

# The Effect of Malaria on Human

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## Abstracts

The objective of the current study: What is malaria, how is the malaria parasite transmitted to humans, what are the symptoms of malaria in humans, how to protect humans from the malaria mosquito, and the effect of malaria on humans. A questionnaire was conducted via Google Drive, and the questionnaire was distributed via the social network (where 750 questionnaires were distributed to residents of the city of Dammam, men and female from 25-55 years, and responses from 740 people (questionnaire) were obtained via email). It concluded that malaria, it can be fatal if left untreated.

**Keywords:** the, effect, malaria, human.

## Introduction

Malaria (in English: Malaria) is the resource of the Latin word malus aria, and in Italian, malaria, the concept of air, indicates the upbringing of malaria mosquitoes in the remaining offender. The old believed that malaria was inherited by the scent of a sump. The English called it swamp heat, and the Arabs called it dangerous shaky poisoning. Malaria <sup>(1)</sup> cool <sup>(2)</sup> <sup>(3)</sup> or shingles <sup>(3)</sup> is a spoiling parasitic illness brought by the Plasmodium parasite. It is moved through the saliva of female Anopheles mosquitoes. It is transported to the liver, copies then is freed into the blood offense red blood cells, and smashed. This is joined by a group of symptoms, the most important of which are fever, anemia, and spleen enlargement. The parasite that causes malaria was discovered on November 6, 1880, in the military hospital in Constantine, Algeria, by a French army doctor named Alphonse Laveran, who won the Nobel Prize in Medicine and Physiology

for the year 1907 for his discovery. Malaria happens as a consequence of contamination with a kind of single-celled organism from the Plasmodium family <sup>(4)</sup>. Which is moved to humans through the bite of a female Anopheles mosquito <sup>(4)(5)</sup>. This happens when parasites found in mosquito saliva come in human blood <sup>(4)</sup>. The parasites go to the liver, where they mature and double <sup>(9)</sup>. Five types of Plasmodia can hit humans <sup>(6)</sup>. Plasmodium falciparum is considered one of the most hazardous species and the reason for the most deaths, while Plasmodium vivax, Plasmodium ovale, and Plasmodium malaria in general cause fewer sharp symptoms than those caused by Plasmodium falciparum <sup>(4)</sup>. P. knowlesi species little cause illness in humans <sup>(4)</sup>. Malaria is usually diagnosed by microscopic checking of blood using blood films, or by rapid diagnostic tests based on the search for antigen <sup>(6)</sup>. ways using polymerase chain reaction to reveal the parasite's DNA have also been developed, but they are not widely used in areas where malaria is common, due to their cost and complexity <sup>(7)</sup>. The danger of malaria can be miniature by controlling mosquitoes through the use of mosquito nets and roach repellents or by using mosquito control measures such as spraying insecticides and draining standing water <sup>(6)</sup>. Many medications are ready to prevent malaria for travelers who will move to areas where the illness is widespread <sup>(4)</sup>. Sulfadoxine/pyrimethamine group doses are recommended in infants and after the first trimester of pregnancy in areas with high rates of malaria. The recommended curing for malaria is a collection of antimalarial drugs that have artemisinin <sup>(6)(8)(9)</sup>. The second medicine may be either mefloquine, lumefantrine, or sulfadoxine/pyrimethamine <sup>(10)</sup>. Quinine can be used with doxycycline if artemisinin is not available <sup>(10)</sup>. The illness expands in tropical and subtropical regions situated in a wide range around the equator <sup>(6)(11)</sup>. This consists of a large part of Africa, Asia, and Latin America <sup>(4)</sup>. In 2020 <sup>(12)</sup>, there were 241 million malaria cases worldwide resulting in an estimated 627,000 deaths. Nearly 95% of cases and deaths are in Africa, especially in sub-Saharan regions. illness rates reduced from 2010 to 2014 but grow up from 2015 to 2020. Malaria is usually associated with poverty and has a considerable minus influence on economic development <sup>(13)(14)</sup>. In Africa, it is estimated to result in losses of US\$12 billion annually due to high healthcare costs, loss of employment, and negative effects on tourism. Symptoms of malaria Tremors, tremors, fever, sweats, headache, nausea, vomiting, muscle pain, bloody stools, jaundice, convulsions, and fainting. High temperature, which may be joined by chills, profuse sweating, and headache. Malaria causes symptoms that are very similar to the symptoms of other diseases, especially influenza, but if you suspect that you are contaminated with malaria, do not hesitate to take curing immediately without waiting for your visit to a specialist doctor. Malaria causes anemia and yellowing of the skin as a result of the dissolution of red blood cells. Symptoms of the disease may develop rapidly in people with low immunity to a risk degree, with the temperature high, the sensory system destroyed, convulsions recurring, accompanied by coma, and then death. In the case of malaria-affected by the falciparum parasite, P. If the patient is not cured quickly, this may cause kidney failure, convulsions, confusion in memory and thinking, and a coma that ends in death. Malaria may reach the brain, where the parasite-infected and decomposed blood cells clog its blood vessels. This condition is called cerebral malaria. Malaria symptoms can repeat after varying symptom-free periods, and it is called a relapse (malaria relapse), where symptoms reappear after a symptom-free period, usually caused by parasites P. vivax that have come in a latency period in the liver as an outcome of inappropriate or ineffectual medication <sup>(15)</sup>. Relapse is the duplication of symptoms after the removal, of parasites in the blood, but they keep to unhide as dormant

parasites (a form of malaria parasites) in the liver cells <sup>(16)</sup>. recrudescence usually occurs between 8-24 weeks and is usually observed in Plasmodium vivax and Plasmodium ovale sickness <sup>(17)</sup>.

