SPHERE-based assessment of knowledge and preventive measures related to malaria among the Displaced Population of Jalozai, Pakistan

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Abstract

Objectives: To assess the level of awareness regarding malaria, the availability of preventive material and its use in a camp for the internally displaced persons (IDPs) in Pakistan, using SPHERE standards and indicators.

Methods: The descriptive cross-sectional study was conducted in Jalozai from March to Novemeber 2010. Systematic random sampling was done with a sample size of 116 families (10% of Phase II). A structured questionnaire was distributed to the heads of the families and among healthcare providers.

Results: More than two-fifth (42%, n=49) of the study population was unaware of malaria, while more than three-fifth (70%, n=76) was ignorant of the preventive strategies. The study found that the surveyed population (55%, n=64) had access to health education on diseases cased by mosquitoes but less than half of them (44%, n=28) reported that health education included preventive strategies against malaria. Health education was done at community (40%) and household levels (60%). Simple Bed Nets were given to 68% (n=78), while 26 (32%) families reported that the nets providers were not in a useable state. No education on the proper usage of bed nets was available, and replacement of the nets was not noticed.

Conclusion: Health education programmes should include preventive methods. Provision of Insecticide Treated Nets (ITNs) to the displaced population, guidance by health awareness teams, and the replacement of old nets should be ensured to control malaria effectively.

Keywords: Pakistan, SPHERE standards and indicators, Internally displaced persons, Malaria (JPMA 62: 344; 2012).

Introduction

Pakistan experienced a major population movement in 2009, described as the largest humanitarian crisis, owing to the military operations in Khyber Pakhtunkhwa (KPK) and the Federally Administered Tribal Areas (FATA), resulting in the displacement of more than two million people.[1] The provision of basic health services is tricky in such a catastrophic situation and the threat of communicable diseases becomes manifold.

The situation of malarial spread is deteriorating globally. Nearly 300-500 million malaria cases are reported every year and there are about 1-2million deaths yearly.[2] Pakistan has been classified as a country with moderate malaria prevalence and relatively well-established control programmes. Even then, Pakistan reports around 0.5 million malaria cases and 50,000 deaths annually. However, the actual number of malaria cases are at least 5 times higher than those shown in the official records, because the records are based on 20% of the patients who visit a government hospital.[3-5] Malaria continues to be a major public health problem in Pakistan. Extensive agriculture, a vast irrigation network and monsoon rains have considerably added to the malariogenic potential in many areas.

Literature review shows that implementation of preventive measures is closely related to knowledge and belief.[6] A study conducted in Nigeria shows that lack of knowledge and misconception about malaria transmission and treatment has adversely affected malaria control and treatment approaches.[7]

The 1998 Roll Back Malaria initiative launched jointly in Geneva by the United Nations Children's Emergency Fund (UNICEF), United Nations Development Programme (UNDP), the World Bank and the World Health Organisation (WHO), is a people-oriented programme that emphasises community participation. Insecticide treated (ITNs) nets have now become an integral component of global malaria control programmes and Roll Back Malaria Partnership.[4] Literature review shows ITN efficacy against exposure to mosquitoes and, therefore, a decrease in both the number of cases and malarial mortality.[2]

The Sphere project related to disaster response has been developed by experts of humanitarian agencies. It aims to enhance the effectiveness and quality of response, and defines minimum qualitative requirements in managing disasters.[8] The standard is applicable in all situations where relief is required. These include natural disasters and armed conflict, slow- and rapid-onset situations, rural and urban

environments, and developing and the developed countries.[8]

The study was conducted to use SPHERE standards and indicators to assess the level of knowledge about malaria and the use of ITNs as well as the availability of preventive steps among the in displaced people of Pakistan.

Methodology

This cross-sectional descriptive survey was conducted in the IDP camp at Jalozai in the north of Khyber Pakhtunkhuwa. At the time of the study the population of Jalozai was 20, 000 families which were settled in 17 phases. The study population was Phase II with a sample size of 116 families (10% of Phase II [1160 families]) based on Systematic Random Sampling. The study unit was a family residing in a tent. Through a structured questionnaire, people were asked about their knowledge of malaria, the use of preventive measures, movement history and other risk factors. Knowledge of malaria was measured by asking questions related to disease transmission, breeding places of mosquitoes and preventive measures. The majority of the study population was female and children who had left their homes due to war and civil unrest. The study was conducted from March to November 2010. The enumerators received one-day orientation training. Ethical considerations were followed. Informed consent was taken; participation in the research was voluntary and the participants had the right to withdraw at any time. People were assured that all information provided would remain confidential and would only be reported as group data. The descriptive statistics were obtained using SPSS version 17.0.

Results

The families surveyed had arrived an average 14 months ago (median 16) with the earliest arriving 24 months and the latest 6 months prior to the study period. Average household size was 6.5 people (1.4 male, 1.5 female and 3.7 children).

When asked about knowledge of malaria, 49 (42%) were unaware of the disease, while 76 (70%) respondents were ignorant of preventive strategies. Sixty four (55%)

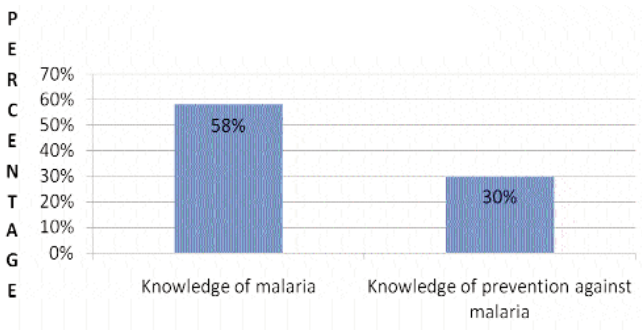

Figure-1: Knowledge and prevention of Malaria.

