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KAP STUDY ABOUT PREVENTION OF MALARIA AMONG RESIDENTS OF RURAL AREAS IN PAKISTAN

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ABSTRACT

Background: A clear understanding of the knowledge, attitudes and practices of a particular community can inform the design of Behavior Change Communication (BCC) campaigns to influence acceptance and use of any malaria control measures. Research to clearly determine what interventions to carry out has not been undertaken in some areas such as Abbasabad, Mohammad Pura, Satukatla, Nasirabad, Rakh khamba pind, Chung in Lahore. In this regard, a study was conducted under following objective. **Objective**: To assess knowledge, attitudes and practices on malaria prevention and control in rural areas of Lahore. (Abbasabad, Mohammad Pura, Satukatla, Nasirabad, Rakh khamba pind, Chung). **Methods:** A cross-sectional study was conducted in May-July 2019 in Lahore. **Results**: 100 percent of respondents had Basic knowledge about malaria prevention and control. Despite most households (96%) were having mosquito nets, participants of focus group discussions confirmed that some people do not use the nets because they cause them breathing difficulties. In general, most people had fair knowledge about malaria prevention and control. Most of the respondents see malaria as a threat to their lives and community and majority had poor practices towards malaria prevention and control. Therefore interventions aimed at social and behavior change are necessary to address the gaps highlighted by the study.

KEYWORDS: Malaria prevention, Lahore, Mosquito control.

OPERATIONAL DEFINITIONS

There are a number of operational definitions that frame and help guide this research. These include.

Knowledge of malaria: The ability of a person to have correct understanding of malaria in terms of causative agent, mode of transmission, signs and symptoms, treatment and prevention.

Attitudes towards malaria: Beliefs on susceptibility, seriousness and threat of malaria.

Practice of malaria prevention: Routine activities and actions of individual or group for prevention of malaria. These include the use of insecticide treated mosquito nets, using insecticides to spray and control/clear mosquito breeding places.

Community: refers to a group of people living in a particular area and having shared values, cultural patterns, and social problems.

Malaria management: refers to the whole process of recognition of the causes, symptoms and transmission of malaria and seeking health care for its treatment promptly.

Malaria control: It is a process that requires eradicating the carrier mosquito or reducing man-vector contact so as to cut in the life-cycle of the parasite.

INTRODUCTION

Malaria is one of the most widespread, potentially fatal infectious diseases. It is a tropical disease caused by protozoan parasites of the gens Plasmodium. It is the major cause of morbidity and mortality in tropical and subtropical regions of the world. In 2018, there were an estimated 228 million cases of malaria worldwide. The estimated number of malaria deaths stood at 405,000 in 2018. Approximately half of the world's population is at risk of malaria.[1] Approximately 15% of the population of Pakistan live in the region of high transmission (1 case/1000 population) while 84 % in the area of low transmission (0-1 case/ 1000 population). At least 39 districts, mainly from the two southern provinces of Sindh & Baluchistan, have been classified as high risk.[2] The control programs still face many challenges include low coverage by long-lasting insecticidal nets or indoor residual spraying, weak malaria surveillance system and insufficient well trained human resources limited implementation of the up-dated malaria treatment policy for artemisinin based combination therapies.[3] Malaria can decrease gross domestic product by as much as 1.3% in countries with high prevalence rates. Hlongwana et al. report on a KAP household survey undertaken with 320 respondents in Northern Swaziland.[4] This was the premier KAP in Swaziland and was meant to provide baseline data before the implementation of a malaria elimination strategy at the community level. 99.7% of respondents correctly associated malaria with mosquito bites and 90% reported that they would seek treatment within 24 hours of seeing the first symptoms of malaria. Indoor residual spraying (IRS) was reported at 87.2% while bed net ownership was reported at 38.8%. Despite the high level of knowledge about malaria within the surveyed communities, there was little information coming to people via their preferred source of information— "tinkhundlas" or traditional community district meetings.[5] The importance of availability of information through proper rural community channels is echoed by another study in North Western Tanzania, which highlights the need to address the challenge of illiteracy amongst the local residents.[6] Both studies highlight that hearing about malaria is a good foundation onto which other activities like prevention and control can build, but it is just that, a start. A number of KAP studies have also been undertaken within an urban setting. While some had a bias towards children[7], others were more general. These studies raised interesting issues to keep in mind from the mixed results in correlation between education level and knowledge about malaria to the cost of malaria treatment as a fraction of household income.[8,9]

