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## Awareness on Malaria in Industrial town Vapi: An Initiative

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### ABSTRACT:

**Objective:** A survey was conducted to know and spread awareness in people on various aspects of malaria, like spread, pre-disposing factors, control & effects of malaria in people of industrial town, Vapi.

**Methodology:** In a cross sectional design study a well designed questionnaire and leaflet about Malaria was prepared with the help of clinical pharmacist and standard format with an initiative to communicate and spread awareness we received 200 forms fully filled by participants and dispatch leaflets. A percentage analysis for each question was carried out.

**Result:** 81.5% people were aware about the Malaria, where 97% were know mosquito bite is the cause and garbage is the common breeding site and sunset is common bite time, the main symptom were fever 99%, and shivering 45%. Only 2% know the name of mosquito vector while 98% have no idea about vector name. Knowledge of preventive measures included use of Repellent and fan (99%), cleaning house(100%) and use of smoke(86%).97% were not having any idea about the medicines.13% were only graduate and only 1% were having >15000 monthly income.

**Conclusion:** Although community is aware about malaria (81.5%) but still require adequate knowledge on clinical features of it. So awareness programs on Malaria and other parasitic disease have to be conducted for the improvement of healthcare. Health education and awareness is a best way for lifting up the community healthcare. This initiative helps the government in control of the disease.

**Keywords:** Malaria, Awareness, Vapi, community is aware about malaria

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### INTRODUCTION:

As we know that Malaria represents the most devastating disease in terms of human suffering and economically as half of the world's population (3.3 billion) lives in malaria endemic areas. As per the World Health Organization stated, there are approximately 216 million cases has been reported annually, resulting in 655 000 deaths (2010). Every minute a child dies because of the parasite Plasmodium which is transmitted to humans through bites from an infected female Anopheles mosquito.<sup>1</sup>

**Symptoms:** Common clinical feature of malaria are chills, fever, headache, muscle and joint pains, nausea, vomiting are common complains of malaria. The common symptom after malaria is splenomegaly and hepatomegaly but still the untreated malaria can progress quickly to a severe and fatal condition. Severe or cerebral malaria may present with additional symptoms such as anemia, respiratory distress, prostration and convulsions.<sup>1-3</sup> The complications associated with

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falciparum malaria species are primarily a result of the ability of the parasites to sequester in capillaries and post capillary vessels of various organs.

**Etiology:** mosquito passes developmental stages during its development egg, larva, pupa and adult. The first 3 are in water and last one the mosquito flies in the air. Malaria is transmitted by the bite of an infected Anopheles mosquito that introduces the sporozoites of the plasmodia. There are 4 plasmodia species like Plasmodium falciparum, Plasmodium vivax, Plasmodium malariae, and Plasmodium ovale from which first two are mostly seen in routine cases. The Plasmodia enters into the bloodstream. The asexual reproduction stage develops in humans, while the sexual stage occurs in the mosquito.<sup>4-7</sup> The Sporozoites invade the parenchymal hepatic cells, multiply in stages known as exo-erythrocytic stages, and become hepatic vegetative forms or known as Schizonts. These Schizonts, rupture to release daughter cells known as Merozoites, which infect erythrocytes. The reason for relapsing of Malaria is Plasmodium falciparum and Plasmodium malariae remain in the primary exo-erythrocytic stage in the liver for about 4 weeks before invading red blood cell, whereas Plasmodium vivax and Plasmodium ovale can exist in the liver in the latent exo-erythrocytic form for extended periods. The merozoites which invade the red blood cell develop sequentially into ring forms, trophozoites, schizonts, and finally, the merozoites, which can invade other erythrocytes or can, further develop into gametocytes that undergo the sexual stage in the Anopheles vector. Erythrocytic forms never reinvade the liver without developing into sporozoites in the vector, and therefore, malaria infections from transfusion never result in the exo-erythrocytic form<sup>4-7</sup> Plasmodium falciparum can result in high levels of parasites in blood because of its ability to invade erythrocytes of all ages.

**Prevention and Control:** To prevent spreading of malaria there is Reduce Mosquito exposure

- Use Mosquito repellent
- Wear long sleeved shirts
- Destroy mosquito
- Prevent empty standing water from outdoor
- Support local vector control program
- Maintain hygienic sanitation.

**Diagnosis:** To confirm a positive diagnosis of malaria, blood smears should be obtained every 12 to 24 hours for 3 consecutive days.<sup>4-8</sup>The presence of parasites in the blood 3-5

5 days after initiation of therapy indicates that there is a drug resistance. Recent advances for detecting malaria parasite have included DNA or RNA probes by polymerase chain reaction and a rapid dipstick test.<sup>9</sup>The dipstick test is reported to have a sensitivity of 88%and a specificity of 97%, which is comparable with microscopy.<sup>9</sup>

**Management:** Agents like quinine, chloroquine are used to destroy the parasites when they are in the circulation. They might be used as prophylactic or curative actions.

The initiative to spread awareness in the community with necessary knowledge will be helpful to utilize the available resources to fight against the disease. The main objective of the study is to spread awareness and finding out the awareness on various points like spread, vector, knowledge on control and prevention, symptoms, breeding site and time of the disease.

**Methodology:** In a cross sectional design study a well designed questionnaire and leaflet about Malaria was prepared with the help of clinical pharmacist with an initiative to person to person communication to spread awareness we received fully filled 200 forms and dispatch leaflets on the Malaria spreading community awareness. A percentage analysis for each question was carried out. The participants were advised to choose answers that match their view.

**Result:** a total of 200 participants were communicated from which 81.5 % people were aware about the disease. 51.5% were male and 48.5% were female in this study. From the study the education level revealed that only 13% were graduates. The participants were between 15 to 70 years of age. The highest percentages were 44% of age limit between 26-40 years and the least percentage 6.5% being 65-70 years of age.

Mosquito bite is the common mode of spread of disease were answered by 97.5%, where Garbage(98%) and standing dirty water(88%) were common breeding site and sunset(99%) and night(88%) common bite time. But surprisingly only 2% know the vector is female Anopheles is the cause of malaria.

34% have answered malaria is an ordinary disease while 50% have answered it is severe and rest have no idea. With regard to clinical feature fever was mainly mentioned with 99%, while other symptoms are shivering (45%), nausea (2%). On response to knowledge on preventive measures, 99% responded use of Repellents, 86% use of smoke, 98% were in favor of using fan and cleaning the house. 99% participants have learnt this from healthcare provider. 97% participants had no idea about the medicines used in the management of

the malaria.

**Discussion:** The current study program helps to assess awareness about cause, mode of transmission, vector, symptoms, treatment and preventive measures of malaria. The results indicated that almost all participant involve in this study are aware about malaria as a disease with fever and shivering are main clinical features, but not enough is knowing about clinical features and vector and treatment and predisposing factors and control over the disease. This program is a kind of an initiative for student while studying the theoretical concept about community pharmacist and implements the same functions in practical lead to contribute and received satisfactory response in prevention of the disease. Pharmacist can effectively communicate the information by developing empathy and by patient counseling about sign and symptoms of disease; spreading awareness on the disease and by explaining various preventive measures and available treatment for the disease.

**Conclusion:** Although community is aware about malaria (81.5%) but still require adequate knowledge on clinical features. So awareness programs on Malaria and other parasitic disease have to be conducted for the improvement of healthcare. Health education and awareness is a best way for lifting up the community healthcare. This initiative helps the government in control of the disease.

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