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ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING PREVENTION AND CONTROL OF VECTOR-BORNE DISEASES AMONG HOSPITAL ATTENDEES IN A TERTIARY CARE CENTRE

Community Medicine

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ABSTRACT

Background: Vector borne diseases account for more than 17% of all infectious diseases, causing over 7,00,000 deaths annually. The transmission dynamics of vector-borne diseases are influenced by a complex interplay of biological, environmental, and socio-economic factors. Rapid urbanization, climate change, and global travel have further exacerbated the spread and emergence of these diseases in India, making them a pressing concern for public health authorities. The knowledge, attitude, and practices (KAP) of the general public play a crucial role in the prevention and control of vector-borne diseases. Understanding the public's awareness of these diseases, their perceptions of risk, and their engagement in preventive behaviours are essential for designing effective public health interventions. **Methods:** An institution based cross sectional study was conducted and data was collected during September 2024 – January 2025 through face-to-face interview method. Data was collected from 110 patients and bystanders attending a tertiary care centre and analysed through SPSS software. **Results:** It was found that out of 110 hospital attendees, 99% of participants had good knowledge about vector borne diseases, while 94.5% of participants had good attitude and it was found that only 79.1% had good practices to prevent vector borne diseases. There is an association found between the socioeconomic status, the educational status and the KAP score. **Conclusion:** Among study participants 99% had good knowledge, 94.5% had good attitude and 79.1% had good practice regarding prevention of vector borne diseases. It was worth noting that many participants had good knowledge and attitude towards prevention of vector borne diseases but it was decreased when it came to practice.

KEYWORDS

Vector-Borne Diseases, Knowledge, Attitude and Practice.

INTRODUCTION

According to WHO, Vector-borne illnesses account for approximately 17% of all infectious diseases and cause over 7,00,000 deaths annually around the globe. The transmission dynamics of vector-borne diseases are influenced by a complex interplay of biological, environmental, and socioeconomic factors. In India, the emergence and spread of these diseases have been exacerbated by rapid urbanization, climate change, and international travel, making them a significant concern for public health authorities (1). Vector borne diseases have led to a significant loss of productive man-days, affecting agriculture, industrial development, and the national economy. Reports from India indicate that both malaria and dengue fever have substantial direct and indirect economic impacts (2). Despite widespread dissemination of information and education initiatives, community engagement remains below expectations. The degree of community participation is influenced by individuals' awareness, knowledge and attitudes toward these diseases. Understanding the existing knowledge and perceptions of the target population regarding vector-borne diseases and their predictors is therefore essential. By identifying the existing gaps in knowledge and behavior, this study aims to provide data that can inform future health education strategies. It is important to strengthen public understanding and community participation in disease prevention, especially in areas where vector-borne diseases are endemic. Through this study, we aim to support the larger goal of reducing the burden of these preventable diseases by promoting practical and sustainable behavior change.

METHODS

A cross-sectional study was carried out among the patients and bystanders of a tertiary care centre in Thiruvananthapuram district, Kerala from September 2024 to January 2025. Sample size was calculated using the formula, $n = Z^2_{(1-\alpha/2)} \times P(1-P) / d^2$, where P = 95.75%, prevalence was obtained from the results of the Assessment of knowledge, attitude, practice towards vector borne diseases in urban area of Bagalkote, Karnataka, level of significance α = 5%, Z score corresponding to desired confidence interval $Z_{(1-\alpha/2)} = 1.96$, with d = 5% of P margin of error. Sample size, n = 110.

Data were collected using a semi structured questionnaire which included questions on socio-demographic details, and 10 questions in knowledge domain, 10 questions in attitude domain and 10 questions in practice domain. The total score of the tool is 34. The score of knowledge domain is 10, attitude domain is 12 and of practice domain is 12. The cut-off is set as score >6= good and <5= poor for knowledge domain and >7= good and <6= poor for attitude and practice domains.

Data was entered in Microsoft Excel and analysed by SPSS software version 26. Categorical variables were expressed in terms of percentage. Chi square test was used as the test of significance between two variables. p value of < 0.05 was considered to be statistically significant.

RESULTS AND DISCUSSIONS

A total of 110 participants were included in this study. Mean age of the participants was 29.34 (SD=11.55 years). Out of 110 participants 72 (65.45%) were females and 38 (34.55%) were males. Among the total 110 participants 84 (76.36%) were white ration card holders, 17 (15.45%) were blue ration card holders, 7 (6.36%) were pink ration card holders and 2 (1.82%) were yellow ration card holders. Among the 110 participants, 32 (29%) were rural area residents and 78 (71%) were urban area residents.

Description of Knowledge About Vector Borne Diseases

The findings related to knowledge (Figure 1) revealed that majority of the participants 99 (90%) had good knowledge and 11 (10%) had poor knowledge regarding vector borne diseases. The mean and standard deviation of Knowledge score was 8.44 ± 1.928.

Description of Attitude About Vector Borne Diseases

The findings related to attitude (Figure 1) revealed that majority of the participants 104 (94.5%) had good attitude regarding vector borne diseases and 6 (5.5%) had poor attitude regarding vector borne diseases. The mean and standard deviation of Attitude score was 11.14 ± 1.617.

