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BRIDGING HEALTH GAPS: A HEALTH BELIEF MODEL-BASED COMMUNITY INTERVENTION TO PROMOTE PREVENTIVE HEALTH PRACTICES AMONG SOCIOECONOMICALLY DIVERSE WORKING ADULTS

Community Medicine

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ABSTRACT

Introduction: The Health Belief Model (HBM) explains the reasons behind the attitudes and behaviours of individuals. **Aim And Objectives:** To assess changes in knowledge, attitudes, and practices (KAP) and HBM constructs following an intervention, and to compare outcomes across occupational sectors. **Materials And Methods:** A quasi-experimental interventional study was carried out among 200 working adults aged 18–60 years in an urban field practice area. Participants were stratified into four groups: informal sector, blue-collar workers, lower-tier formal employees, and middle-class formal employees. Baseline data on KAP and HBM constructs were collected using a pre-tested structured questionnaire. The intervention included health education sessions, basic health screening (blood pressure, BMI, blood sugar), and community-level visual cues. Follow-up data were collected two weeks after the intervention. Statistical analysis was done using paired t-tests and ANOVA. **Results:** Post-intervention, significant improvement was seen in KAP scores ($p < 0.001$) and all HBM constructs ($p < 0.05$). The greatest gains were perceived susceptibility and benefits among informal and blue-collar workers. Health screening uptake increased from 28% to 73%. **Conclusion:** HBM-based interventions effectively promote preventive health behaviours across diverse occupational groups.

KEYWORDS

Community Intervention, Health Belief Model, Preventive Health, Working Adults

INTRODUCTION

India, in particular, is navigating a profound epidemiological transition, moving away from a historical predominance of communicable diseases towards an alarming rise in non-communicable diseases (NCDs). (Chauhan et al., 2022) NCDs such as hypertension, diabetes, and cardiovascular conditions are major contributors to morbidity and mortality globally. NCDs share five major risk factors: tobacco use, physical inactivity, the harmful use of alcohol, unhealthy diets, and air pollution. (Noncommunicable Diseases, n.d.)

Promoting preventive behaviours to prevent its complications through education. Selecting a proper educational model is the first step in the educational planning process. It needs to follow a healthy lifestyle and make changes to high-risk behaviours such as overeating, smoking, immobility, and adhering to mental health principles and avoiding stressful situations.(Azadi et al., 2021)

The Health Belief Model, which explains the reason for the attitudes and behaviours of individuals, is an effective guide in explaining and measuring what motivates or prevents the patient's compliance with treatment in many health problems, as well as behaviours that protect and improve health.(Daniati et al., 2021)

However, adoption of preventive behaviours remains low among socioeconomically diverse working adults, especially in informal and blue-collar occupational groups, due to a lack of awareness, unfavourable attitudes, and barriers such as limited access to services.

The study objective is to evaluate the impact of an HBM-based community intervention on knowledge, attitudes, and practices (KAP), as well as HBM constructs among working adults from various occupational sectors in an urban field practice area.

MATERIALS AND METHODS

Study Site:
Urban field practice area of the tertiary health care centre, Surat.

Sample Size:
A total of 200 participants were purposively sampled, with equal allocation of 50 participants in each occupational category (Informal sector, blue collar, lower tie formal and middle-class formal).

Sampling Technique:
A quasi-experimental interventional study was conducted.

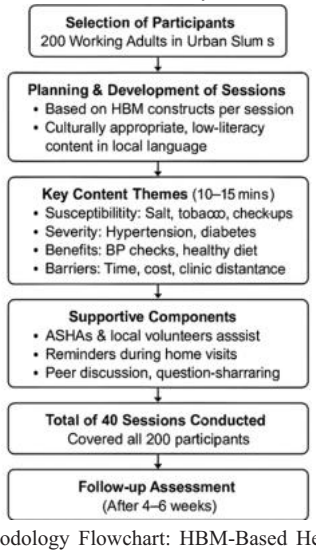

Figure 1: Methodology Flowchart: HBM-Based Health Education Session

Inclusion Criteria:
1. Adults aged 18 years and above
2. Currently employed in any sector
3. Resident of the study area for at least 6 months
4. Provided written informed consent

Exclusion Criteria:
1. Individuals with diagnosed psychiatric illness or cognitive impairment affecting comprehension
2. Severely ill or bed-bound individuals unable to participate in interviews or intervention sessions
3. Participants unavailable for follow-up

Data Collection Period:
Six months (February 2025 to July 2025). Data collection (4 Months) + Data analysis (1 Month) + Dissemination of results (1 Month)

Data Collection Tool:
A pre-tested, structured questionnaire was used

Study Analysis:
Data were entered into Microsoft Excel (version 2021) and analysed using IBM SPSS (version 26). Descriptive statistics summarized socio-demographic characteristics and baseline data. Paired-samples t-tests were used to compare continuous pre- and post-intervention KAP and HBM scores. McNemar's test assessed changes in categorical variables.