Statement of the Problem

District Lahore presents a typical case study of a community grappling with the challenge of high morbidity due to malaria. A situation analysis revealed that Rural areas, District Lahore is struggling with malaria for a number of reasons ranging from poor hygiene to bushy environments, all of which make it easy for mosquitoes to thrive and transmit malaria. Pregnant women and children below five were identified to be particularly vulnerable. This study investigated the community's understanding of malaria transmission, their recognition of signs and symptoms, treatment seeking behaviors, community preventive measures and practices as well as the cultural context within which all of this occurs. This knowledge coupled with an understanding of community's socio-culture will help to design more effective behavioral changing campaigns.

OBJECTIVES

The main objective of this study is to assess community's knowledge, attitudes and practices in relation to malaria prevention and control and use the information obtained to design more effective strategic behavior change communication (BCC) interventions.

Research Methodology

Study Design: This was a cross-sectional study that employed both quantitative and qualitative methods. It involved use of varied methodologies and data sources to help ensure more accuracy and stronger research outcomes by triangulating data from different methods. The primary method was a quantitative survey of the Knowledge, Attitudes and Practices of malaria prevention and control amongst residents of rural areas of Lahore (Abbasabad, Mohammad Pura, Satukatla, Nasirabad, Rakh khamba pind, Chung) that targeted heads of household across the villages.

Study Site and Population: The population in this study consists of residents of rural areas of Lahore. (Abbasabad, Mohammad Pura, Satukatla, Nasirabad, Rakh khamba pind, Chung).

Sampling: The study was designed to cover the whole villages. A sample of 260 houses was taken randomly. At each household, the head of household (either male or female) was given a questionnaire consisting of knowledge about malaria practice.

Research Instrument and Measurement: A number of research instruments were prepared for this study. A standardized questionnaire was developed from earlier studies related to malaria. The questions were asked to gain insight into a respondent's knowledge, attitudes and practices towards malaria. The questionnaire was translated into URDU using professional linguists and pre-tested to ensure that it maintained its original meaning. The questionnaire was divided into 3 major areas that included.

- Basic knowledge about Malaria.
- Treatment seeking behaviors.
- Malaria prevention practices.

RESULTS

This section provides a detailed description of the results obtained from analysis of the study. Variables are described as PIE CHARTS. It provides a summary of the

knowledge about malaria prevention and control, attitudes towards malaria and practices towards malaria. The level of knowledge, attitude and practice were each scored across all respondents. The findings are presented according to objectives.

1. Knowledge about Malaria

Respondents answered a number of questions to gauge their knowledge about malaria. They ranged from basic information about malaria to sources of information, signs and symptoms as well as transmission and prevention of malaria.

Pie Chart Showing percentage of People having Basic knowledge about Malaria.