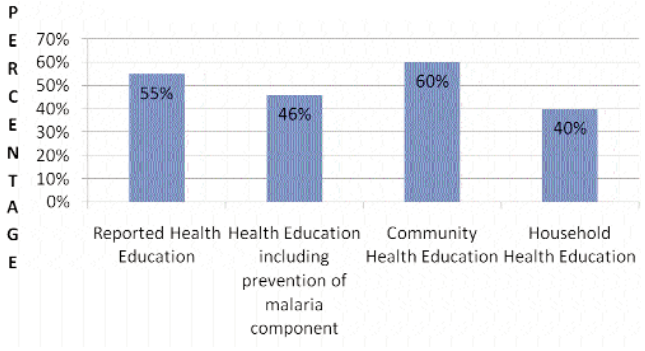

Figure-2: Health Education.

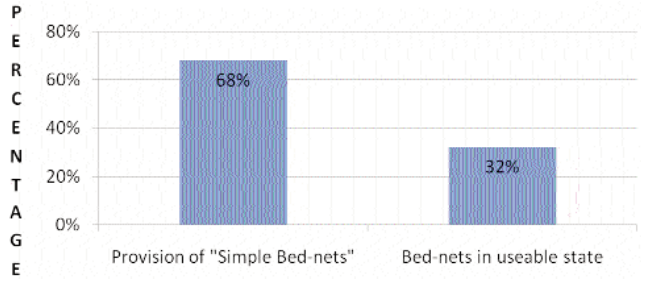

Figure-3: Provision and Replacement of Bednets.

household reported that health education was done at community (n=27, 40%) and household levels (n=37, 60%). Of these, only 28 (46%) families reported that health education on malaria included preventive component.

During detailed interview with the camp administrator, it was found that households were provided with two bed nets (average family size is 6.5). Seventy-eight (68%) families questioned were provided with Simple Bed Nets, but only 26 (32%) households reported that the nets were in usable state. No education on how to use and when to use the nets was given and this could be one of the reasons that 11 (31%) were not using the nets. No worn out bed nets were replaced.

Discussion

Malaria kills 1 million children each year. Preventive measures can be effective in limiting the mortality and morbidity associated with malaria.[9] Mosquito bites can be avoided by using appropriate environmental control as well as protective clothing, bed nets, repellents and ITNs.[10]

The study showed significant results based on SPHERE standards and indicators since limited research is conducted on knowledge and prevention of malaria among IDPs. The study highlighted the importance of health education in combating malaria in areas prone to an epidemic due to mass population movement and disruption of health services. It also highlighted the role of ITNs in reducing the morbidity and mortality in comparison with

simple bed nets among the IDPs of Jalozai.

A prospective study conducted in endemic and non-endemic villages of Thailand on knowledge and use of preventive measures against malaria, showed that overall 53% of the study population had knowledge of malaria.[11] Our study found that 55% of the study population was educated on diseases spread by mosquitoes. Of them, 46% were educated on malarial prevention as well. The result on this parameter was very disappointing. Literature review shows that people educated on malaria prevention report higher use of preventive measures.[11] A study conducted among the displaced people in Sudan highlighted that education, tribe, food, water supply and language are markers associated with a high or low risk of malaria which was common among illiterate people.[12] Studies also suggest that health education interventions, especially interpersonal communication, appeared to have a positive impact on beliefs and attitudes related to fever and malaria and lead to positive treatment-seeking behaviour.[13,14] Our survey revealed that health education was done at household (60%) and community levels (40%).

ITNs represent a cost-effective tool for the prevention of malaria. If properly used and maintained, they can reduce the incidence of severe and mild episodes of malaria to about half.[15] A study conducted in IDP camps in Uganda for the evaluation of the effectiveness of ITN distribution showed that three-fourth of the households were using ITNs.[2] The prevalence of malaria cases was 11 % and was significantly lower in households with ITNs compared to non-users (9% vs 14%).[2] Our study found that more than three-fifth of the study population was provided with bed nets and slightly less than one-third (32%) of the population reported that bed nets were in useable condition.

The study also found that Simple Bed Nets were distributed to 68% of the study population as compared to the 75% distribution of ITNs among the IDP camps of Uganda. Literature review shows that ITNs reduce the incidence of uncomplicated malaria episodes by 50% as compared to no nets, and 39% as compared to untreated nets in areas of stable malaria, and 62% for no nets and 43% to untreated nets in areas of unstable malaria.[16] Another research conducted at primary healthcare level in Gambia, suggested that untreated bed nets provide some protection against malaria, but not as efficiently as that provided by ITNs which were particularly effective against infection accompanied by high parasitaemia.[17]

Conclusion

Health education programmes should be intensified and include necessary malaria prevention methods. ITNs are highly effective in reducing morbidity and mortality associated with malaria. The systematic and timely provision of preventive measures, such as insecticide-treated material, i.e. tents, curtains and bed nets, is recommended. Replacement of unusable bed nets can prevent a malaria infection.

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