KNOWLEDGE, ATTITUDE, AND PRACTICE (KAP) STUDY ON DENGUE FEVER IN ADULTS: AN ANALYSIS OF 200 PATIENTS

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ABSTRACT

Background: Dengue fever (DF), a viral illness transmitted by mosquitoes, poses a growing public health threat, particularly in tropical and subtropical regions. Despite widespread awareness initiatives, a significant gap persists between individuals' knowledge, attitudes, and preventive practices (KAP), which contributes to the frequent occurrence of outbreaks. This study seeks to assess the KAP of 200 adult patients concerning dengue fever in a densely populated urban environment.

Methods: A cross-sectional survey was conducted among 200 adult patients diagnosed with dengue and admitted to the medical units of Hayatabad Medical Complex between January 2023 and December 2023. The survey gathered comprehensive data on participants' knowledge of dengue transmission, their attitudes toward preventive measures, and their current practices through a structured questionnaire. The data were analyzed using descriptive statistics with SPSS version 26, revealing notable gaps between the patients' knowledge and their preventive behaviors.

Results: Most participants (85%) were aware that dengue is transmitted by mosquitoes, and 78% knew that Aedes aegypti is the main vector. However, fewer recognized key transmission details, such as the fact that mosquitoes are active during the day (40%). While 80% could identify fever as a primary symptom, only 45% and 60% associated rash and joint pain with the disease, respectively. Preventive measures were less commonly adopted, with 70% using mosquito repellents or nets, but only 45% eliminating standing water. There was a notable gap between knowledge and practice, as only 25% regularly cleaned gutters or drains, despite understanding dengue's transmission modes.

Discussion: The findings show a big gap between what people know and what they actually do to prevent dengue, similar to other studies in Southeast Asia. Even though people are fairly aware of dengue, they don't always put that knowledge into practice, often due to socioeconomic factors and access to preventive tools. The study highlights the need for better public health efforts, focusing on practical solutions and creating supportive environments to encourage community-wide adoption of preventive measures.

Conclusion: Despite adequate knowledge of dengue transmission and symptoms, preventive practices remain insufficient among adult patients. Public health strategies should focus on bridging this gap through community engagement and government-supported preventive measures.

Keywords: Dengue fever, Knowledge-Attitude-Practice (KAP), Prevention, Aedes aegypti.

IINTRODUCTION

Dengue fever is a viral illness transmitted by mosquitoes, primarily the Aedes aegypti species. The disease is prevalent in tropical and subtropical regions, affecting millions worldwide, particularly in Southeast Asia, Africa, and the Americas.

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Despite significant progress in developing vaccines and improving control strategies, the incidence of dengue continues to rise, exacerbated by factors such as climate change and urbanization[1,2]. Knowledge, attitude, and practice (KAP) studies provide vital insights into public awareness and behaviors that affect disease control, including the role of community engagement and government efforts in controlling vector populations[3,4]. Studies show that knowledge gaps, coupled with socio-economic constraints, often hinder effective prevention[5].

Understanding the population's KAP regarding dengue is critical for designing effective health education campaigns and preventive strategies. Research conducted in countries like Malaysia, India, and Brazil has

demonstrated that while awareness of dengue is generally high, practical preventive behaviors, such as eliminating standing water, are less commonly adopted[6,7]. Additionally, attitudes toward government versus personal responsibility for disease prevention significantly influence community practices, with many individuals relying heavily on external interventions[8].

Objective: The objective of this study was to assess the knowledge, attitude, and practices regarding dengue fever among adult patients and identify factors that contribute to the continued transmission of the disease.

METHODOLOGY

Study Design: A cross-sectional study was conducted among 200 adult patients diagnosed with dengue fever at a tertiary care hospital (Hayatabad medical complex, Peshawar) over a 12-month period. A structured questionnaire was used to collect data on demographic characteristics, knowledge about dengue transmission, symptoms, preventive measures, attitudes towards dengue prevention, and practices for controlling mosquito breeding.

Study Population

Inclusion criteria

1. Adults aged 18 and above.
2. Confirmed diagnosis of dengue fever.
3. Willingness to participate in the study.

Exclusion criteria

1. Patients with incomplete data.
2. Patients with other co-infections that could confound the study results.

Data Collection: Data were collected through a pre-tested, structured questionnaire consisting of the following sections:

1. **Knowledge**: Questions about the transmission of dengue, symptoms, and preventive methods.
2. **Attitude**: Questions on perceptions and concerns about dengue and its prevention.
3. **Practices**: Questions regarding mosquito control and prevention behaviors.

Data Analysis: Data were entered and analyzed using statistical software, SPSS Version 26. Descriptive statistics were used to describe the study population.Chi-square tests were used to assess the association between knowledge and practices with demographic factors.

RESULTS

Demographics: Of the 200 participants, 110 (55%) were male, and 90 (45%) were female. The majority of the patients (65%) were between 18 and 40 years old. These are depicted in Table 1.