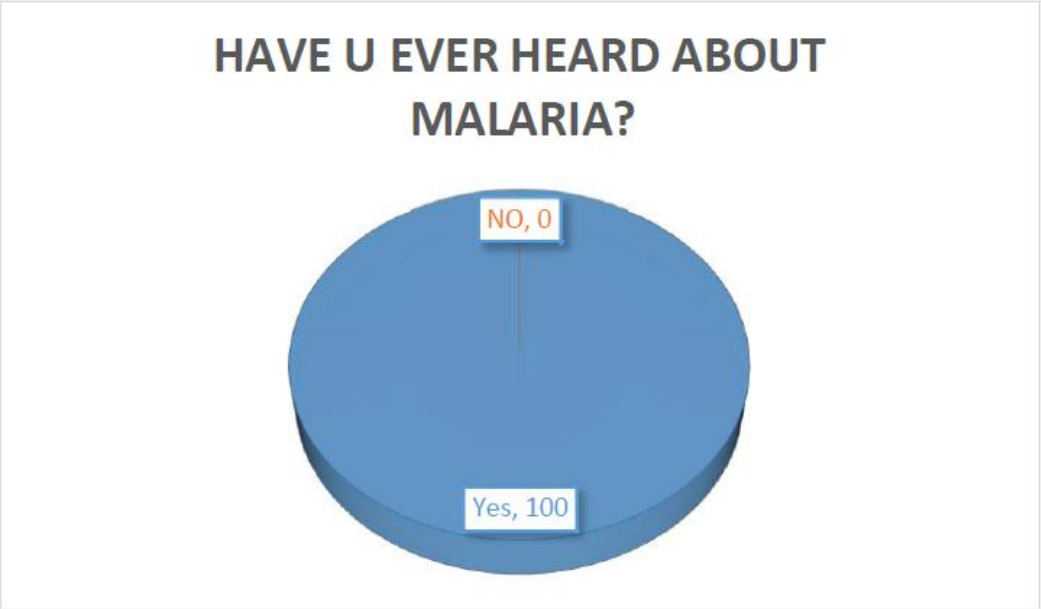

Figure 1: Respondents who reported receiving information about malaria.

2. Practices towards malaria

Respondents answered the questions regarding their practices towards prevention of mosquito bites.

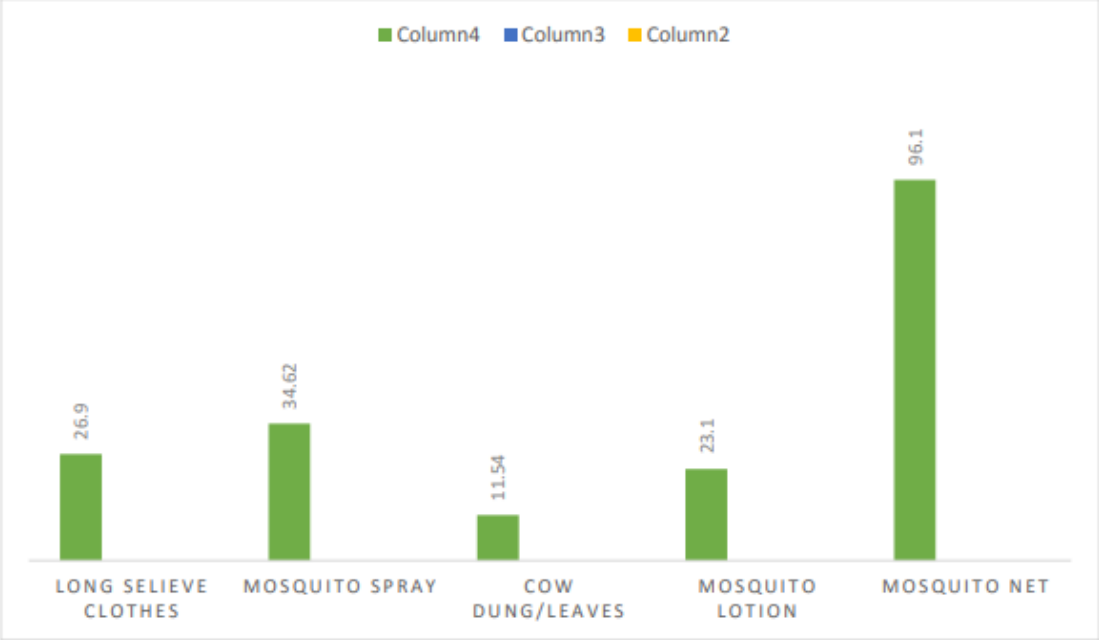

Figure 2: Relative Comparison among Different Preventive measures.

Individual practices representations by Pie Charts

The use of mosquito nets was reported by the residents as following.

