THE KNOWLEDGE, ATTITUDES AND PRACTICES OF HOUSEWIVES TO THE WAYS OF PREVENTING MALARIA IN HEALTH CENTERS IN MEHRESTAN CITY–2016

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ABSTRACT

Introduction: Malaria is one of the most important health problems in tropical and subtropical countries. Currently malaria is the most important parasitic disease in Iran which limited local transmission has been reported in the south and southeast. The community involvement is a scientific and reasonable method to achieve the adequate control of malaria. Study method: This study is an applied research and in terms of data collection, it will be a descriptive-analytic study. Data was collected through a questionnaire distributed among housewives referred to the rural health centers in Mehrestan city and then were analyzed using SPSS software. For testing, according to the non-normal variables of awareness and attitude, the binomial test was used. Findings: The housewives’ awareness about the ways of preventing malaria by this component score (number 2) is significantly higher (P-Value of less than 0.05). The housewives’ attitude referred to the rural health centers of Mehrestan city is also significantly higher than the average score of this component (number 2). The housewives practice to the mosquito (bed) net had been 70%, regular use of mosquito net 62.7%, time to use mosquito net 58.7% since the evening and 38% the bedtime. Furthermore, 86.7% of them have been made of window lace, 13.3% of door mesh and 54.7% are referred to health centers and 44.7% to the urban health centers when viewing fever and chills. Conclusion: The housewives’ knowledge and attitudes towards the ways of preventing malaria is desirable. In addition, the housewives have relatively good practice on the ways to prevent malaria, however, they need to be informed and considered by the media and government agencies, health centers, nurses and knowledgeable people.

Keywords: Knowledge, Attitude, Practice, malaria, prevention.

INTRODUCTION

Malaria is an acute and chronic infection that is diagnosed by chills, fever, anemia and sometimes with severe and fatal complications. The basic factors for the transmission malaria include Plasmodium parasite, Anopheles mosquito vectored diseases and host conditions. Both parasites and vectors are affected by the temperature, rainfall and humididity(Ghanbary Ma, 2006). Malaria is caused by protozoa of the genus Plasmodium, four species of Plasmodium i.e. malariae, ovale, P. vivax and falciparum normally cause disease in humans and any of the above types have the numerous species. Malaria is also referred to as jungle fever(E, 2006). Malaria is found in the tropical and subtropical areas of the globe and its prevalence has been reported in more than 100 countries.

More than 40 percent of the world’s population are at risk for this disease. The World Health Organization estimates that 300 to 500 million cases of malaria occur annually and 1.5 to 2.7 million people lose their lives due to malaria(A, 2008).

In general, the countries in the world are divided into 3 groups in terms of malaria.

1. Countries that do not have a malaria problem or the disease has been eradicated due to the economic and social progress. Most Western countries and Central Asian countries are in this category.
2. Countries that already have the successful programs for malaria control or the countries in where the disease is kept at a constant level and there is a possibility of recurrence. Most countries in Asia and Central and South America are in this group.
3. Countries in where the malaria transmission occurs and do not have any control program for the disease. Most African countries are in this group.

Iran located in the South of the northern temperate zone and East Mediterranean with various climates is in an endemic area on the world map of the spread of malaria(Ma, 1970). Malaria is an endemic disease in Iran that its prevalence has occurred since ancient times in Iran and has caused great human, social and economic losses so far. Iranian physicians were familiar with the clinical signs of the disease in the distant past and it has been referred to the disease states and intermittent fever in the ancient books such as Avesta and Avicenna’s law(Podat A, 2007). In Iran, Sistan and Baluchestan, Hormozgan as well as Kerman southern regions are among the endemic areas. In the past two decades after the collapse of the Soviet Union, Iran’s northwestern border areas have always been considered as the center of vivax malaria due to the neighborhood with the Republics of Armenia and Azerbaijan and the lack of regular malaria control programs in these countries. However, the total population in malarious areas of southeastern Iran is about 6% of the country’s population, while more than 75 percent of malaria transmission cases occur in the same areas. In the past two decades because of civil war in Afghanistan and the lack of a regular program of malaria control, 2 to 3 million cases of malaria occurred in that country annually and a large number of imported malaria were being reported in the country due to the illegal trips of Afghans through the southeastern borders of the country(Hamedi, 2006).