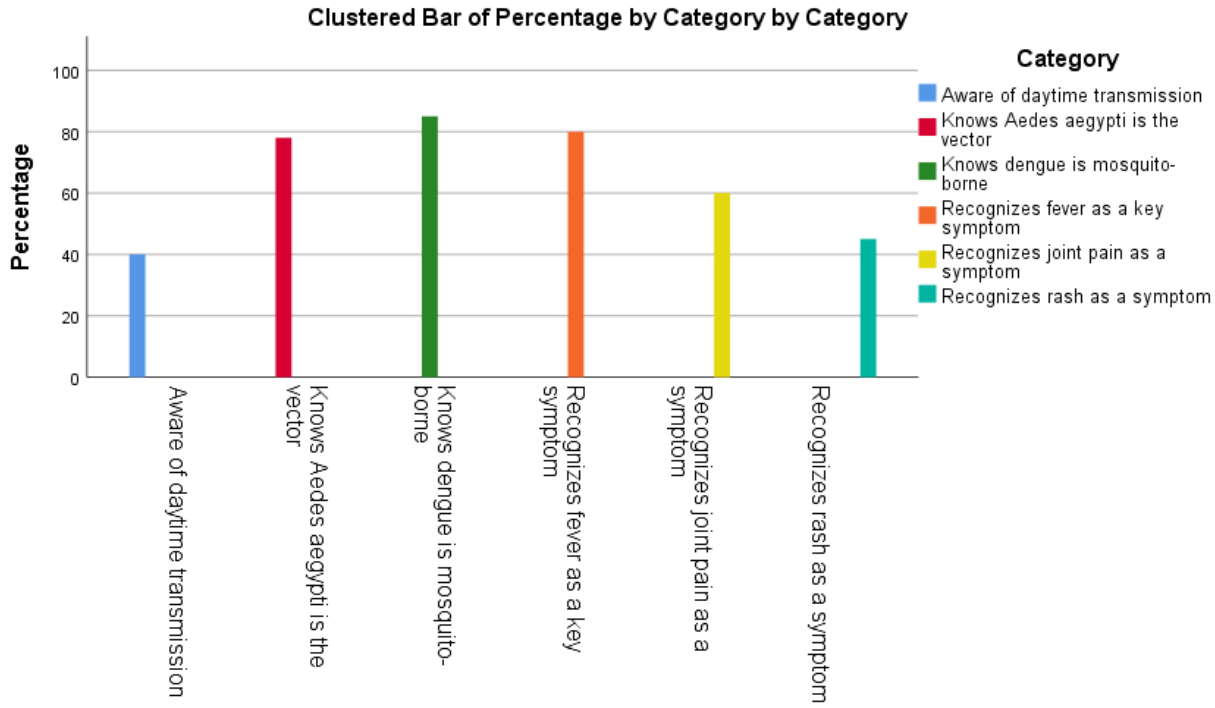
Table 1: Demographic Characteristics

Characteristic	Category	N (%)
Age (years)		
	18-30	80 (40%)
	31-40	50 (25%)
	41-50	40 (20%)
	51 and above	30 (15%)
Gender		
	Male	110 (55%)
	Female	90 (45%)
Education Level		
	No formal education	20 (10%)
	Primary education	60 (30%)
	Secondary education	80 (40%)
	Higher education	40 (20%)

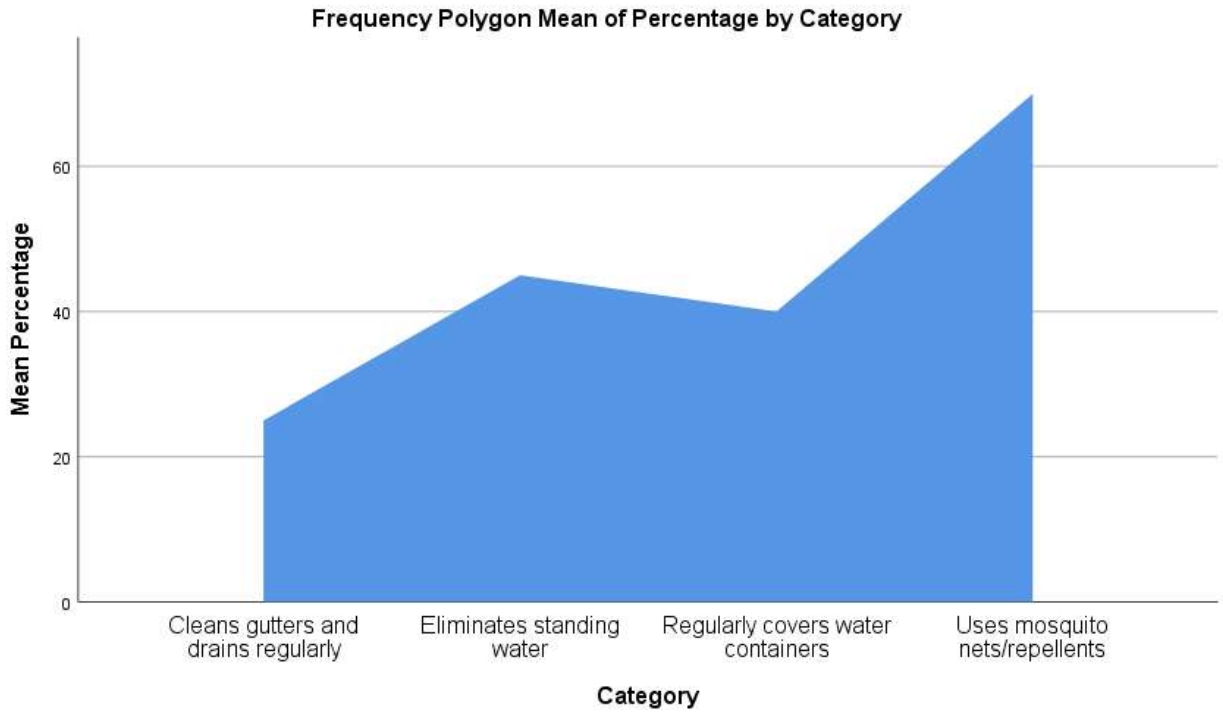
Table 2: Knowledge, Attitudes, and Practices (KAP)

