KNOWLEDGE AND PERCEPTION ABOUT MALARIA AMONG THE PEOPLE VISITING TO COMMUNITY PHARMACY OF KUCHLAK, PAKISTAN

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Abstract:

Objective: The objective of this descriptive study is aimed to determine and compare the level of knowledge, perception and attitude about malaria in people coming to medical stores of kuchlak.

Methodology: Cross-sectional descriptive study design was adopted. Data was collected by self- administered questionnaire from the people coming to medical stores of Kuchlak by taking their consent to take part in the study. Coded data was entered in SPSS (IBM) statistic 20version. Descriptive statistics were used to demonstrate the characteristics of the study population. Categorical variables were measured as frequency and percentage

Results: The demographic characteristics of respondents are displayed in Table 1. Majority of respondent were male n=310 (88.6%) while the female respondent was n=40 (11. 4%).Regarding their living status large number of respondent were from rural area n=273 (78%) and respondent from urban area were n=77(22%). Majority of respondents (98%) had good knowledge regarding malaria.

Conclusion: Although they had adequate knowledge of malaria but they still need to be educated regarding prevention, treatment and use of insecticide sprays to decrease the incidence rate of disease.

Keywords: Malaria, Knowledge, NCD

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INTRODUCTION:

Malaria is mosquito born infectious disease of humans and other animal caused by parasitic protozoans belonging to genus plasmodium [1]. Malaria transmission occurs in all six WHO regions. Globally, an estimated 3.3 billion people are at risk of being infected with malaria and developing disease, and 1.2 billion are at high risk (>1 in 1000 chance of getting malaria in a year). According to the latest estimates, 198 million cases of malaria occurred globally in 2013 (uncertainty range 124–283 million) and the disease led to 584 000 deaths (uncertainty range 367 000–755 000). The burden is heaviest in the WHO African Region, where an estimated 90% of all malaria deaths occur, and in children agedunder5 years, who account for 78% of all death [2].According to the latest available data, about 3 .2 billion people were at risk of the disease in 97countries, territories and areas in 2013, and an estimated 198 million cases occurred (range: 124 million–283 million).In the same year, the disease killed about 584 000 people (range: 367000–755 000), mostly children aged under 5 years in sub-Saharan Africa. Between 2001 and 2013, a substantial expansion of malaria interventions contributed to a 47% decline in malaria mortality rates globally, averting an estimated 4.3 million deaths. In the WHO African Region, the malaria mortality rate in children under 5 years of age was reduced by 58%. During the same period, the global incidence of malaria was reduced by 30% .1 Target 6 of Millennium development Goal , namely "Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases", has already been reached, and 55 of the 106 countries that had malaria transmissions in 2000 are on track to achieve the goal of reducing malaria incidence by75% by 2015, as set by the Health Assembly in 2005 in resolution WHA 58 .2 on malaria control Despite this progress, the disease remains endemic in all six WHO regions and the burden is heaviest in the African Region, where an estimated 90% of all malaria deaths occur. Two countries – the Democratic Republic of the Congo and Nigeria – account for about 40% of estimated mortality due to malaria worldwide. Around the world, millions of people remain without access to malaria prevention and treatment, and most cases and deaths go unregistered and unreported. Given the projected growth in the size of the world's population by 2030, more people will be living in countries where malaria is a risk, putting further strains on health systems and national malaria program budgets [3].

Annually, malaria kills more people in the tropics than any other infectious disease. The human and economic costs associated with declining quality of life, consultations, treatments, hospitalizations and other events related to malaria are enormous and often lead to low productivity and lost incomes. Experiences with malaria have shown that prevention is better and cheaper than cure; however the practice of malaria preventive measures has been related to the knowledge and belief of people and have been found to be low and difficult to implement when malaria risk is perceived to be low [4]. Malaria-related knowledge, attitudes and practices (MKAP) have been examined in many rural and partly urban multiethnic populations in Africa [5].