In terms of geography, climate and malaria epidemiological situation, Iran can be divided into three distinct regions: 1. The northern region of Zagros series: The area formed by the northern slopes of the Zagros and the Caspian coastal plain accommodates approximately 70 percent of the country’s population, and is under the control of malaria. 2. The western and south-western region of the country: The area is located between the northern slopes of the Alborz and northern slopes of the Zagros and approximately 25 percent of the country’s population live in these areas in where the pollution is limited. 3. The south-eastern region of the country: Including the provinces of Hormozgan, Sistan and Baluchestan and Kerman tropical destination with a population of about 5 percent is Iran’s most important malarious center (E, 2006). Unfortunately, the malaria epidemics affect the economic development in addition to a health problem. The disease threatens 40 percent of people in the world. 
and undermines the public health and welfare, patients' physical strength, and their activities. Also, the fifth leading cause of death for children under five and the sixth leading cause of disability in children under four years is this infectious disease (Gh., 2000). Since most carriers of the disease are the farmers and workers, the agricultural products are reduced. In addition, treatment costs are also economic costs of the disease.

Malaria cases has decreased in some provinces such as Kohgiluyeh and Boyer-Ahmad during the last ten years. Perhaps among the main causes of the decline of the disease in this period, it can be referred to the factors such as climate change, rainfall and increased health care through the prevention and control practices. On the other hand, considering that most cases of malaria have an imported model (immigrants and foreign nationals, particularly Afghans) in the region, the need to intensify the notification and awareness to the public and health care through the diagnosis and treatment of patients is an inevitable necessity (Manoochehry Neaeni K, 2014).

On the other hand, it is also essential to take into account all aspects of malaria transmission chain including the human host, parasite and its vectors in malaria control strategies. In this regard, the knowledge of all relevant factors and evaluation of their relationship will be necessary at the local level (Javid Dasht Bayaz J, 2003). Therefore, targeting the malaria control interventions to the specific populations requires more detailed information (Baragatti et al., 2009).

Sistan and Baluchestan is one of the poorest provinces in terms of economic, social and cultural rights, with the lowest levels of infrastructure development in the country. Due to the occurrence of most cases of malaria in the province, this part should be considered in order to eliminate malaria (Interrupting the disease transmission despite the cases coming from infected countries). Infrastructure development even in the most remote areas of the country has led to the occurrence of major changes in people's behavior. Changes in people's behavior has also changed the behavior of Anopheles mosquitoes as the vectors of disease and it seems the risk factors associated with the incidence of the disease is changing. Accordingly, it is essential to find the risk factors of malaria in more restricted regions and districts to identify the local risk factors and move towards the malaria elimination at the current time period and according to the intended economic purposes in the twenty-year outlook of the Islamic Republic of Iran and survey of public awareness level (Dilip et al., 2009).

Lots of studies have been done on the malaria prevention so by increasing the people's knowledge and awareness on the prevention of malaria, it can be expected that their attitudes are reinforced and by doing so, their performance are also improved and ultimately we can help to eliminate malaria. This study aimed to assess the knowledge, attitudes and practices of housewives to the ways of preventing malaria in the health centers of Mehrestan city in 2016.

RESEARCH METHOD

The applied study was conducted in a descriptive-analytic method to collect the data.

The study population of this study is 248 housewives referred to the rural health centers in Mehrestan city. To determine the sample size, the different methods are used in the investigation. Two common methods used to do this are Charles Cochran formula and Morgan table. In this study, Cochran formula was used and the sample size is 150 people in this study. The relevant research tool for collecting data was questionnaire. A questionnaire was designed to assess the housewives' knowledge, attitude and practice about malaria in Mehrestan. Different parts of the questionnaire was designed by attending a number of experts in the field of malaria epidemiology and regional experts. This questionnaire was designed based on the logic required to provide its assessments in a more accurate form than merely overall assessment to the researchers. The questionnaires were filled under the supervision of trained interviewers and after obtaining verbal permission from volunteers.

