Original Article

Assessment of Knowledge, Attitude and Practice toward Vectors Control Programs among Managers of the Schools in Neka, Iran

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Abstract

Background and purpose: Vector-borne diseases such as Malaria and Leishmaniasis are still a public health problem in Iran. One of the effective ways to prevent of these diseases is to improve the vector control program. We carried out this study for assessment managers of school knowledge, attitude and practice regarding vector control programs.

Materials and Methods: A cross-sectional study was conducted during October to September 2008 in Neka County, Iran. The participants were 18 managers of school that were selected randomly sampling. The data were collected through a questionnaire that was comprised four sections. All statistical analyses were performed using SPSS software.

Results: The finding showed that only 34% of participants had a positive attitude toward the vector control program. Furthermore, 55.6% of participants were agreed with chemical vector control method.

Conclusion: The knowledge of participants was rather good about vector control. Since, Community education is a key factor to improve vector control program, we suggest strengthening the vector control education program at different levels of the community.

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Key words: Knowledge, Attitude, Vector Control

1. Introduction

Vector-borne diseases such as malaria, leishmaniasis, yellow fever, dengue hemorrhagic fever, and typhus remain a major public health in Eastern Mediterranean Region countries (1,2). One of the effective ways to prevent of these diseases is to improve the arthropods control program (3). In Iran, arthropods control program have been integrated in primary health centers over 25 years (3). There are a scattered information about knowledge, attitude and practice (KAP) toward vector control measure in Iran (4-6) and the world (7,8), but there is not study on the subject in Neka County, Iran.

According to studies in various parts of the world, it has been shown that people have a good understanding of the control programs whereas their knowledge is weak in fulfilling health behaviors (9), the more control programs focused on community-based strategies. Aware of the thoughts and attitudes of the people in the community can be considered as a key to success such strategy (9).

Despite the attempts made on control programs, transmission and elimination of vector-borne diseases still occurs in different countries, which could be due to ignoring the role of beliefs, attitudes and behavior people. Inaccurate attitude and behave can have a negative effect on control strategies.

Therefore, comprehension of people's beliefs and behavior possible very important to the success of control measures.

Mazandaran province is visited by a large number of tourists; therefore, it has the non-immune population to vector-borne diseases through exposure especially during spring and summer. In addition, difficulties in accessing some areas this district make it a good place for vector-borne diseases transmission. Vector control has a significant role in preventing and controlling vector-borne diseases. Knowledge and attitude toward vector control are related to use of individual protective equipment.

This study has been conducted to investigate schools' principals KAP toward vector control programs in Neka County. Results of this investigation will be valuable to develop vector control programs in this area.

2. Materials and Methods

A cross-sectional study was conducted from October to September 2008 in the urban area located among 18 managers of school in Neka County. In order to access managers of the school, eighteen schools were randomly selected in Neka County.

The data were collected by a questionnaire which comprised four sections. A section included the demographic information of the participants and B section was consisted of 7 items to evaluate knowledge about vector control program, section B and C included questions regarding the attitudes and practice of participants toward spraying frequency, important of vector control.

The options of answers for knowledge part of questionnaire include: yes, no and I don't know, and the scores are 1, −1, 0, respectively. Likert-scale questions with five options for attitude, the options based include: Strongly agree 5, agree 4, neither agree nor disagree 3, disagree 2, strongly disagree also, schools' principals practice was assessed by questions about frequency time and places of application for vector control measures. We examined the reliability and validity of this questionnaire through Cranach's alpha reliability and content validity method.

Neka county information: Neka is located at 36°39' N and 53°17 E. It is one of the tourist places of Mazandaran Province. It's population of about 46,152. In 2007, the average relative humidity was 79%, with 699.5 mm precipitation. The minimum and maximum monthly temperatures were 0.2° C and 32.1° C, respectively (Figure 1).

All statistics analysis was carried out using the SPSS software version 11.5, SPSS Inc., Chicago,

IL, USA. Descriptive analysis was used to describe data. Then frequency distribution was used to summarize the value of each variable.

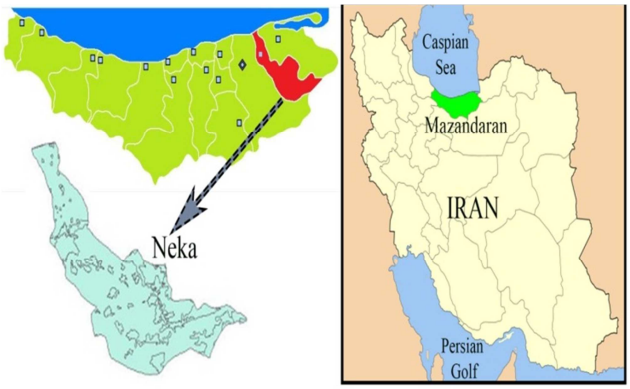

Figure 1. Neka County, north of Iran

3. Results

The elementary, middle and high schools' principals employee in the county of Neka were participated and interviewed in this study (n = 18).

