



**ORIGINAL RESEARCH PAPER**

**Community Medicine**

**KNOWLEDGE ABOUT MALARIA AMONG INTERNS OF GOVT. MEDICAL COLLEGE, NIZAMABAD -TELANGANA.**

**KEY WORDS:** Interns, Malaria, Vector, NVBDCP

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**ABSTRACT**

**Background:** Sir Ronald Ross discovered life cycle of malaria parasite in 1897. Malaria is A parasitic infection caused by plasmodium parasite and transmitted by the bite of infected mosquitoes .Malaria is transmitted by bite of female anopheles mosquito, transfusion of blood from infected persons and use of contaminated needles, syringes. Mosquito acts as definitive host. Theme for world malaria day 2019 is “Zero malaria starts with me.”

**Objectives:** To study the knowledge about malaria among Interns of GGH, Nizamabad.

**Methodology:** The study design was cross-sectional. Study period was from May 2019 to July 2019. Study was done at GMC, NZB, Telangana. Sampling technique was done by survey. Inclusion criteria taken were all interns both male & female. Descriptive statistics & Chi-square test were used as statistical tests. Data was entered into MS Excel version 2016 and analysis was done by using SPSS trial version 16.0. IEC clearance was obtained prior to study.

**Result:** Interns answered correctly to the questions, life cycle (92.5%), rural vectors (33.8%) ,urban vectors (91.2%), dormant stages (91.2%), stage of schizont in life cycle (23.8%), correct order of life cycle sequence (77.5% ), day of oocyst rupture (25%), parenteral transmission (78.8%) .cf/complications in severe malaria (51.2%). infective form (82.5%).

**Conclusion:** Every intern knows well about the vector for transmission . Very few of them know about the stage of parasite in blood transmission. Many of them have knowledge about the incubation period. Most of them know about the dangerous types. Some of them know about the epidemiology.

**INTRODUCTION:**  
 Sir Ronald Ross discovered life cycle of malarial parasite in 1897. Malaria is A parasitic infection causes by plasmodium parasite and transmitted by the bite of infected mosquitoes <sup>(1)</sup>. Malaria is transmitted by bite of female anopheles mosquito, transfusion of blood from infected persons and use of contaminated needles, syringes can cause malaria. Congenital transmission of malaria may also occur <sup>(2)</sup>. Approx. 300-600 million people are affected by malaria yearly in the world Wide. Incubation period of plasmodium vivax 12-18 days and falciparum is 9-14 days. ovale 18-40 days. Plasmodium vivax and ovale causes relapse of malaria. Among all types of plasmodium species plasmodium falciparum is the dangerous <sup>(3)</sup>. Rural vector for malaria is Anopheles' culicifacies 4 species of culicifacies complex (ACDE) are reportedly malaria vectors in India. Urban vector for malaria is anopheles stephensi which is an important vector for plasmodium falciparum and vivax. World malaria day is celebrated on 25<sup>th</sup> April. Throughout the country every anti malaria month is observed during the month of June. Infective form of malaria coincides with relapse of successive broods of Merozoites into the blood stream. Mosquito acts as definitive host for malaria parasite where in, sexual phase of parasite life cycle occurs called Sporogony. Anaemia, jaundice are features of malaria the parasite infects RBC and causes anemia. Hemolysis or liver function causes jaundice <sup>(4)</sup>. RBC's get entrapped in spleen and marked immunological

response occurs leading to splenomegaly <sup>(5)</sup>. Complications of severe malaria in children are severe anemia and cerebral malaria and respiratory distress. Plasmodium falciparum causes black water fever which is a complication of malaria in which red blood cells burst <sup>(6)</sup>.

**Annual parasitic incidence :**  
 Total number of positive slides for parasite in a year/total population \*1000 <sup>(7)</sup>.

Geimsa stain is used in detecting malaria. 10-50 trophozoites /microlitre is detection limit of plasmodium in smear. <sup>(8)</sup>

Chloroquine is used in malaria. Clindamycin is drug of choice in chloroquine resistant malaria in children. In pregnancy, quinine+clindamycin \*7 days is used. If it fails, artesunate+ clindamycin\*7 days. PRIMAQUINE is contraindicated in pregnancy. <sup>(9)</sup> Duration of chemo prophylaxis for travellers to endemic areas is to start chloroquine 1 week before traveling during travel and 4 weeks after returning from endemic area. In chloroquine resistant zone presumptive treatment of malaria to be given is sulfadoxine +pyrimithamine. Chloroquine +mefloquine +proguanil can be used for chemoprophylaxis for malaria. Artesunate is not used for prophylaxis due to it is reserved drug <sup>(10)</sup>. Artemether-lumefantrine is the combination therapy recommended by NVBDCP in North eastern states <sup>(11)</sup>. Paris green is stomach

poison so called due to its effect taken upon by injection. It is larvicide Abate is also used to kill of mosquito. It is effective larvicidal. Malathion is a nerve poison. It is organophosphate insecticide<sup>(12)</sup>