To test the validity, the experts and university professors’ opinions were used. At this point, by doing the various interviews and getting the opinions of people mentioned, the necessary reforms were carried out and thus it was ensured that the questionnaire measures the researchers' same attribute and its reliability was obtained 0.678 using Cronbach's alpha.

This study was conducted in two parts: (1) data description and (2) data analysis. The first part was discussed the descriptive analysis of respondents' characteristics to the questionnaire and then the normality tests of variables, t-test and binomial test were used to analyze the data.

FINDINGS

The study has examined the level of housewives’ awareness about the ways of preventing malaria in the health centers of Mehrestan city. According to Table 1, the average score of respondents in the variable of Housewives’ knowledge is significantly higher (P-Value of less than 0.05) than the average score of this component (number 2). In fact, the significance of this variable is higher than the average for the respondents. Therefore, there is a relationship among the housewives awareness about the prevention of malaria in the health centers in Mehrestan city.

Table 1: The hypothesis test result of housewives’ awareness towards the ways of preventing malaria

<table>
<thead>
<tr>
<th>Number</th>
<th>Average</th>
<th>Standard deviation</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>143</td>
<td>2.48</td>
<td>0.27</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The second research hypothesis has studied the housewives attitude towards the ways of preventing malaria in the health centers of Mehrestan city. The average score of respondents in the variable of Housewives’ attitude is significantly higher (P-Value of less than 0.05) than the average score of this component (number 2) (Table 2) and the significance of this variable is higher than the average for the respondents. So it can be concluded that there is a relationship between the housewives attitude towards the ways of preventing malaria in the health centers in Mehrestan city.

Table 2: The hypothesis test result of housewives’ attitude towards the ways of preventing malaria

<table>
<thead>
<tr>
<th>Number</th>
<th>Average</th>
<th>Standard deviation</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>149</td>
<td>2.24</td>
<td>0.43</td>
<td>0.003</td>
</tr>
</tbody>
</table>

The people's performance in answering to the descriptive questions was as follows (Table 3): "Having a mosquito net at home?" 105 patients (70%) responded yes option and 39 patients (26%) no option and 6 patients (4%) also did not respond. The people's response to the question of "using a mosquito net?" is that 94 patients (62.7%) responded always option, 54 patients (35%) sometimes option and 2 of them (1.3%) also did not respond. Most people revealed that have a high performance in the use of mosquito net by answering this question. In response to the question "when using a mosquito net?" 57 patients (38%)
responded to the bedtime option, 85 patients (56.7%) the evening option and 8 patients (5.3%) did not respond. The findings suggested that the performance in more than half of people is the use of mosquito net since the evening. The performance of the individual in question "centers to where patients refer when viewing fever and chills?" 82 patients (54.7%) selected the health homes option, 67 patients (44.7%) urban health center option and 1 patient (0.7%) also did not respond which indicated that the people’s performance to go to the health centers is in an optimal level. At the end of the question, "the use of lace and curtains?" 130 patients (86.7%) selected the window lace option and 20 patients (13.3%), the door mesh which represented the optimal performance of respondents is to use the lace of window. The main research question examined the relationship between the housewives’ knowledge and attitudes towards the ways of preventing malaria in the health centers in Mehrestan city. Table 4 shows the average score of respondents in the variables of Housewives’ knowledge and attitude is significantly higher (P-Value of less than 0.05) than the average score of this component (number 2). Therefore, there is a relationship between the housewives’ knowledge and attitudes towards the ways of preventing malaria in the health centers in Mehrestan city.

Table 3: Variable frequency distribution of practice in housewives

<table>
<thead>
<tr>
<th>Question number</th>
<th>Option 1</th>
<th>Option 2</th>
<th>No reply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having a mosquito net at home</td>
<td>105</td>
<td>70.0</td>
<td>39</td>
</tr>
<tr>
<td>Use of mosquito nets</td>
<td>95</td>
<td>62.7</td>
<td>54</td>
</tr>
<tr>
<td>Time to use the Mosquito Centers to where patients refer when viewing fever and chills</td>
<td>57</td>
<td>38.0</td>
<td>85</td>
</tr>
<tr>
<td>The use of lace and curtain</td>
<td>82</td>
<td>54.7</td>
<td>67</td>
</tr>
</tbody>
</table>