Table 1 shows the most important public health problem in school is house fly and mouse. 66.7 % of participants suggested that vector control should be apply in the yard.

About 67% of schools' principals (n = 12) indicated that vectors control must be performed in the yard of schools, and other participants mentioned that it can be applied around schools. When we asked about the most important public health problem related to vector in school, 44% answered house fly and mouse. In this study, the most common vector was house fly and mouse 44.4%, ants 16.7%, and termites 5.6%. In addition, 50% of respondents agree with vector control.

Table 1. The knowledge of participants toward vector control program in Neka County, 2007-2008

Question	N (%)
1. Do you agree about arthropod and rodent control?	
A. Yes	9 (50.0)
B. No	9 (50.0)
If yes which one?	
C. Indoor control	8 (89.0)
D. Others	1 (11.0)
2. What is the most important public health problem in School?	
A. Present of house fly and mouse	8 (44.0)
B. Present of ants and termite	4 (22.3)
C. Present of cockroach	0 (0)
D. Others	6 (33.3)
3. Believe to vector control?	
A. In the yard	12 (66.7)
B. Outdoors	6 (33.3)
4. Where vector control measure applied?	
A. One years ago	5 (27.8)
B. Two years ago	5 (27.8)
C. Throughout the years	8 (44.4)
5. Believe to parents announcement before insecticide operational application?	
A. Yes	7 (38.9)
B. No	11 (61.1)
6. Do you agree cleaning the wall surface before insecticide operational application?	
A. Yes	9 (50.0)
B. No	9 (50.0)
7. Poisoning compound announcement and solving the problem after insecticide perational application?	
A. Yes	9 (50.0)
B. No	9 (50.0)

Table 2. The belief and practice of school authorities due to vector control measures in Neka County, Iran 2007-2008

Question	N (%)
1. Which chemical control measures use in school	
A. IRS	11 (61.1)
B. Others	7 (38.9)
2. Which control measures used for rodent control?	
C. Chemical control such as poison bait	10 (55.6)
D. Others	8 (44.4)
3. Which physical control measures used in schools?	
A. Garbage collection and food remains	13 (72.2)
B. Others physical control measures	5 (27.8)
4. What time do you spray schools?	
A. In vacant	5 (27.8)
B. Others	13 (72.2)
5. Where places are suitable in order IRS in schools?	
A. Lunchroom	4 (22.2)
B. Buffet room	6 (33.3)
C. Other	8 (44.5)
6. When is the duration of IRS in schools?	
A. Seasonally	5 (27.8)
B. Conditional according to regular and irregular IRS (monthly and 6 monthly)	8 (44.5)
C. Yearly	5 (27.7)
7. Which group is responsible for IRS?	
A. School clerk	10 (55.6)
B. No specific clerk	8 (44.4)

IRS: Indoor residual spraying

Table 2 shows the knowledge, attitudes and behavior of participants about the vector control program. Most respondents (89%) believed that rodent control program is more important than control of arthropods. Of the 18 respondents, 11 (61.1%) mentioned indoor residual spraying (IRS) is the most effective method of vector control in schools. When they were asked rodent control methods, more than half of respondents (55.6%) preferred to apply chemical control method. Furthermore, About 28% of them believed that vector control should be performed annually.

4. Discussion

One of the main factors to improve vector control program is an assessment of the knowledge, attitudes and practices of people who live in regions that are vulnerable to vector-borne diseases to find gaps in the vector control program. In Swaziland, before the implementation of the malaria eradication approach, KAP study was conducted (10). Our results showed the most participant had good information about vector control in the schools. The result of KAP study in India showed that the level of awareness was very poor although, the majority of respondents knew about kind of treatment.

This finding is in line with the results of other studies (11) in Ethiopia that showed 85% of the participants have good information about signs and symptom of malaria. In this study, most respondents obtained their information about vector control from health providers.

Further, this study showed that participants confirmed that vector control is as important key to prevent vector-borne diseases. Despite this finding, most of the participants did not use protective methods to protect against transmission.

In zanzibar study, 30% of participant utilized individual protection (12). In the present research, 61.1% of respondent believe to IRS in the yard of schools. This result is supported by the belief “recommended maximum coverage for IRS is within the targeted regions” (13).

Furthermore, only 39.9% of participants were not in agreement with IRS. The knowledge of the respondent about the transmission of malaria was quite good; 69% of participants knew that mosquitoes transmit the disease.

The high level of awareness in our study might be by reason of participants' education status that most of them have an academic education.

The knowledge of respondents was rather good about vector control. Since, Community education is a key factor to improve vector control program, we suggest strengthening the vector control education program at different levels of the community.

Conflict of Interests

The Authors have no conflict of interest.

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