## 2. Material and Methods:

This study started in (the city of Dammam), began writing the research and then recording the questionnaire in January 2024, and the study ended with data collection in July 2024. The researcher used the descriptive analytical approach that uses a quantitative or qualitative description of the social phenomenon (the effect of malaria on human), the independent variable (the percentage of malaria that infects humans) and the dependent variable (the percentage of malaria that kills humans) this kind of study is characterized by analysis, reason, objectivity, and reality, as it is concerned with individuals and societies, as it studies the variables and their effects on the health of the individual, society, and consumer, the spread of diseases and their relationship to demographic variables such as age, gender, nationality, and marital status. Status, occupation <sup>(18)</sup>, And use the excel 2010 Office suite histogram to arrange the results using: frequency tables Percentages <sup>(19)</sup>. A questionnaire is a remarkable and helpful tool for collecting a huge amount of data, however, researchers were not able to personally interview participants on the online survey. they only answered the questionnaire electronically, the questionnaire consisted of twelve questions, nine questions were closed and three questions were opened.

## 3. Results:

The percentage of those who agreed to participate according to the survey through the questionnaire was 100%, and in terms of their ages, it was as follows: from the ages of 25-34 years, it was 30.6%, while from the ages of 35-44 years, their percentage was 40.8%, and from the ages of 45 years to 54 years, it was 26.5%. Age 55-60 years 2.1%. As for the gender of the participants, they were as follows: 60.4% male, and 39.6% female. As for their nationalities, 89.6% were Saudis, while 10.4% were non-Saudis. As for their professions, they were as follows: student 2.2%, government employee 65.3%, private sector employee 10.2%, self-employed 0%, housewife 16.3%, worker (not working) 6%. When moving to the questions of the research questionnaire, they were as follows: The first question is: Do you know how the malaria parasite is transmitted to humans? The answers were yes 67.3%, and no 32.7%. The second question: How can you protect yourself from the bite of the malaria mosquito? The answers were as follows: spray at the pharmacy for protection or mosquitoes, wear protective clothing, use mosquito repellent spray, and apply the necessary materials to repel mosquitoes. with the necessary creams, No, by avoiding swamps, spraying the area with an insecticide, choosing personal care products that are free of strong odors, eliminating mosquitoes, pesticides, using insect protection, using lotion, using insect repellent ointment, and poisoned needles. The third question: What are the symptoms of malaria? The answers were: I don't know, fever, chills, general feeling of discomfort, Headache, nausea and vomiting, diarrhea, abdominal pain, joint or muscle pain, fever, nausea, headache and body tremors, temperature. High body temperature, I don't know. The fourth question: Was the reason for your visit to the doctor a fever during your stay in or after traveling to an area with a high risk of malaria? Yes, 34.7%, and no, 65.3%. The

fifth question: Do malaria mosquitoes transmit the disease from an infected person to an uninfected person? Yes, 79.6%, and no 20.2%. The sixth question: What are how malaria is transmitted to humans: from the mother to her fetus during pregnancy, through blood transfusion, and sharing needles used to inject drugs? Yes, 70.8%, and no, 29.2%. The seventh question: What is the greatest risk factor for malaria infection living in areas where the disease is widespread? Yes 98%, no 2%. Question 8: Who among the people is at increased risk of serious illness: young children and infants, older adults, travelers coming from areas where malaria is not common, pregnant women and their unborn children? Yes, 87.8%, and no 12.2%. The ninth question: Can malaria become fatal? Yes, 91.8%, no 8.2%. The ten questions: Can malaria recur? Yes, 87.5%, and no, 12.5%. The eleventh question: What are the ways to prevent malaria? The answers were as follows: staying away from places of viruses, staying away from areas where they spread, vaccinations and adherence to medical instructions for prevention, raising immunity and protection, vaccination, avoiding swamps and staying away from areas where malaria is high, taking care when transfusing blood, using coils and vaporizers, Wear protective clothing, use window coverings, get a vaccine and eliminate mosquitoes, I don't know, avoid exposure to mosquitoes, through the vaccine, the use of vaccines when traveling to endemic areas, the use of the vaccine when traveling to endemic areas, a poisoning needle. The last question is: Is there a vaccine against malaria? Yes, 77.6%, and no, 22.4%.(Table.No.1)(Table.No.2) (figure No.1).

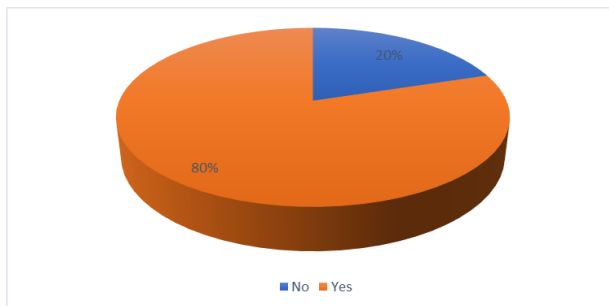
Table .No.1:percentage of males and females.

males	females
60.4%	39.6%

Table.No.2: percentage of saudi and non-saudi

Saudi	Non-saudi
89.6%	10.4%

Figure No.1: Opinions and attitudes of participants on the impact of malaria on humans



#### 4. Conclusion:

The malaria parasite is transmitted to humans by 67.3%. Reason for visiting a doctor Fever during stay or after traveling to an area with a high risk of malaria? Yes 34.7%, Malaria mosquitoes transmit the disease from an infected person to an uninfected person? Yes 79.6% Transmission of malaria to humans: from the mother to her fetus during pregnancy, through

blood transfusion, and sharing needles used to inject medications Yes 70.8%, malaria becomes fatal 91.8%, can malaria be treated? 87.5%. it found that malaria parasite is transmitted to humans to a large extent, it can be fatal if untreated.

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