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Knowledge and Practice of Rural Population Regarding Mosquito Control Measures: A Descriptive Study

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Abstract

The research aimed to evaluate the understanding and implementation of mosquito control strategies among the rural inhabitants in specific wards of the Athirampuzha panchayath. The study aimed to achieve the following objectives: evaluate the understanding of mosquito control measures among the rural population, analyze the implementation of mosquito control measures by the rural population, and investigate potential correlations between the rural population's knowledge of mosquito control measures and various demographic variables. A convenient sampling method was employed to select a sample of 30 individuals from the Athirampuzha panchayath rural population. Data was collected using a structured questionnaire to assess the rural population's knowledge and a checklist to evaluate their practices concerning mosquito control measures. The results showed that among 30 subjects, more than half of the samples 24 (80%) had average knowledge, 5 (16.7%) had poor knowledge and only 1 (3.3%) had good knowledge. In case of practice regarding mosquito control measures, majority of the samples, 25 (83.4%) had average practice, 4 (13.3%) had good practice and only 1 (3.3%) had poor practice. The study findings revealed that there is significant association between knowledge and gender and education of rural population regarding mosquito control measures and there is no significant association between knowledge score and other demographic variables. From this study it is indicated that majority of the subjects only have average knowledge regarding mosquito control measures.

Keywords: Knowledge, practice, rural population, mosquito control measures, Athirampuzha panchayath

INTRODUCTION

Mosquitoes, despite their small size, rank among the most perilous creatures on our planet due to their capacity to transmit diseases through their bites. Mosquito-borne diseases pose a significant threat to public health, causing considerable illness and even death in various regions of India. Kerala, situated in the southernmost part of the country, exhibits environmental and climatic conditions that are highly conducive to the proliferation of disease-carrying mosquitoes. Given the inherent dangers associated with mosquitoes, effective mosquito control becomes an imperative public health practice aimed at curbing the population of these insects and minimizing the adverse impact they have on human well-being and economies. The development and implementation of evidence-based strategies for mosquito control are crucial to ensuring the efficiency and effectiveness of interventions in this regard. Ensuring such effectiveness relies on the active engagement of communities in the procedure [1, 2].

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To this end, understanding the knowledge, attitudes, and practices related to mosquito control within the population is instrumental. This knowledge not only empowers individuals and communities to take appropriate measures to control mosquito populations but also aids in reducing the burden of mosquito-borne diseases. Through a comprehensive exploration of these factors, it is possible to develop targeted and effective strategies for mosquito control, ultimately safeguarding public health and mitigating the impact of these disease-spreading vectors [3, 4].

Additionally, the menace of mosquito-borne diseases extends beyond individual health concerns; it also exerts a considerable economic burden on affected regions. Lost productivity due to illness, healthcare costs, and other related expenses all contribute to the economic toll these diseases take on communities. Thus, the importance of comprehensive mosquito control strategies becomes even more pronounced [5–7].

Such strategies, however, cannot be effectively implemented in isolation. They require the active involvement and cooperation of the community at large. This participation is not only critical for the success of mosquito control programs but also for the sustainability of these efforts over time. Informed and engaged communities can play a significant role in adopting preventative measures, reducing mosquito breeding sites, and adhering to recommended practices for personal protection [8–10].

The objective of this study is to investigate the Knowledge, Attitudes, and Practices (KAP) of the population in relation to mosquito control. By understanding what people know about mosquito-borne diseases, their attitudes toward these health threats, and the practices they employ to combat mosquitoes, we can tailor interventions that are better suited to the specific needs and challenges faced by the community.

In summary, the pursuit of effective mosquito control, grounded in evidence-based strategies and community engagement, is a pivotal component of safeguarding public health and mitigating the impact of mosquito-borne diseases. This study seeks to shed light on the KAP of the population, providing valuable insights that can inform the development of targeted and efficient mosquito control programs, thereby benefiting both individual well-being and the broader societal and economic landscape [11].

