficulty in concentrating	139	100%
Poor memory	62	45%
More irritable than usual	139	100%
Feel more anxious than usual	139	100%
Have more depressed mood	139	100%
Mood swings	139	100%
Crying spells	139	100%
Headaches	139	100%
Genitourinary symptoms		
Need to urinate more often than usual	139	100%
Leaking of urine	139	100%
Pain or burning while urination	139	100%
Bladder infections	139	100%
Uncontrollable loss of stool or gas	139	100%
Vaginal dryness	139	100%
Vaginal itching	139	100%
Abnormal vaginal discharge	139	100%
Vaginal infections	139	100%
Pain during intercourse	13	9.40%
Lack of desire or interest in sexual activity	123	89%
Difficulty in achieving orgasms	123	89%
Other symptoms		
Bloated stomach	123	89%
Gained weight	123	89%
Tender breasts	123	89%
Joint pains and backaches	123	89%

The prevalence of menopause symptoms varied, with 87% experiencing hot flushes, 100% experiencing night sweats, palpitations, tiredness, difficulty concentrating, poor memory, irritability, anxiety, depressed mood, mood swings, crying spells, headaches, and urinary issues.

DISCUSSION

The study provides a comprehensive assessment of menopausal awareness, knowledge, and perceptions among women in rural and urban areas, reflecting the nuanced understanding and various factors influencing menopausal health.

In our study, 74.1% of the women were aware of menopause, with no significant difference across educational levels (p=0.663). Similar awareness levels have been reported in various studies. For instance, a study in South India by **Borker and Venugopalan, et al 2013**² found that 85% of women were aware of menopause. Similarly, the study by **Feng Jin et al. (2014)**⁶ in Shanghai reported that a significant majority of women were aware of menopausal symptoms, with 94.8% recognizing sweating/hot flushes as related to menopause. Additionally, while our study found no significant difference in menopause awareness across educational levels, this study indicated that menopausal status, occupation, and marital status significantly influenced HRT awareness. **Alshogran et al. (2020)**⁷ found that over 50% of participants were knowledgeable about various aspects of menopause, including its definition, onset, and consequences. This suggests that while awareness levels are relatively high, regional variations exist, possibly due to differences in healthcare access and educational outreach.

Regarding hormone replacement therapy (HRT), 56.1% of the women in our study were aware of it, with urban women (62.9%) showing slightly higher awareness than rural women (49.3%), though not

statistically significant ($p=0.14$). Awareness also increased with education, but the difference was not significant ($p=0.12$). This contrasts sharply with the findings from **Feng Jin et al. (2014)**,⁶ where only 3.5% of women were aware of HRT. The stark difference underscores the need for improved educational efforts about HRT in different cultural contexts, highlighting the role of healthcare providers in disseminating information. **Alshogran et al. (2020)**⁷ also reported very low knowledge about HRT and preference for natural remedies instead. In **Kiran Bala et al. (2022)**,⁸ none of the respondents in the Jammu study had heard of HRT, emphasizing the lack of awareness in rural areas.

Our study revealed a high overall knowledge of calcium supplementation (87.8%), with no significant difference between rural and urban areas ($p=0.97$). However, a significant association was found between education level and knowledge ($p=0.01$). The high knowledge of calcium supplementation underscores effective education on the importance of bone health during menopause. However, the significant association with education levels indicates that educational interventions should particularly target those with lower educational backgrounds to ensure widespread understanding.

Perception of health varied significantly between rural and urban areas, with 63.8% of rural women rating their health as excellent compared to 24.3% of urban women, indicating a highly significant difference ($p=0.00001$). In **Kiran Bala et al. (2022)**,⁸ 77.9% of rural women rated their health as poor to fair, and only 5.3% reported very good health post-menopause. This contrasts with the higher self-rated health status in our study, indicating possible differences in health perception and reporting between different rural settings.