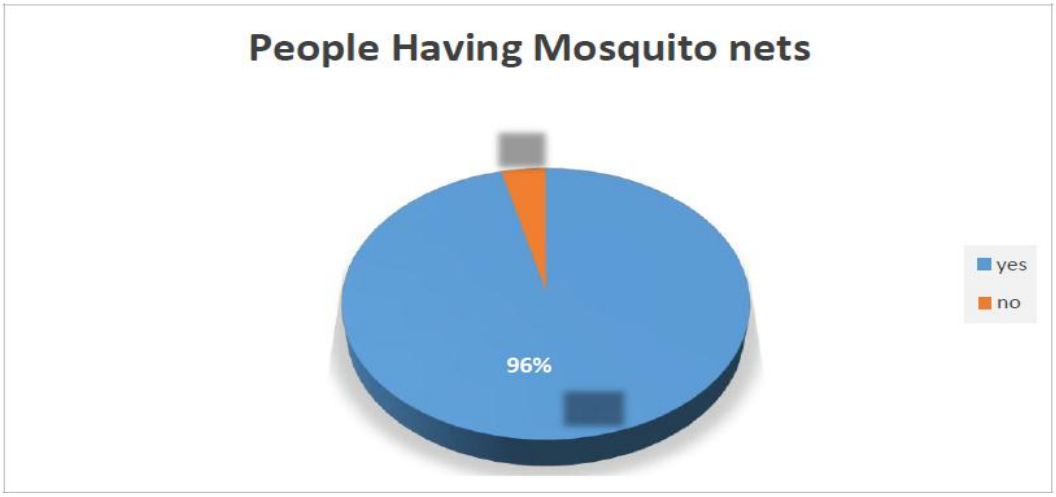

Figure 3: People having Mosquito Nets.

Use Mosquito spray

The use of mosquito sprays was reported as following.

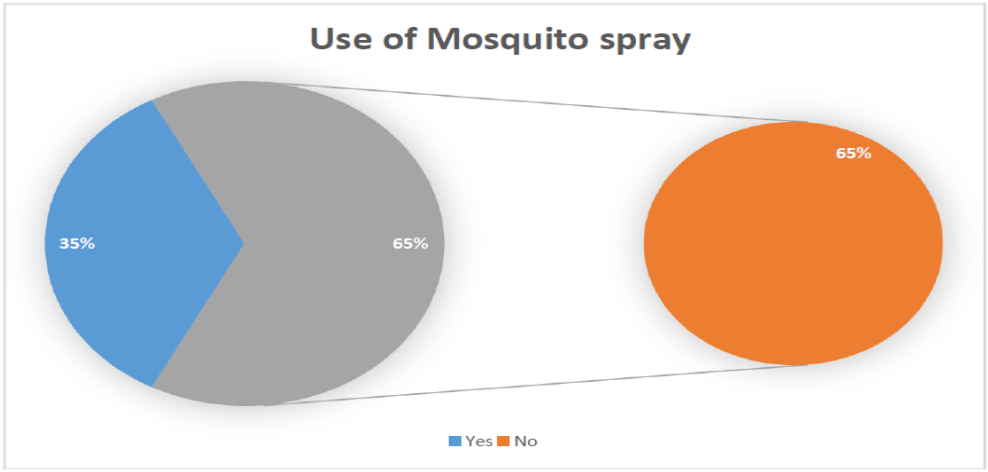

Figure 4: People using Mosquito repellent Spray.

Use Mosquito lotion

The use of mosquito lotion was reported as follows.