RESULTS

Table 1: Sociodemographic Profile of Study Participants (n = 200)

Variable	Category	Value
Mean Age (±SD)		35.4 ± 9.2 years
Gender	Male	57% (114 participants)
	Female	43% (86 participants)
Education Level	Illiterate	18% (36 participants)
	Primary Education	32% (64 participants)
	Secondary Education	28% (56 participants)
	Higher Education	22% (44 participants)

Table 2: KAP Scores and HBM Construct Before and After Intervention (n=200)

Domain	Pre-Intervention (SD)	Post-Intervention (SD)	p-value
Knowledge	4.3 (2.1)	8.6 (1.2)	< .001
Attitude	17.2 (3.5)	22.5 (2.4)	< .001
Practices	3.1 (1.5)	6.4 (1.1)	< .001
Susceptibility	2.6 (0.8)	4.1 (0.6)	< .001
Severity	3.0 (0.7)	4.2 (0.5)	< .001
Benefits	2.9 (0.9)	4.4 (0.4)	< .001
Barriers (inverse)	3.5 (0.8)	2.1 (0.6)	< .001
Cues to Action	2.8 (0.9)	4.0 (0.7)	< .001
Self-Efficacy	2.7 (0.8)	4.3 (0.5)	< .001

Table 3: Changes in Preventive Health Check-Up Rates Before and After the Intervention (n = 200)

	Post-Intervention: Yes	Post-Intervention: No	Total
Pre-Intervention: Yes	50	6	56
Pre-Intervention: No	96	48	144
Total	146	54	200

McNemar's test indicated a significant increase in preventive health check-up rates from 28% pre-intervention to 73% post-intervention, $\chi^2 (1, N = 200) = 76.2, p < .001$.

DISCUSSION

Our study aimed to assess the effectiveness of a structured health education intervention based on the Health Belief Model (HBM) among working adults. Findings demonstrated statistically significant improvements across all key domains—knowledge, attitude, practice (KAP), and HBM constructs ($p < 0.001$). These results reinforce the effectiveness of theory-based interventions in modifying health-related behaviours and perceptions.

Azadi et al. (Azadi et al., 2021) also reported significant improvements in all major HBM constructs, including perceived susceptibility, severity, benefits, barriers (decreased), and self-efficacy, aligning with our findings. Their intervention demonstrated moderate increases across HBM scores, while our study exhibited clear pre-to-post gains, particularly in self-efficacy (2.7 to 4.3) and health check-up behaviour (28% to 73%).

Chauhan et al. (Chauhan et al., 2022) similarly, noted improvements in practice scores and all HBM constructs, reinforcing the effectiveness of structured educational interventions. Their participants' practice score increased from 9.25 to 12.59, while in our study, preventive behaviour such as health check-up compliance rose markedly, suggesting strong translation of knowledge into action.

Midjani et al.(Midjani et al., 2023), in contrast, conducted an observational study without intervention. While they explored the influence of education on CD/NCD prevalence, their findings lack evidence of behaviour change due to the absence of an intervention component. This underscores the added value of intervention-based models like HBM.

Bayat et al. (Bayat et al., 2013) and Singh et al. (Singh et al., 2021) both conducted educational interventions targeting diabetic self-care and reported substantial improvements in HBM domains. Bayat et al.(Bayat et al., 2013) found significant increases in susceptibility (8.32 to 9.52) and benefits (7.20 to 10.66), while Singh et al.(Singh et al., 2021) reported sustained changes in susceptibility and barriers, along with large improvements in self-efficacy (22.88 to 44.40 over six months). These results are comparable to ours, indicating the long-term effectiveness of HBM-based strategies across different settings and target behaviours.

Our demographic profile (mean age: 35.4 ± 9.2 years; 57% male) also differs somewhat from other studies, such as Singh et al., where the control group had a mean age of over 52 years. Despite the younger population in our study, the intervention was equally effective, suggesting adaptability of the HBM framework across age groups.

Education level varied across studies, with our sample including 18% illiterate and only 22% with higher education. This heterogeneity did not hinder intervention success, indicating the intervention's accessibility and appropriateness for low-literacy populations—a strength emphasized by our use of simple, local-language communication methods.

In summary, our study reinforces existing evidence that health education interventions grounded in behavioural theory, especially the Health Belief Model, can significantly improve health perceptions and behaviours. The magnitude and consistency of these improvements across varied populations and formats (e.g., videos, structured sessions) further support their integration into routine public health strategies.

CONCLUSION

HBM-based intervention improved knowledge, attitude, and practice. All occupational groups showed gains. Informal/blue-collar workers improved most in perceived risk and benefits. Screening uptake increased. Context-specific, theory-based approach was effective.

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