



IS THE PRE KNOWLEDGE OF MOSQUITO BORNE DISEASES AND USE OF PERSONAL PROTECTIVE MEASURES IN TROOPS ATTENDING HEALTH TALK ADEQUATE? , A CENTER BASED OBSERVATIONAL EPIDEMIOLOGICAL STUDY.

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ABSTRACT

Background: Present study was conducted to understand the level of knowledge regarding mosquito borne diseases and use of personal protective measures in the troops attending health talk. Knowledge of mosquito borne disease names, breeding sites, preventive measures and bed net impregnation was tested amongst the troops.

Methods: The present study was adapted as a center based, cross sectional, observational study design. Semi-structured questionnaires were administered to participants for assessment of knowledge prior to a lecture.

Results: Majority of the participants were heard of Malaria and Dengue as mosquito borne diseases (60.98%). Most of the participants (60.98%) know that stagnant water is a source for breeding of mosquitoes. Participants mentioned mosquito net use (73.17%) and repellent use (65.85%) respectively as an effective preventive measure. Only 24.39% of participants were heard the name of insecticide treated bed nets and among them only 07.32% knew the bed net impregnation procedure.

Conclusion: The findings of this centre based, observational study showed fair knowledge of mosquito borne diseases and personal protective measures amongst troops. Only small percentages of them were aware of insecticide treated bed nets and method of impregnation.

KEYWORDS

AIM:

To understand the level of knowledge regarding mosquito borne diseases and use of personal protective measures in the troops attending health talk.

OBJECTIVE:

Understanding of participant's knowledge on mosquito borne diseases was a felt need for designing of this study. Participant's knowledge on potential breeding sites of mosquitoes, preventive measures, and insecticide treated bed net usage along with knowledge of impregnation technique was tested.

INTRODUCTION:

Mosquito borne diseases are major public health problem in India. Due to seasonal outbreak of mosquito borne diseases in monsoon, sensitizing the troops on this aspect of disease spread is important. Knowledge and use of personal protective measures presents as an effective strategy for prevention and control of mosquito borne diseases.¹

Malaria continue to be an important vector borne disease with an annual morbidity of 4 to 5 million cases.²

The role of personal protective measures in arthropod borne disease control is to prevent the arthropod vector from biting and feeding on its host.³

Assessment of knowledge of the troops on this subject is thus crucial and warrant opportunistic testing of the knowledge, as we had conducted in this study. Timely and effective knowledge on mosquito borne diseases and preventive measures are vital to control outbreaks and to maintain troop's health.

METHODS:

The present study was adapted as a center based, cross sectional, observational study design conducted in May 2018 at health centre prior to lecture delivery on mosquito borne diseases and Bed net impregnation methods.

Sample size was fixed as 410 by convenient sample of troops attending health talk by universal sampling technique.

Researchers had played no role in the selection of subjects as they are called from the units for the lecture and this justifies the random sample technique naturally taken place at unit level while selecting subjects for the lecture. Sample drawn by this method is thus representative of

troops of Cantonment. All participants were attending lecture for the first time.

Informed consent was obtained and pre tested, semi-structured questionnaires were administered to participants for assessment of knowledge prior to lecture. Questionnaires were formulated in Roman English Hindi format for easy understanding by them.

Adequate time was given for recording responses. SPSS ver. 16 is used for data entry and analysis. Data presented in the form of percentages and graphical presentation of significant findings. Research findings communicated with participants as a feedback.

DISCUSSION:

In our study, 60.98% participants heard of malaria and dengue as mosquito borne diseases. 09.76% participants mentioned typhoid as a mosquito borne disease (**Table 01**). This indicates the need of health education at unit level. In a study¹, by T.Anand,R.Kumar et al 65% heard of dengue and 58% heard of Malaria as mosquito born diseases. Similar findings observed in the study⁴, by Borathe et al in the year 2010 at peri urban areas of Puducherry where nearly 57% of study population was aware of Malaria while knowledge on Dengue was only 19%. In a study⁷, by Ashutosh Sharma, Vinita Gupta, Ashish Khandelwal conducted at urban health and training centre in south Rajasthan showed 88.4% of respondents were aware of mosquito borne diseases. In a study⁸, by M.Suvitha,M. Nishant Kumar, Dr. L.Lakshmi conducted at Kanchipuram, Tamilnadu resulted more than 50% of adult population in a study had inadequate knowledge on mosquito borne diseases. The poor knowledge as showed by above mentioned studies indicates the need of behavior change communication strategies to be implemented at community level. In Armed Forces, the need for health education on these diseases and preventive measures can be met by health talk at unit level.

