



Community Eagerness and Participation for Supporting Eliminate Malaria

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Abstract

Background: This study was undertaken to identify key elements for obtaining community interest and motivate them to support eliminate malaria in the places that malaria is no longer a perceived threat.

Methods: Sequential explanatory mixed methods research design used to provide more comprehensive evidence research. A questionnaire was developed after reviewing the literature relating to community participation for malaria elimination and used to collect data from three native people, Iranian migrant and foreign immigrant groups. The variables included access to educational facilities, services, social support, social supporters, trust, and supportive norms were assessed. We also employed an ethnographic design involving: observation participant (PO), Key informant interviews (KIIs), and focus group discussions (FGDs).

Results: The results revealed that predisposing, enabling and reinforcing factors had association with community involvement. Less than 50% of total respondents reported have access to educational sessions, most of them were unaware of available and affordable services. Differences views regarding to social support influence have been found among respondents. Although patterns of social interactions were almost similar in all residents, frequencies of interactions were varied. Three thematic areas emerged including perceptions on involvement, potential barriers, and focus areas for the training community members.

Conclusion: These findings indicate needs for greater understanding about how to strengthen community involvement with emphasize for community capacity building. This research has benefit to national and regional efforts to increase community involvement as a source for effective actions on malaria elimination.

Keywords: Community participation, Malaria elimination, Mixed methods, Iran

Introduction

Community involvement has been acknowledged to play a significant role in malaria elimination efforts (1, 2). Many studies confirmed that successful implementation of malaria elimination activities relies on community contribution and supports (3, 4). In recognition of the important role communities have played in elimination of disease,

studies highlighted that the nature of this participation can vary depending on location and setting, resource availability, social and cultural context, political environment and economic conditions (3, 5). Hence, implementing these interventions face challenges due to lack of consensus on what comprises 'community' and 'participation' (6). It has

been suggested that community beneficially perceive may be considerably enhanced the participation of population (7). Moreover, level of participation may be influenced by community priorities and acceptability of interventions (8).

The need to understand better behavioral, socio-cultural issues and other factors that influence community participation increased (9). At present, 34 countries are in list of malaria-eliminating progress (10). Iran is also in the elimination stage of malaria program and due to scale-up of malaria control has already made substantial progress towards elimination of malaria (11-13).

However, there is little scientific evidence on how to achieve community participation to eliminate malaria. Therefore, more research on this subject is urgently needed.

This study was undertaken to identify key elements for obtaining community interest and motivate them to support malaria elimination.

Materials and Methods

Study area

This study was performed in a multiethnic urban area of Bandar Abbas City, located on the southern coast of Iran

Study design

The mixed-methods of sequential explanatory involving survey and ethnographic research were used.

In Review phase, our inclusion criteria were studies written in English, published from January 2000 onwards, and related to community participation in malaria elimination interventions.

Sample and Recruitment: Stratified sampling was conducted to obtain nearly equal proportions of participants from native people, Iranian migrant and foreign immigrant groups.

Quantitative and qualitative data were collected after obtaining informed consent. The questionnaire data were analyzed by using the Statistical Package for Social Science (SPSS 19.0). Construct validity of the questionnaire was confirmed with factor analysis. The Cronbach's alpha for the dimension items were 0.85.

We employed an ethnographic research design in qualitative phase involving: participant observation (PO), Key informant interviews (KIIs), and focus group discussions (FGDs). A checklist was used to focus observations. The interview guides for KIIs and FGDs were developed. Purposive sampling was selected to ensure diversity of persons was interviewed. Overall, the interviews audio-recorded, lasted on average 60 minutes and was transcribed in full. Data collection was continued until no new themes were emerging. Data were analyzed using an inductive, thematic approach.

Ethics

Ethical approval was granted by the province and district administrative authorities, and by the Tehran University of Medical Sciences. Upon informing the study participants on the goal of the study, written informed consent was obtained.