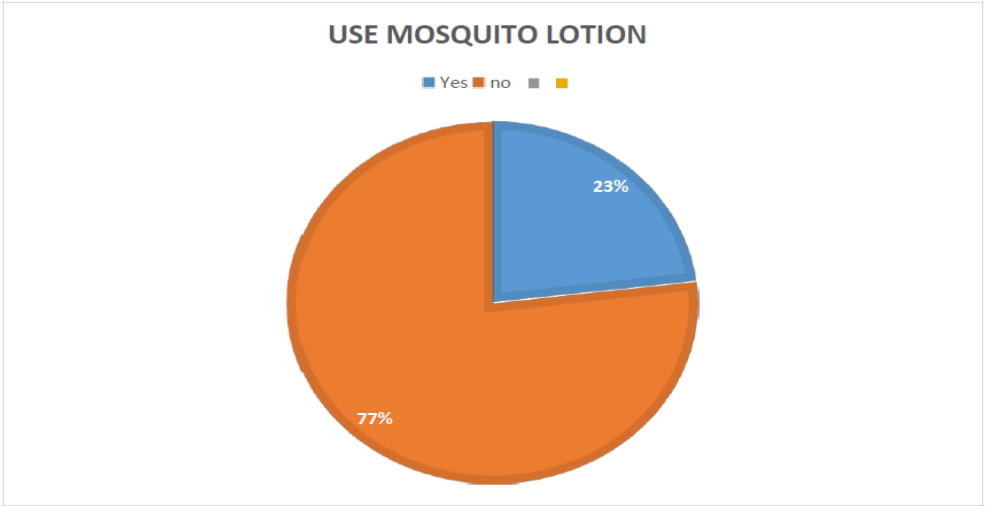

Figure 5: Use of Mosquito repellent Lotion.

Burn Cow Dung/Leaves

The use of burning cow dung/leaves was reported as follows.

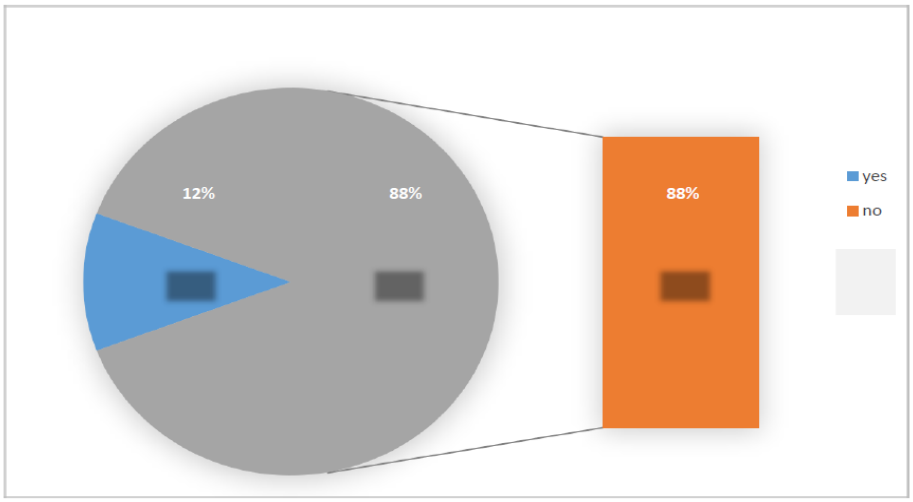

Figure 6: People burning Cow Dung/Leaves.

3. Use of Full Sleeves Clothes

The use of full sleeves clothing was reported by resident as follows.

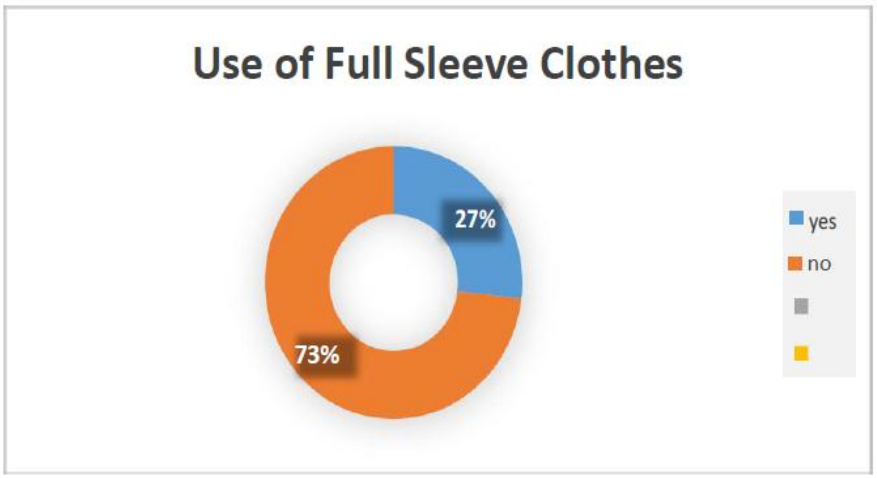

Figure 7: Use of Full Sleeve Clothes.