METHODOLOGY

A non-experimental approach was used to study the knowledge and practice of rural population regarding mosquito control measures of selected wards of Athirampuzha panchayath. The study employed a descriptive survey design and was carried out in ward 9 of Athirampuzha panchayath, Kottayam. The sample, comprising 30 individuals, was chosen through a non-probability convenience sampling method. Inclusion criteria includes people who are living in rural wards of Athirampuzha panchayath, who are willing to participate in the study and able to read and write Malayalam. People who are not belonging to rural wards of Athirampuzha panchayath, who are not willing to participate in the study and unable to read and write Malayalam were excluded. Two tools were used for the study. Tool 1 consisted of a questionnaire to assess the socio-personal data and to assess the knowledge of rural population regarding mosquito control measures. Tool 2 was a checklist to assess the practice of rural population regarding mosquito control measures. Content validity was ensured by giving the tool to three experts from the field of community health nursing. The data underwent analysis using both descriptive and inferential statistical techniques.

RESULTS

Among the samples, 9 (30%) belonged to the age group 21–30 years, 24 (80%) were females and 25 (83.3%) were Hindus. Educational status shows that 9 (30%) were plus-two and only 6 (20%) were employed. Majority 23 (76.7%) had monthly income below Rs. 15000 (Table 1).

Among the samples, majority 24 (80%) had only average knowledge, 5 (16.7%) had poor knowledge and only 1 (3.3%) had good knowledge regarding mosquito control measures (Table 2).

Among the samples, majority 25 (83.4%) had only average practice, 4 (13.3%) had good practice and only 1 (3.3%) had poor practice regarding mosquito control measures (Table 3).

Association Between Knowledge of rural Population Regarding Mosquito Control Measures and Selected Socio Demographic Variables

In the study, it was found that there is significant association between demographic variables such as gender and educational status.

Table 1. Frequency and percentage distribution of samples based on socio-personal characteristics (n=30)

Variable		Frequency (%)
Age (years)	21–30	9 (30)
	31–40	8 (26.7)
	41–50	7 (23.3)
	>50	6 (20)
Gender	Male	6 (20)
	Female	24 (80)
Religion	Hindu	3 (10)
	Christian	25 (83.3)
	Muslim	2 (6.7)
Educational Qualification	10th or below	8 (26.6)
	Plus-two	9 (30)
	Diploma	3 (10)
	Degree	5 (16.7)
	Postgraduate	5 (16.7)
Occupation	Employed	6 (20)
	Unemployed	13 (43.3)
	Self-employed/ Agriculture	11 (36.7)
Monthly income (Rs.)	Below 15000	23 (76.7)
	Above 15000	7 (23.3)

Table 2. Frequency and percentage distribution of samples based on level of knowledge regarding mosquito control measures (n=30).

	Range of score	Frequency (%)
Poor	0–7	5 (16.7)
Average	8–14	24 (80)
Good	15–21	1 (3.3)

Table 3. Frequency and percentage distribution of samples based on practice regarding mosquito control measures (n=30).

	Range of score	Frequency (%)
Poor	0–4	1 (3.3)
Average	5–9	25 (83.4)
Good	10–14	4 (13.3)

DISCUSSION AND CONCLUSION

The present study was intended to assess the knowledge and practice of rural population regarding mosquito control measures. The assessment revealed that more than half of the samples, 24 (80%) had average knowledge, 5 (16.7%) had poor knowledge and only 1 (3.3%) had good knowledge. In case of practice regarding mosquito control measures, majority of the samples, 25 (83.4%) had average practice, 4 (13.3%) had good practice and only 1 (3.3%) had poor practice The present study was supported by descriptive study conducted to assess the knowledge and practice of local inhabitants of Ethiopia about insecticide treated nets for malaria control. The result showed that the inhabitants have adequate knowledge but poor practice regarding insecticide nets [12].

The present study revealed that there is significant association between knowledge level of rural population regarding mosquito control measures and demographic variables such as gender and educational status. This is supported by a study to assess the impact of knowledge and practice on prevention of Chickunguniya in India. The result showed that the knowledge and practice was skewed towards people with good educational status and per capital income.

The study was conducted on small group of 30 samples which limits the generalization. Assessment of knowledge was limited to current response to a multiple-choice questionnaire. Practice was assessed only using a 14 point checklist. The study was restricted to individuals willing to partake. Based on the results of this study, the following suggestions are proposed: Conduct a similar study with a more extensive sample to allow for generalizability, and replicate the study with larger samples, including individuals residing in urban areas [13].

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