Description of Practice About Vector Borne Diseases

The findings related to practice (Figure 1) revealed that 87 (79.1%) participants had good practice against vector borne diseases and 23 (20.9%) participants had poor practice against vector borne diseases. The mean and standard deviation of Practical score was 8.44 ± 1.951.

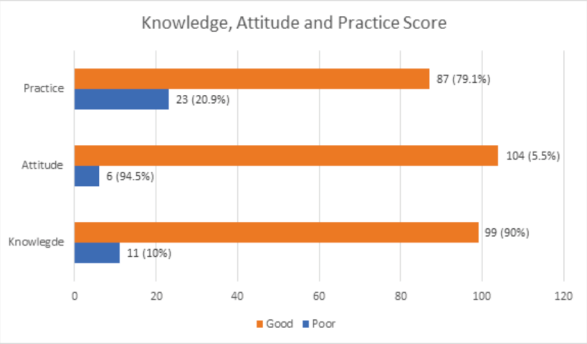

Figure 1: KAP Scores About Vector Borne Disease Awareness

Relationship Between KAP Score and Study Variables:

Association Between Socioeconomic Status and KAP Scores

Association between socioeconomic status and KAP scores (Table 1) was assessed using chi-square test, there was significant association between knowledge and attitude and socioeconomic status of the participants.

Table 1: Association Between Socioeconomic Status and KAP Scores

Domains		Yellow	Pink	Blue	White	Fischer's exact & p-value
Knowledge	Good	2 (2.0%)	4 (4.0%)	15 (15.2%)	78 (78.8%)	9.440, 0.024
	Poor	0	3 (27.3%)	2 (18.2%)	6 (54.5%)	
Attitude	Good	2 (1.9%)	5 (4.8%)	17 (16.3%)	80 (76.9%)	8.428, 0.038
	Poor	0	2 (33.3%)	0	4 (66.7%)	
Practice	Good	1 (1.1%)	3 (3.4%)	14 (16.1%)	69 (79.3%)	7.163, 0.067
	Poor	1 (4.3%)	4 (17.4%)	3 (13.0%)	15 (65.2%)	

Association Between Educational Status and KAP Scores

The association between type of educational status and KAP scores (Table 2) was assessed using the chi-square test. There was a significant association between knowledge and type of educational status.

Table 2: Association Between Educational Status and KAP Scores

Domains		High school	Inter-mediate or diploma	Graduate	Pro-fessional degree	Fischer's exact & p-value
Knowledge	Good	6 (6.1%)	15 (15.2%)	24 (24.2%)	54 (54.5%)	13.614, 0.003
	Poor	4 (36.4%)	3 (27.3%)	2 (18.2%)	2 (18.2%)	
Attitude	Good	9 (8.7%	15 (14.4%	25 (24%	55 (52.9%)	6.381, 0.094
	Poor	1 (16.7%)	3 (50.0%)	1 (16.7%)	1 (16.7%)	
Practice	Good	6 (6.9%)	14 (16.1%)	20 (23%)	47 (54%)	3.089, 0.378
	Poor	4 (17.4%)	4 (17.4%)	6 (26.1%	9 (39.1%)	

The findings of our study are consistent with earlier studies in India and other regions. A study done by Akhiljith et al. (2024) in Bagalkot, Karnataka (3), found that 89% of participants had good baseline knowledge which improved further after a health education program, suggesting that IEC (Information, Education, Communication) campaigns significantly strengthen KAP outcomes, our study also observed satisfactory knowledge levels among participants. In another study by Sakthivadivel et al. (2020) in Chennai (8) reported that while most respondents recognized mosquito breeding sources, preventive practices like bed net use and repellents were inadequate, but our study showed better practice levels (79.1% good practice), likely because hospital attendees are more health-aware than the general community. In another study by Bhardwaj et al. (2022) among migrant laborers in Ernakulam (9) reported lower practice rates due to socioeconomic constraints and poor housing, in comparison, our study found a strong association between socioeconomic status, education, and KAP scores, with white ration card holders and highly educated individuals scoring significantly higher. A Kerala hospital study by Thomas et al. (2018) (6) also showed that education and urban residence were associated with better KAP outcomes, similar to our findings. However, the persistence of a gap between knowledge and practice noted in that study was also found in our results. Overall, when compared with other community- and hospital-based studies, our findings reinforce three consistent patterns, Knowledge and attitude are generally high in most populations, Practice levels lag behind knowledge and attitude and Socioeconomic and educational status strongly influence all domains of Knowledge, Attitude and Practice.

CONCLUSION

This institution-based cross-sectional study among 110 hospital attendees found that awareness of vector-borne diseases was high, with 99% demonstrating good knowledge and 94.5% showing a positive attitude towards prevention. However, only 79.1% reported good preventive practices, indicating a clear gap between knowledge and behavior. Socioeconomic status and educational level were significantly associated with knowledge and attitude scores, with urban residents and those from higher socioeconomic groups performing better. These findings echo previous research in India, where awareness does not always translate into consistent action.

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