Highland malaria epidemic has repeatedly become one of the serious public health problems in many east African countries like Ethiopia, Kenya, Uganda and Tanzania particularly since the late 1980s mainly due to climatic change [6]. It causes over 207 million clinical cases and approximately   627,000 deaths worldwide every year representing an enormous global, social and economic burden [7].

Falciparum and vivax malaria are major health problems in Pakistan. In the last decade there has been a six-fold increase in Falciparum malaria which now comprises 42% of all malaria cases recorded by National malaria control program. Factors associated with upsurge include of chloroquine resistance across the country Chloroquine resistance [8]. Malaria has generally been considered as a disease of rural areas, but many factors linked to a rapid and uncontrolled urbanization increasing malaria transmission in cities across Africa [9].

METHODOLOGY:

STUDY DESIGN:

This descriptive study (a cross-sectional study) is aimed to determine and compare the level of knowledge, perception and attitude about malaria in people coming to medical stores.

STUDY SETTINGS AND DURATION:

The study commenced in the month of April and ended in November 2015.This study was conducted in Kuchlak.

STUDY SAMPLE:

People coming to medical stores were selected as target population, so that their disease knowledge was assessed. They could be educated and disease burden could be lowered or the risk of disease could be minimized.

INCLUSION AND EXCLUSION CRITERIA:
The respondents who have given written consent to participate in study were included in the study and those who have denied of giving written consent were excluded from the study.

SAMPLE SIZE:
This study was conducted in people coming to medical stores of kuchlak. As this study is population based therefore taking confidence interval of 95% and the margin of error of 5% and 50% prevalence probability a sample of 385 were needed for the present study. However, 350 people took part in this study due lack of interest of the people to give consent. Sample size has been calculated by online Raosoft sample size calculator (Raosoft, 2004).

SAMPLING TECHNIQUE:
Convenience sampling technique was used to fill the questionnaires from the study sample.

STUDY TOOLS:
Research experts developed the primary version of questionnaire covering the knowledge, perception, sign and symptoms, pathogenesis, diagnosis, treatment and prevention of malaria. It underwent few alterations according to population from which data had to be collected under the process of validation. Then the final version went international translation procedures.

DATA COLLECTION:
The data was collected by the researcher who went to medical stores of kuchlak where the people coming to medical stores could be approached. After explaining the purpose of study briefly, they were verbally asked about malaria disease. Those who knew were asked to fill the questionnaire along with the consent form. After 5-6 minutes participant returned the questionnaire themselves. Those participants who were uneducated and unable to fill questionnaire were signed their consent for taking part in the study and were asked to fill the questionnaire by researcher according to their knowledge provided by them respectively.

DATA ANALYSIS:
Coded data was entered in SPSS (IBM) statistic 20version. Descriptive statistics were used to demonstrate the characteristics of the study population. Categorical variables were measured as frequency and percentage.

ETHICAL CONSIDERATION:
This study was performed according to National Bioethics Committee Pakistan Guidelines (www.org.pk/erc_guidelines.htm, 2011). According to the standard written consent given as annex 1 was taken from people prior to data collection. People were ensured about the confidentiality of their answers and their right to leave the survey at any time.

RESULTS:
DEMOGRAPHIC CHARACTERISTICS:
The demographic characteristics of respondents are displayed in Table 1. Majority of respondent were male n=310 (88.6%) while the female respondent was n=40 (11. 4%).Regarding their living status large number of respondent were from rural area n=273 (78%) and respondent from urban area were n=77(22%).