In our study, 60.98% of participants mentioned stagnant water as a mosquito breeding source (**Table 02**). Similar findings observed in the study at Puducherry⁴ in year 2010 (61%). In a study⁵ conducted by Rasania et al in year 2002 in patients attending PHCs in Delhi mentioned prevalence of knowledge of breeding places of mosquitoes was 62.9%. In a study⁹, by Chantal Marie Ingabire et al on community based biological control of malaria mosquitoes in Rwanda showed 72.4% of participants were able to identify at least two types of mosquito-breeding sites. These findings indicates the fair knowledge on breeding sites amongst participants.

In our study, participants mentioned the use of mosquito nets (73.17%)

and insect repellent creams (65.85%) as PPM (Table 03) while 04.88% were of views that only treatment in hospital is important in mosquito borne diseases. In the study¹ by T.Anand et al similar findings were observed. In a study¹⁰ by Catherine Malliga S et al on knowledge attitude and practices on prevention of dengue fever among various groups of people of urban Tiruchirapalli it was observed that repellent coils (52.2%) and creams (24.5%) were used by participants. The use of mosquito nets as personal protective measure by most of the participants in armed forces as found in our study indicate the effective implementation of health education strategies at unit level compared to that of civil counterparts.

This study showed 76% of participants never heard of insecticide treated bed nets. In a study⁶ by Gaurav Dhawan et al in Mumbai mentioned only 4% of the population sleeps under IT bed nets. In a study¹¹ by Jambulingam P et al in tribal areas of Orissa observed that insecticide treated bed net use rates varies between 55% to 80% with seasonal variations. In our study only 07.32% of participants knew the procedure of bed net impregnation. This emphasizes the role of lect cum demonstration of bed net impregnation.

RESULTS:

Table 01: Knowledge of Mosquito borne diseases names.

Familiarity with disease name	N	Percentages (%)
Malaria only	80	19.51
Malaria and Dengue	250	60.98
Malaria, Dengue and Chikungunya	90	21.95
Typhoid	40	09.76

The above table shows that majority of the participants were heard of Malaria and Dengue as mosquito borne diseases (60.98%). Chikungunya was mentioned by 21.95% participants. 19.51% participants think only Malaria is a mosquito borne disease. 09.76% thinks typhoid is caused by mosquito bite. 97.56% understand that mosquito bite can be life threatening and 100% of them thinks mosquito bite is preventable.

Table 02: Knowledge of breeding sites of mosquitoes.

Breeding sites	N	Percentage (%)
Stagnant water	250	60.98
Garbage collection	130	31.70
Open gutters	110	26.83
Dirty water	130	31.71
Shady place	10	02.44

The above table indicates that most of the participants (60.98%) know that stagnant water is a source for breeding of mosquitoes. Garbage collections, open gutters, dirty water, shady place were the other sites mentioned by the participants.

Table 03: Preventive measures for mosquito borne disease.

Measures	N	Percentage (%)
Environmental sanitation	110	26.83
Insecticide spraying	80	19.51
Wearing full sleeves	130	31.71
Repellent use	270	65.85
Mosquito net use	300	73.17
Avoid artificial storage	110	26.83
K oil use	20	04.88
Treatment in hospital	20	04.88

The above shows that the majority of participants mentioned mosquito net use (73.17%) and repellent use (65.85%) respectively as an effective preventive measure.

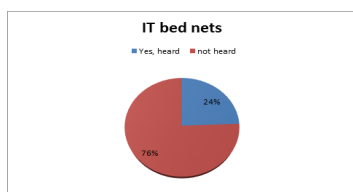


Chart 01: 'insecticide treated bed nets' term acquaintance.

Only 24.39% of participants heard the name of insecticide treated bed nets and among them only 07.32% knows the bed net impregnation procedure.

CONCLUSION:

The findings of this centre based, observational study shows fair knowledge of mosquito borne diseases and personal protective measures amongst troops. Only small percentages of them were aware of insecticide treated bed nets and method of impregnation.

LIMITATIONS:

This study is centre based observational cross sectional analytical design representative of Cantonment only hence results cannot be extrapolated to entire population.

RECOMMENDATIONS:

Our study recommends the importance of health education for troops on mosquito borne disease prevention and methods of PPM. The results of this study can be used for development of standard models of health education programs focusing on vector borne disease prevention for the troops. This study can form a foundation for other interventional studies on similar research topics of interest.

CONFLICTS OF INTEREST:

None declared.

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