Results

During review phase, 42 articles met all our inclusion criteria. Consequently quality assessment was completed by a high level of agreement ($\kappa = 0.9$) between reviewers. The evidence highlights that community participation generally has been known to be significant in improving public health and applied in many interventions, there was argument over its actual meaning (29-31). Research suggested that participatory activity helped community to take control of their own health (32, 33).

Finally, our review revealed three main community based malaria elimination activities categories included: stimulating active residency for malaria prevention, improved quality of services and collaborative support. We also found that a major challenge for countries in elimination phase is prevention and management of imported malaria infections (34, 35).

In quantitative phase 461 questionnaires were completed, from native residents ($n=205$), Iranian migrants ($n=166$) and foreign immigrants ($n=90$). Overall, 52% of respondents were male and 48% female. The mean (SD) age of respondents was

32.33 (10.95) years. Main occupations of male respondents were fishing and worker while most frequently reported occupation of female was housewife.

Overall, results show that 94% of respondents live in dwellings with cement materials. All respondents had adequate access to electricity and using

air conditioner. Indicator on household drinking water and sanitation facilities were 98% and 93% respectively.

Regarding to responses to cause of malaria, high differences was observed in reply to source of malaria between groups (Table 1).

Table 1: Respondents' knowledge and attitudes to contribute malaria elimination (Predisposing factors)

Variables	Native peoples Frequency (%)	Iranian migrants Frequency (%)	Foreign immigrants Frequency (%)	Total
Symptom:				
Fever	51 (47.0)	23 (21.0)	34 (31.0)	108
Vomiting	24 (37.9)	29 (46.1)	10 (16.0)	63
Shivering	17 (37.5)	2 (6.0)	23 (56.5)	42
Cause:				
Dirty surroundings	50 (48.1)	49 (46.8)	5 (5.1)	104
Stagnant water	64 (62.1)	33 (31.8)	6 (6.1)	103
Mosquito bites	39 (43.4)	20 (22.2)	31 (34.4)	90
Prevention way:				
Insecticide spray	52 (37.4)	67 (48.2)	20 (14.4)	139
Door / window screen	20 (46.5)	13 (30.6)	10 (22.4)	43
Malaria is Health facility duty	111 (53.9)	76 (45.8)	18 (20.2)	205
Have to help Health worker	49 (23.8)	40 (24.1)	21 (23.6)	110
Their help is effective	16 (7.8)	26 (15.7)	8 (0.9)	50

Level of attitude toward community participation in malaria elimination among three groups was moderate to low. Positive responses to enabling factors enclosed three component accesses to educational facilities, health services and social support are demonstrated in Table 2.

Table 3 presents reinforcing factors in form of social supporter, social trust, and social norms. Differences views regarding to social support influence have been found among respondents. Overall, native group reported all social supporters have a positive influence on them, while other groups were not concerned about social supporters. Regarding to "influential persons", total respondents reported both health workers and community health workers could persuaded more for healthy behavior.

In qualitative phase results of observation part, shows that native residents had more informal interactions than other residents did. Patterns of social interactions were almost similar in all residents. Communication patterns and decision-mak-

ing patterns were shown that in some residents, family members communicate freely about their thoughts, but their elders or parents were the final decision makers. Qualitative results were organized in three general thematic areas: perceptions on involvement in malaria elimination, potential barriers to participate in elimination malaria, and focus areas for the training community members.

Involvement in malaria elimination: Less than half of the participants reported they were familiar with the malaria elimination activities. Some of them, however, felt that involving community health workers were highly effective but they need more appropriate training to do their role. Overall, majority of participants were concern about imported cases from neighboring countries, but they were unaware of their contribution for preventing it. Some of them stated that it was health facility duty. Most of participants were unaware of the benefit of their participation in malaria elimination efforts. *Potential barriers:* participants cited potential barriers include lack of staff at health facilities, location

of health facility, and inadequate malaria education, particularly on malaria transmission.

Training community members: The focus areas for the training have been identified as: information about importance of malaria elimination and community engagement, their role and responsibility, and communication skills.