Many studies have reported that physical activity decreases the effect of menopausal symptoms. A study by **Magdalena Dąbrowska-Galas et al. (2019)**⁹ reported that high physical activity levels during leisure time are significantly associated with reduced severity of menopausal symptoms in Polish women, with 59.66% of postmenopausal women reporting high levels of physical activity. Only 4.26% of women with high physical activity levels experienced severe urogenital symptoms, compared to 10.82% with low levels and 11.15% with moderate levels ($p=0.046$). **Nikpour S et al. (2014)**¹⁰ reported an improvement in quality of life with regular exercise. In our study, exercise habits did not significantly differ between rural (43.5% exercising regularly) and urban areas (57.1% exercising regularly), with a p -value of 0.15. Education level also did not show a significant impact on exercise habits ($p=0.86$), although graduates had slightly higher rates of regular exercise (50.6%). These findings are consistent with a study by **Azevedo et al. (2007)**,¹¹ which found no significant difference in exercise habits between urban and rural populations, but a trend towards higher physical activity among more educated individuals.

Overall, 19.4% of women rated their knowledge about menopause as good, with higher education correlating with better knowledge ($p=0.03$). In terms of feelings about menopause, higher education levels were significantly associated with more positive and ambivalent feelings ($p=0.00464$). In the study by **Kiran Bala et al. (2022)**,⁸ two-thirds (66.12%) of the respondents described menopause as a feeling of relief from menstruation-related problems, and the majority had positive perceptions of menopause. This is consistent with our finding that higher education levels correlate with more positive feelings about menopause.

There was a significant correlation between education level and the practice of self-breast examination ($p=0.04$), with higher education levels associated with a higher likelihood of performing these examinations. Similarly, also **Tilaki et al. (2015)**¹² reported a significant association between higher educational levels and the practice of breast self-examination.

Sexual activity varied significantly with years since menopause ($p=0.0001$), with a notable decline in activity over time. This is consistent with findings from **Feng Jin et al. (2014)** where libido reduction was a commonly reported symptom.

The prevalence of menopausal symptoms was high, with 87% experiencing hot flushes and 100% reporting other symptoms such as night sweats, palpitations, and mood disturbances. This is in line with the findings from **Feng Jin et al. (2014)** where a high prevalence of symptoms like hot flushes and mood swings was reported. **Kiran Bala**

et al. (2022),⁸ reported muscle and joint pains, weakness, and other menopausal symptoms were prevalent among the respondents, with 83.7% reporting poor to fair health.

Overall, the study highlights the need for targeted educational interventions to improve awareness and knowledge about menopause and its management, particularly in rural areas and among women with lower educational levels. Comparing our findings with other studies underscores the importance of contextual factors in shaping menopausal health perceptions and behaviors.

CONCLUSION:

This study reveals significant differences in awareness, knowledge, and perceptions of menopause among women in rural and urban areas. Although overall awareness of menopause and calcium supplementation was relatively high, substantial disparities exist, particularly concerning hormone replacement therapy (HRT) and self-breast examinations. Education level emerged as a critical factor influencing knowledge and health behaviors. These findings underscore the need for targeted educational interventions to address knowledge gaps and promote healthier lifestyles among menopausal women, especially in underserved rural areas.

Limitations

Several limitations should be considered when interpreting the results of this study:

1. The study's small sample size and single-location focus limit the generalizability of the findings.
2. Potential bias from self-reported data may affect the accuracy of results.

Scope of our study -

Based on the findings and limitations of this study, the following recommendations are proposed:

1. **Educational Interventions:** Develop and implement targeted educational programs focusing on menopause awareness, HRT, and calcium supplementation. These programs should be tailored to different educational levels and cultural contexts, with particular emphasis on rural areas.
2. **Healthcare Provider Training:** Enhance the training of healthcare providers to improve communication and education about menopausal health, ensuring they are equipped to address misconceptions and provide evidence-based information.
3. **Community Outreach:** Initiate community outreach programs to disseminate accurate information about menopause, leveraging local community leaders and healthcare workers to reach women in rural areas effectively.
4. **Longitudinal Studies:** Conduct longitudinal research to monitor changes in menopausal awareness, knowledge, and perceptions over time, and to evaluate the long-term effectiveness of educational interventions.
5. **Comprehensive Health Services:** Integrate comprehensive menopausal health services into primary healthcare, including regular screenings, counseling, and support groups to address both physical and psychological aspects of menopause.
6. **Policy Advocacy:** Advocate for policies that support menopausal health education and services, ensuring equitable access to information and care for all women, regardless of their geographic or socioeconomic status.
7. **Further Research:** Expand research to include larger, more diverse populations across different regions to enhance the generalizability of findings and to explore the impact of cultural and socioeconomic factors on menopausal experiences.

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