Table 1: Demographic Characteristics of respondents

	Frequency N=350	Percent
Gender		
Male	310	88.6
Female	40	11.4
Resident		
Urban	77	22.0
Rural	273	78.0
Qualification		
No education	67	19.1
Religious education	69	19.7
Primary	49	14.0
Matriculation	54	18.3
Intermediate	41	11.7
Graduation	60	17.1
Have you suffered from malaria?		
Yes	170	48.6
No	180	51.4

Is anyone of your family member suffered from malaria? Yes		
No	146	41.7
	204	58.3

ASSESSMENT OF GENERAL KNOWLEDGE ABOUT MALARIA:

Table no 2 showed that nearly all respondents were familiar with malaria as a disease. Majority of respondents n=349 (99%) responded correctly. Only 1% 0f the respondent wasn't aware with the disease known as malaria. Majority of respondents n=268 (76%) believed that malaria is spread by germ and the rest of the respondents responded incorrectly. Most of respondent knew malaria vector bread in dirty stagnant water n=343 (92%). A majority of 321 (91%) have identified headache as a consequence of malaria and whereas 72 (20%) responded incorrectly for apparent symptoms of malaria. A majority of 321 (91%) have identified headache as a consequence of malaria and whereas 72 (20%) responded incorrectly for apparent symptoms of malaria. Majority of participants n=334 (95%) responded transmission of malaria correctly and n=84 (24%) participants responded incorrectly. Diagnostic method was identified by most of participants n=311 (89%) however, n=38 (11%) didn't know the method of diagnosis. Majority of respondents n=302 (86%) responded correctly while n=40 (11%) responded incorrectly. In case of treatment majority of participant n=323 (92%) knew that malaria is treatable disease but most of them didn't know the availability of treatment in Pakistan n=116 (31%). Majority of respondents n=245 (70%) responded that vaccine for prevention of malaria is available which incorrect response by participants because still no vaccine is available for prevention of malaria.

Table 2: Responses related to general knowledge of malaria

Questions	Yes N (%)	No N (%)	Don't Know N (%)
Have you ever heard of a disease known as malaria?	349(99.7)	1(.3)	---
Is malaria spread by germ?	268(76.6)	58(16.6)	24(6.9)
Is malaria transmitted by mosquito bite?	334(95.4)	13(3.9)	3(.9)
Is malaria vector bread in dirty stagnant water?	323(92.3)	18(5.1)	9(2.6)
Is malaria causes headache?	321(91.7)	25(7.1)	4(1.1)
Malaria fever is associated with chill.	296(84.6)	36(10.3)	18(5.1)
Blood is affected by malaria.	296(84.6)	32(9.1)	22(6.3)
Is malaria affect other organs than blood?	220(62.9)	72(20.6)	58(16.5)
Is malaria diagnosed from blood test?	311(88.9)	26(7.4)	13(3.7)
Malaria is transmitted from one person to another by blood transfusion.	236(66.9)	84(24.0)	32(9.1)
Can malaria affect blood volume?	272(77.7)	38(10.9)	40(11.4)
Malaria is transmitted by drinking dirty water.	259(74.0)	75(21.4)	16(4.6)
Is malaria curable?	323(92.3)	23(6.6)	4(1.1)
Is malaria relapses?	267(76.3)	52(14.9)	31(8.3)
Malaria is prevented by using mosquito net.	297(84.9)	28(8.0)	25(7.1)
Malaria is controlled by spraying insecticides.	302(86.3)	40(11.4)	8(2.3)
Can someone die from malaria?	212(60.6)	103(29.4)	35(10.0)
Quinine is commonly used medicine to prevent malaria.	193(55.1)	47(13.4)	116(31.4)
DDT is commonly used insecticide for prevention of malaria.	180(51.4)	46(13.3)	124(35.5)
Vaccine is available for prevention of malaria.	245(70.0)	45(12.9)	60(17.1)

ASSESSMENT OF KNOWLEDGE OF MALARIA:
Table 3 describes the present level of knowledge about malaria of respondents. Each response was recorded as (Yes), (NO) and (Don't know). Each correct answered carried 1 mark whereas wrong or don't know carried 0 mark. The total score range is 0-20. A cut-off level of <10 was considered as poor knowledge while >10 was regarded as good knowledge. Mean of total score of knowledge was 15.73. Out of 350 respondents, 6 (1.7%) had poor knowledge and 344(98.3%) had good knowledge about malaria.