4. Cleaning nearby Ponds

Cleaning pond practices were reported by the residents as following.

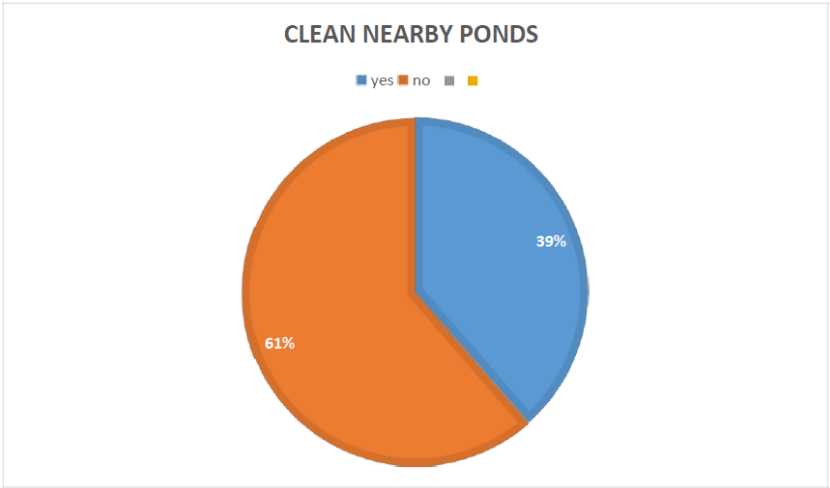

Figure: 8 People Cleaning nearby Ponds.

5. People using Multiple Methods

Using multiple methods for malaria prevention were reported by residents as follows.

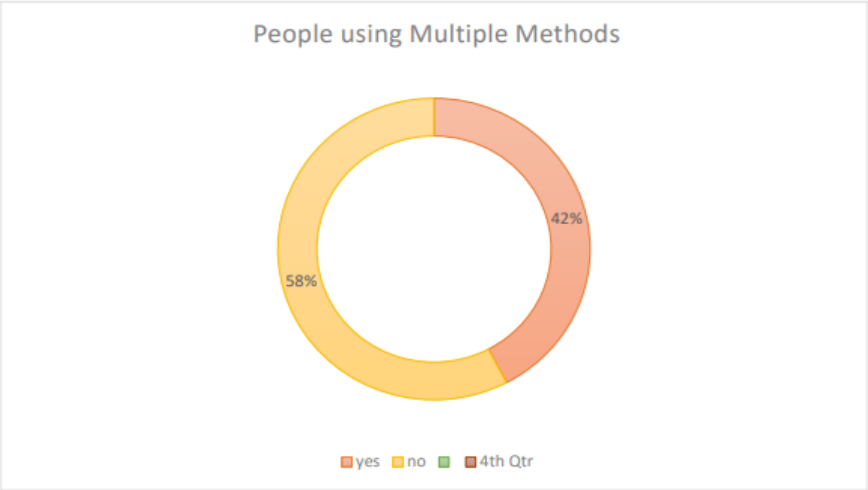

Figure 9: People using Multiple Methods.

