

Effectiveness of a Multimedia Educational Module on Knowledge Regarding Selected Menopausal Changes and their Management among Women in Selected Community Areas of Dewas District, M.P.

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ABSTRACT

Background: Menopause is a natural physiological transition usually occurring between 45–55 years. this study investigated the effectiveness of a Multimedia Educational Module on knowledge regarding menopausal changes and their management.

Methods: A quasi-experimental, one-group pre-test/post-test study was conducted among 60 menopausal-age women selected via simple random sampling. Baseline knowledge was collected using a structured questionnaire. After the pre-test, the educational module was administered, followed by a post-test.

Results: The group mean knowledge score increased significantly from a baseline of 13.37 (44.58%) to a post-test level of 23.67 (78.91%), showing a mean enhancement of 10.30 (34.33%). The paired t -test value was 58.48 (df=59), which was highly significant ($p < 0.05$). Pre-test scores were significantly associated with educational status and source of information.

Conclusions: The multimedia module is highly effective in improving menopausal literacy among women. Incorporating structured education into community health services is an efficient strategy to empower women during this transition.

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INTRODUCTION

Menopause is a natural biological process marking the permanent cessation of menstruation, typically occurring between 45–55 years of age due to declining ovarian function. According to the World Health Organization (1996), this transition is associated with various physiological and psychological changes that affect overall well-being [5]. Common physical symptoms include hot flashes and night sweats, while psychological symptoms such as mood swings, anxiety, and sleep disturbances are frequently reported. Nelson (2008) highlighted that these symptoms can significantly impair daily functioning if not properly managed [6].

Effective management involves a combination of lifestyle modifications, such as a balanced diet and regular exercise. Dutta (2016) emphasized the role of professional medical management, including

hormone replacement therapy, for severe symptoms [7]. Traditional methods of health education, like pamphlets, are often not sufficiently engaging. To address this gap, developed a Multimedia Educational Module. This approach combines audio and visual content to bridge literacy barriers, helping women adopt healthy coping strategies and improve their quality of life.

METHODS:

A one-group pre-test/post-test quasi-experimental study was conducted in selected community areas of dewas District, M.P. A sample of 60 women aged 40–55 years experiencing menopausal changes was selected using simple random sampling.

The independent variable was the researcher-developed multimedia educational module, which

covered general knowledge, physical changes, psychological shifts, and symptom management. Knowledge was assessed at baseline (pre-test) and post-intervention (post-test) using a validated structured questionnaire. Based on the structural

framework established, the tool assessed knowledge levels categorized into three distinct tiers: Inadequate (<50%), Moderate (50%-75%), and Adequate (>75%).

RESULTS & DATA ANALYSIS:

TABLE 1: SOCIO-DEMOGRAPHIC DISTRIBUTION OF THE PARTICIPANT COHORT (N=60)

Demographic Variables	Categories	Sample Count (n)	Percentage (%)
Age (In years)	40–45	15	25.00%
	46–50	20	33.33%
	51–55	11	18.33%
	56 and above	14	23.33%
Educational Status	No formal	8	13.30%
	Primary	19	31.70%
	Secondary	24	40.00%
	Graduate+	9	15.00%
Occupation	Housewife	26	43.30%
	Private job	12	20.00%
	Government	6	10.00%
	Self-employed	16	26.70%
Monthly Income	Below ₹10k	24	40.00%
	₹10k–₹20k	27	45.00%
	₹20k–₹30k	6	10.00%
	₹30k+	3	05.00%
Type of Family	Nuclear	35	58.30%
	Joint	12	20.00%
	Extended	13	21.70%
Source of Info	Family/Friends	32	53.30%
	Health workers	7	11.70%
	Media	9	15.00%
	None	12	20.00%

Table 1 shows that the largest participant subgroup was aged 46–50 years (33.33%). A majority had secondary education (40.00%), worked as housewives (43.30%), lived in nuclear families (58.30%), and earned ₹10,001–₹20,000 monthly (45.00%). Notably, informal networks of family and friends served as the primary source of prior health information for over half the cohort (53.30%).