Table 3: Over all Knowledge of respondents

Knowledge	Frequency N=350	Percent
Poor	6	1.7%
Good knowledge	344	98.3%

Poor knowledge Score = <10
Good knowledge Score = >10

SOURCE OF INFORMATION:
The respondents achieved information from one or more than one sources. TV/Radio was the most common source of knowledge n=129 (29.7%). Teachers n=64 (18.3%) and healthcare worker n=57 (16.3%). As shown in table 4.

Table 4: Source of Information of Knowledge

Source of knowledge	Frequency N=350	Percent
Health care worker	57	16.3
Family member	17	4.9
Friends	21	6.0
Teachers	64	18.3
News paper	34	9.7
TV/Radio	129	29.7
Other sources	17	4.9
No source	1	0.3

DISCUSSION:
The study conducted was aimed to assess the knowledge of malaria among the people coming to medical stores of kuchlak. In this study the number total participants were 350. Majority of participants n= 344 with mean of 15.73 had good knowledge about malaria. The same study was conducted in Ethiopia showing that the respondents have good knowledge about malaria [10]. Prevalence and knowledge studies have been conducted on various topics [11-14]

It was revealed from the study that non-educational group had good knowledge about malaria. This fact has been attributed primarily to TV/Radio, secondly to teachers and third to healthcare professional, the main informative source of population studied, making the health programs successful. The source of knowledge of majority of respondents was TV/Radio. The reason behind this is that they were watching TV and listening to radios regularly. The healthcare workers give information through live programs of TV and radio. Teacher, friends and relatives were the second most important source of information. The reason behind this is that probably respondents had any relative who would be having malaria or their family and friends have discussed this disease with healthcare professionals and their friend may have someone in their family who would be suffering from malaria. For such reason they may have played a major role in distributing the information about the disease to those around them [15]

In the present study only 16% of respondents showed that healthcare professionals are their source of information. The reason behind this is that the healthcare professionals are not playing a very major role in providing the information about the disease through they should give the   information to their patients or to general public [16]. This may be due to insufficient counseling time between the healthcare professional and patients or inadequate knowledge about this disease in general population of the kuchlak. Sometimes the people even themselves are not interested in acquiring the information about the disease which is not much life threatening as other diseases. They would not be serious of getting the disease themselves therefore they don't tend to listen the healthcare professional carefully. All respondents were familiar with malaria as a disease. Majority of respondents n=349 (99%) answered well. Only 1% 0f the respondent wasn't aware with the disease known

as malaria. Majority of respondents believed that malaria is spread by germ and the rest of the respondents answered incorrectly. Most of respondent knew malaria vector bread in dirty stagnant water. A majority of participants have identified headache as a consequence of malaria and whereas incorrectly answered for apparent symptoms of malaria. Majority of participants responded correctly the transmission of malaria. Diagnostic method was identified by most of participants however, didn't know the method of diagnosis of malaria in the present study. Majority of respondents knew about prevention of malaria. In case of treatment majority of participant knew that malaria is treatable disease but most of them didn't know the availability of treatment of malaria in Pakistan Majority of participants responded that vaccine for prevention of malaria is available which incorrect response by participants because still no vaccine is available for prevention of malaria [17]

CONCLUTIONS AND RECOMMENDATIONS:

The study concluded that the people of kuchlak who had better knowledge and better understanding of disease, malaria, but they need to know the availability of treatment of malaria in Pakistan. It is necessary for them to know about the symptoms and complications of malaria for better improvement in their life style. Health policy maker can use the results of this study provided in conducting large educational programs to affect behaviors and attitudes of people toward this disease.

In order to make health educational programs successful, evidence based health educational intervention based on any behavioral model can be used in future with an aim of influencing the target population attitude and beliefs and their preventive actions to bring an ultimate outcome i.e. to make the target population health literate. Through these programs the people should be well trained in preventing incidence of malaria by insecticide sprays and draining the standing water.

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