Table 4: The main hypothesis test result of housewives’ awareness and attitude towards the ways of preventing malaria

<table>
<thead>
<tr>
<th>Number</th>
<th>Average</th>
<th>Standard deviation</th>
<th>T- statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>142</td>
<td>3.36</td>
<td>0.29</td>
<td>14.499</td>
<td>0.000</td>
</tr>
</tbody>
</table>

DISCUSSION AND CONCLUSION

The findings suggest that there is a relationship between the housewives’ awareness and prevention of malaria. In the study of (Ansani-Moghadam et al., 2003), it seems the knowledge of contraceptive methods is inadequate in the Baluchistan region that is not consistent with the results of our study. But in their study (Ansani-Moghadam et al., 2003), only half of rural households referred to the nearest health centers when viewing the symptoms of fever and chills. Perhaps, one of the main reasons for this is the lack of diagnostic tools in health houses so people prefer to refer to the higher-level centers for faster treatment. The results of this study are consistent with our results. The study of (Basery Hr, 2006) conducted on the people’s awareness of the transmission of malaria by mosquito bites represented a good knowledge of people and is consistent with the results of this study. A study in Zimbabwe by Van Goldermalsen and Monichivei (1995) also showed that the awareness of malaria and its symptoms is desirable while only 44 percent of them were aware of mosquitoes as the carriers of the disease and less than half of them knew at least one means of prevention and protection against malaria which is consistent with the findings of our study in the field of knowledge. In the study of (Basery Hr, 2006) conducted on the attitudes of Afghan refugees and Iranians towards the ways of preventing malaria, the results showed that they have a great attitude about the ways of preventing malaria that are consistent with the findings of our study. In a study taken place by (Dutta, 2000) in India, the results suggested a relatively good attitude of people towards the disease symptoms and ways to prevent malaria that are consistent with our results.

The third hypothesis discussed a descriptive analysis of research questions about the relationship among the practice of housewives in the prevention of malaria. In the study of (Ansani-Moghadam et al., 2003), the results showed that 31% of people use the mosquito net and the use takes place late at night. However, in this study, most respondents acknowledged that they use the mosquito nets since the evening that these results are inconsistent with our results. The reason for this lack of consistency is probably to get a better notification over time and that the people’s practice has increased compared to before. In the study of (Basery Hr, 2006) who examined the attitudes of Afghan refugees and Iranians toward the ways of preventing malaria, the results showed that people do not use the mosquito net and is inconsistent with our results that there is a difference between the results of this study and study of Basery et al due to the health care network performance in recent years. In addition, in the study of (Basery Hr, 2006), a high percentage of people were using the mosquito nets and mesh of doors and windows that are consistent with our results.

The results reflect the fact that the effective measures can be taken to prevent malaria based on the ways of getting a disease, symptoms of disease, follow-up of symptoms seen or referring to the desired therapeutic centers for diagnosis as well as eradicating and minimizing the disease by raising the awareness and increasing the information to the housewives through the various means including the media and press as well as the virtual space that nowadays the mobile phone is the easiest way to access it. Housewives attitude also affects the ways of prevention and the necessary measures and background can be adopted to resist the disease and its vector mosquitoes by changing the wrong attitudes. The mosquito net as an important protective factor has been used to prevent the disease. The importance of using the mosquito net is so effective that the World Health Organization promotes the policy of having a mosquito net per person in some parts of Africa. How to properly use mosquito net in appropriate timescales is one of the factors that requires a correct and consistent training to ensure its standards by the majority of people in the region. The proper use of mosquito net for malaria control is also very important, especially applying bed nets to the pesticides that is one of the most effective ways of preventing malaria.

Studying the relationship between the knowledge, attitude and practice to the ways of preventing malaria showed that all these variables are directly connected to each other and strengthening each of these variables can improve the other. Therefore, if we raise the housewives’ knowledge and awareness to prevent malaria, we can expect that their attitudes are reinforced and their practice are also improved. So, by informing people in different ways of using the modern tools and methods such as the media and virtual space that today its accessibility is very easy, we can raise the awareness and attitude of housewives and take steps to eradicate malaria.

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