TABLE 2: DOMAIN-SPECIFIC KNOWLEDGE MEAN MODIFICATIONS AND PAIRED T -TEST MATRIX (N=60)

Target Knowledge Domains (Dekkala Siresha, 2026)	Pre Mean	Pre %	Post Mean	Post %	Mean Gain	Paired t-test
Domain 1: General Knowledge	2.23	44.60%	3.66	73.13%	1.43	17.94 (S)
Domain 2: Physical Changes	3.71	46.38%	6.44	80.46%	2.73	17.17 (S)
Domain 3: Psychological Changes	3.87	43.00%	7.48	83.15%	3.61	35.58 (S)
Domain 4: Management Practices	3.56	44.54%	6.10	76.21%	2.54	26.98 (S)
OVERALL COMPREHENSIVE EVALUATION	13.37	44.58%	23.67	78.91%	10.30	58.48 (S)

(S) - Statistically Significant at $p < 0.05$ level; $df = 59$.

Table 2 reveals a substantial, uniform knowledge increase across all four areas following the intervention. The highest improvement occurred in Domain 3 (Psychological changes), which rose from 43.00% to 83.15%. The overall mean score increased significantly by 10.30 (34.33%), which was validated by a highly significant paired t-test value of 58.48 ($p < 0.05$), satisfying the primary research hypothesis (H_1).

TABLE 3: SUMMARY OF OVERALL BASELINE, POST-TEST, AND KNOWLEDGE ENHANCEMENT PARAMETERS (N=60)

Measurement Phase	Min	Max	Range	Mean Score	Mean %	±SD	CV (%)	Paired t-test Result
Pre-Test Assessment	8	22	14	13.37	44.58%	2.44	18.26%	58.48 (Significant)
Post-Test Assessment	17	29	12	23.67	78.91%	1.92	8.12%	
Enhancement Shift	3	18	15	10.30	34.33%	3.05	29.62%	

Table 3 shows a clear reduction in score variance after the intervention. The standard deviation fell from $\sqrt{2.44}$ at pre-test to $\sqrt{1.92}$ at post-test, and the coefficient of variation dropped from 18.26% to 8.12%. This statistical reduction in variability proves that the educational package successfully established a more uniform and consistent level of health literacy across the entire sample.

TABLE 4: CHI-SQUARE ASSOCIATION MATRIX BETWEEN PRE-TEST KNOWLEDGE AND SOCIO-DEMOGRAPHIC INDICATORS (N=60)

Sl. No	Socio-Demographic Parameters	Target Categories	≤ Median	> Median	χ^2 Value	df	p-Value / Significance
1	Age (in years)	40–45	7	8	0.64	3	0.886 (NS)
		46–50	9	11			
		51–55	6	5			
		56+	8	6			
2	Educational Status	No formal	7	1	8.72	3	0.033 (S)
		Primary	11	8			
		Secondary	14	10			
		Graduate+	2	7			
3	Monthly Family Income	Below ₹10k	14	10	0.83	3	0.842 (NS)
		₹10k–₹20k	15	12			
		₹20k+ (pooled)	4	5			
4	Source of Prior Info	Family/Friends	20	12	9.65	3	0.022 (S)
		Health Workers	1	6			
		Media	4	5			
		None	10	2			

Table 4 shows that baseline menopausal knowledge was independent of age, income, and other demographic attributes ($p > 0.05$). However, a participant's formal educational status ($\chi^2 = 8.72$, $p = 0.033$) and primary source of prior health information ($\chi^2 = 9.65$, $p = 0.022$) showed highly significant statistical associations with pre-test performance. This confirms that women with higher formal schooling and direct access to medical workers hold better baseline health literacy, partially accepting the secondary hypothesis (H₂).

DISCUSSION & CONCLUSIONS

The pre-test data revealed that a substantial majority of women in community settings possess inadequate baseline knowledge regarding their changing health profiles. This gap aligns directly with global studies. Bhuvaneshwari and Sarathi (2025) found that only 33.3% of midlife women possessed adequate knowledge regarding menopausal symptoms [4]. Similarly, community assessments by Worku et al. (2025) in Ethiopia [3] and Zhang et al. (2025) in southern China [2] confirmed that menopausal awareness varies sharply with socioeconomic factors, showing limited comprehension of long-term health vulnerabilities.

The implementation of this visual module resulted in significant improvements across all evaluated domains. Structured educational packages simplify physiological transitions into manageable self-care

strategies. This mirrors findings by Sivasubramanian et al. (2024), who emphasized the critical role of culturally tailored educational campaigns in rural environments to overcome information barriers [1].

In conclusion, a structured Multimedia Educational Module is an effective, scalable tool to improve health literacy. Since baseline literacy is heavily influenced by education and communication channels, community health systems must incorporate standardized multi-media tools into routine outpatient and outreach activities to support women effectively during the menopausal transition.

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