It was suggested that for involvement community members in activities towards improving their health, regular community meetings could be a way to increase their capacity for engagement in actions.

Table 2: Respondents' access to educational facilities, services and social support (Enabling factors)

Variables	Native group Frequency (%)	Iranian migrants Frequency (%)	Foreign immigrants Frequency (%)	Total respondents
About prevention malaria	70(30.7)	78 (34.2)	80 (35.0)	228
About use of mosquito net	65 (29.5)	75 (34.1)	80 (36.4)	220
Health facility	105(54.7)	57(29.7)	30(15.6)	192
Health workers /CHWs	134(40.1)	115(35.9)	84(25.0)	334
Family support	80 (46.0)	47 (27.4)	48 (26.6)	175
Neighbor support	48(29.1)	40 (24.2)	78 (46.7)	166

Table 3: Respondents' view on social supporter, trust, and supportive norms (Reinforcing factors)
Note: CHW (Community health worker)

variables	Native group Frequency (%)	Iranian migrants Frequency (%)	Foreign immigrants Frequency (%)	Total respondents
Health worker/CHW:				
Easy to access	234 (53.8)	70 (28.1)	45 (18)	249
Practical support	134 (55.1)	71 (29.2)	38 (1.6)	243
Family & Relative:				
Easy to access	153 (55.4)	76 (27.5)	47 (17)	276
Practical support	105 (58.3)	58 (32.2)	17 (9.4)	180
Neighbor:				
Easy to access	131 (61.5)	58 (27.2)	24 (11.3)	213
Practical support	108 (65.9)	50 (30.5)	6 (3.7)	164
Relatives	129 (56.3)	74 (32.3)	26 (11.4)	229
neighbors	101 (68.7)	42 (28.6)	4 (2.7)	147
Health worker/ CHW	174 (45.2)	134 (34.8)	77(20)	385
Invited to special occasions	102 (62.6)	48 (29.4)	13 (8)	163
Support emotionally	142 (44.1)	105 (36.2)	75 (23.3)	322

Discussion

Overall, we found that a large number of people in study area need to understand the benefits of support malaria elimination efforts and attention that is more direct is required to encourage urban residents to involve in malaria activities. Our data also revealed that predisposing, enabling and reinforcing factors associated with community in-

volvement in malaria elimination activities. These findings are consistent with Atkinson study (3). Our results on predisposing factors are applicable for designing an effective intervention for malaria elimination. We also found that the main barrier was the gap of knowledge on malaria among respondents because their knowledge on malaria etiology, transmission, and preventions was superficial. Moreover, their attitudes toward involve-

ment in malaria were driven by differences in cultural values and beliefs.

We found lack of knowledge on malaria among young natives, which may be due to limited experience (3). Therefore, more focus should be on younger residents to increase their involvement in malaria elimination activities. However, older residents from the native group have demonstrated a better knowledge of malaria causes and symptoms than the other groups. These findings are in accordance with, which was reported by previous studies (21, 22, 23).

Another important finding of the current study is that participants were unfamiliar with the process of community participation and potential activities, which they could do to improve their health. Therefore, community participation as an opportunity within the neighborhood could improve their trust to achieve malaria elimination goals. Several studies, which were conducted elsewhere, confirmed these findings (24, 25).

Results of current study strongly support the need to mobilize community and build community capacity, as it has been suggested already (26, 27). Findings reported here addressed some operational needs of the current malaria elimination at the community level in southern malarious areas by assessing factors that might impact future participation of community. It was suggested that we should give more attention to health related cultural beliefs and behaviors.

Conclusions

This study confirms that as a key strategy community participation to eliminate malaria required building capacity in community, and removing socio-cultural barriers. In the light of these results, subsequent intervention should strengthen the investment into community participation based on the specific gaps found in the current study. Thus, community participation needs to be taken into consideration when planning health intervention. This research had benefit to national and regional efforts to increase community involvement as a source for effective actions on malaria elimination activities.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, etc) have been completely observed by the authors.

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