DISCUSSION

This chapter provides a brief discussion of the major findings from the study on knowledge, attitudes and practices that can be used to create or improve malaria prevention and control program. Regarding knowledge about malaria, all of respondents correctly associated mosquitos with malaria transmission (100%) and acknowledged that malaria can kill if it went untreated. Studies have proved that improved community knowledge of malaria and its source of transmission promote preventive and personal protection practices amongst the affected community.[10] This is an opportunity any malaria prevention and control intervention can utilize. All of them were aware of the different ways to prevent and control malaria. All of this highlights the public health challenge that a BCC campaign needs to address in order to address malaria in villages in District Lahore. Youth tend to have better malaria practices towards malaria prevention and control compared to older people, while the poor people tend to have worse malaria practices compared to those having a better financial status. Regarding practices, sleeping under bed nets was the most prevalent method of malaria prevention and control (96.15%). Despite the high prevalence of bed nets, it was revealed that many community members did not use nets properly. It was also reported that some people use bed nets as curtains in their homes. Given the prominent role already played by bed nets in the fight against malaria, control programs can build on this opportunity to fight malaria. On the one hand, it is fine to have mass campaigns that distribute free bed nets, but care must be taken to teach people how to effectively use them and create ownership or pride that prevents misuse because bed nets were free hand-outs.

Conclusion and Recommendations

The study aimed at assessing community knowledge, attitudes and practices in relation to malaria prevention and control to inform the design of more effective strategic behavior change communication (BCC) interventions. In general, most people had a fair knowledge about malaria prevention and control. The majority of respondents recognized malaria as a threat to their lives in the community. Despite this (fair knowledge and good attitudes), practices towards malaria prevention and control were poor. Therefore interventions aimed at social and behavior change should primarily target the gaps in practices highlighted by the study. Based on the findings in this study, the following issues should be considered for improving preventive and control behavior against malaria amongst the residents of rural areas of Lahore. (Abbasabad, Mohammad Pura, Satukatla, Nasirabad, Rakh khamba pind, Chung)

1. Although knowledge about malaria prevention and control was generally fair, it did not translate into good practice behaviors. Therefore public education is necessary to address the few but highly negative-impact knowledge gaps highlighted by the study. There is need to raise awareness and also educate all women of child-bearing age about preventing malaria during pregnancy. Although respondents from the women said that it was important for a pregnant woman to go for checkup, they were not aware of preventive treatment for malaria during pregnancy.

2. While residents were aware of the risks associated with suffering from malaria, they had a lax attitude towards preventive and control behavior. There is need to reinforce good behavior and demystify the myths and misconceptions held by residents about malaria prevention and control measures. Examples of myths or misconceptions here included the fear of suffocating in mosquito bed nets or taking local herbs for treatment. Therefore, there's need for information, education and communication materials about seeking proper treatment for malaria. Many residents do not seek treatment immediately or within 24 hours. Most of them first use local herbs and others buy painkillers like acetaminophen

from nearby drug shops and only go to health centers when symptoms persist. Other residents share medicine while some stop taking medication as soon as they feel better, leading to incomplete dozes. Any BCC campaign about malaria targeting rural residents should raise awareness about seeking proper treatment and also tackle the lax attitude of residents in order to promote prompt treatment for malaria (within 24 hours).

3. Malaria prevention and control efforts should aim at creating local examples of excellence to promote good practices towards malaria prevention and control. These may be in the form of model homesteads to provide concrete examples of how to translate what people are taught into good disease prevention behaviors practices. Model homes show others exactly how certain things ought to be done, while also creating local champions that can show others what should be done.

4. Communication about malaria prevention and control should employ a combination of channels from the ubiquitous radio, posters at health centers and other community locations, as well as community forums that bring together residents for different purposes. Use of PUNJABI/ URDU, the local language will also be critical given that the majority of rural areas can understand.

5. The district administration should engage local leaders in their attempt to operationalize the district health plan. Local community involvement is critical to any malaria prevention plans whether national or local in scope. DHO, DHE, local health secretary and others must play a role in the dissemination of information.

6. Interventions in rural areas should integrate information on income generating projects/activities to enable residents fight poverty and its effect on their health. Some residents revealed they cannot afford mosquito nets to replace those provided by government (which had been torn) or even seek proper treatment for malaria at health centers. Interventions could be as simple as teaching residents how to create a village savings and loan scheme. Equipping residents with basic financial literacy and saving skills will go a long way in promoting good behavior towards malaria prevention and control.

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