Category	Aspect	N (%)
Knowledge		
	Knows dengue is mosquito-borne	170 (85%)
	Knows Aedes aegypti is the vector	156 (78%)
	Aware of daytime transmission	80 (40%)
	Recognizes fever as a key symptom	160 (80%)
	Recognizes rash as a symptom	90 (45%)
	Recognizes joint pain as a symptom	120 (60%)
Attitudes		
	Concerned about dengue as a serious disease	144 (72%)
	Believes personal efforts can reduce transmission	120 (60%)
	Believes mosquito control is government's responsibility	80 (40%)
Practices		
	Uses mosquito nets/repellents	140 (70%)
	Eliminates standing water	90 (45%)
	Regularly covers water containers	80 (40%)
	Cleans gutters and drains regularly	50 (25%)

Graphical Representation



Graph 1: Knowledge and attitude Percentage awareness



Graph 2: Practice percentage awareness

DISCUSSION

This study highlights the significant knowledge gaps among patients with dengue fever, particularly concerning the day-time biting habits of Aedes aegypti mosquitoes. While awareness about the transmission and symptoms of dengue was generally high, a substantial proportion of patients failed to adopt essential preventive practices, such as eliminating mosquito breeding sites around their homes. This is evident from studies and reviews conducted in India, Saudi Arabia[1], , Malaysia[2], Pakistan[3] and Mexico[4].

The findings of this KAP study align with several similar research efforts conducted across endemic regions. Most of the participants had moderate knowledge about dengue transmission and symptoms, but this did not always translate into practical preventive behaviors, which is a consistent issue observed in various countries, including Iran and Turkey[5] (Rahman et al., 2021).

The significant gap between knowledge and practice is particularly concerning, as seen in similar studies from Bangladesh and Malaysia[2,5]. Even though individuals in these regions are aware of dengue and its dangers, socioeconomic limitations often prevent them from adopting preventive measures such as using mosquito nets, installing window screens, or utilizing larvicides. This indicates that public health campaigns need to go beyond awareness and focus on enabling communities to act effectively against dengue, potentially through subsidized prevention tools or community-driven initiatives.

In terms of attitudes, while the majority of participants expressed concern about dengue, there was a notable lack of urgency in implementing preventive measures unless there was an outbreak. This attitude was similarly reflected in studies conducted in the Philippines, where dengue is endemic. Despite widespread public health education campaigns, many individuals only take precautionary measures after being directly affected or hearing of nearby outbreaks (Teodoro et al., 2023).

It was also found that people's practices were largely influenced by local government policies and community programs. For example, in regions with active community-based mosquito control programs, residents were more likely to participate in preventive measures, as also seen in a study conducted in Metro Manila, Philippines (Regalado et al., 2019).

The lack of personal responsibility for controlling mosquito populations, as indicated by the 40% who believe it is solely the government's duty, suggests a need for public health education campaigns that promote individual and community engagement in preventive measures.

Our findings are consistent with similar studies conducted in other endemic regions, where knowledge alone did not translate into adequate preventive practices[1-3]. This underscores the importance of behavior change communication strategies that not only disseminate information but also motivate action.

All recent data from India, Pakistan, Iran, Brazil, Philippines, Korea and Singapore confirm a similar lack of awareness that must be an eye opener for health authorities and public health specialist that drastic measures must be done to improve the knowledge and attitude towards this disease that would help improve their practices and they would adopt preventive measure to help abate this seemingly trivial illness that maybe at times devastating [8-24].

CONCLUSION

Although participants generally have a good understanding of dengue, there is a notable discrepancy between their knowledge and actual practices. To address this, public health interventions should concentrate on bridging these gaps by implementing targeted education programs that promote personal responsibility in mosquito control. Enhancing community involvement in prevention efforts can help reduce the incidence of dengue fever..

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