NVBDCP located in New Delhi. Launched in 2003 2004.NVBDCP included 6 deadly diseases including malaria, filaria, kala-azar, JE, dengue, chicken-gunya.<sup>(13)</sup>

**NATIONAL FRAMEWORK FOR MALARIAL ELIMINATION IN INDIA OBJECTIVES:**

- By 2022,transmission of malaria interrupted and zero original cases
- By 2023,incidence of malaria reduced to <1/1000 population
- By 2030,malaria to be eliminated throughout the country<sup>(14)</sup>

Annual parasite incidence<1 is the elimination level that to be attained<sup>(7)</sup>

District in which API <1/1000population belongs to category1 according to national strategic plan for malaria elimination 2017-2022<sup>(14)</sup>

Urban malaria scheme includes 131 towns and cities in 19states.<sup>(15)</sup>

RTS\_S vaccine for malaria created in 1987.It provides partial protection for malaria in children<sup>(16)</sup>

Theme for world malaria day 2019 is “Zero malaria starts with me.”<sup>(17)</sup>

**OBJECTIVES:** To study the knowledge about malaria among house surgeons of GGH,Nizamabad

**METHODOLOGY:**

The study design was cross-sectional. Study period was from May 2019 to July 2019. Study was done at GMC, NZB, Telangana. Sampling size was  $4pq/d^2$  (in which p<sup>(18)</sup> is prevalence, q is 100-p & d is 20% of p). Sampling technique was done by survey. Inclusion criteria taken were all house surgeons both male & female. Exclusion criteria taken were those who were not willing. Descriptive statistics & Chi-square test were used as statistical tests. Data was entered into MS Excel version 2016 and analysis was done by using SPSS trial version 16.0. Institutional Ethical Committee (IEC) clearance was obtained prior to study.

**RESULT:**

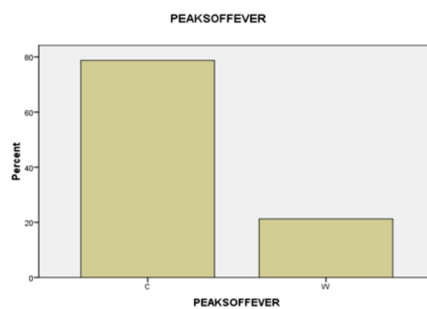
**ACCORDING TO OUR STUDY THE RESULTS ARE:**

**Table: 1**

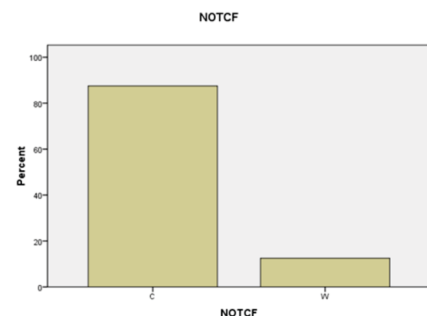
Question	% of correct answer	% of wrong answer
Microbe	93.8	6.2
Blood transmission	23.8	76.2
Dangerous	95	5
Transmission	96.2	3.8
IP	85	15
Relapse	77.5	22.5
People in world	86.2	13.8
World malaria day	87.5	12.5
Month	85	15
Vector	100	0

92.5% of house surgeons answered correctly to the question life cycle. 33.8% for rural vector of malaria.91.2% for urban vector of malaria. 91.2% for dormant stages. 23.8% for stage of schizont in life cycle. 77.5% for correct order of life cycle sequence. 25% for day of oocyst rupture. 78.8% for parenteral transmission. 51.2% for cf/complications in severe malaria. 82.5% for infective form.

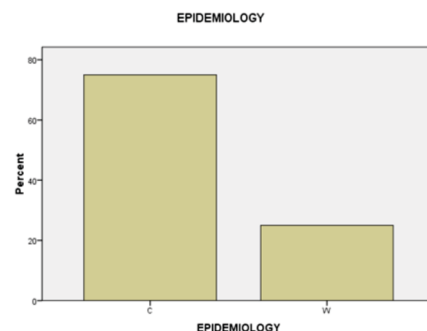
**Figure: 1**



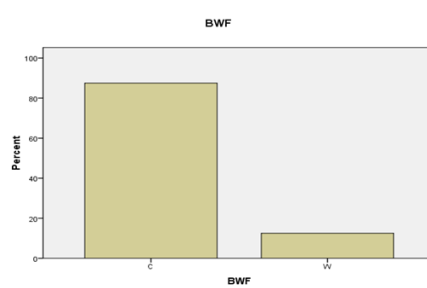
**Figure: 2**



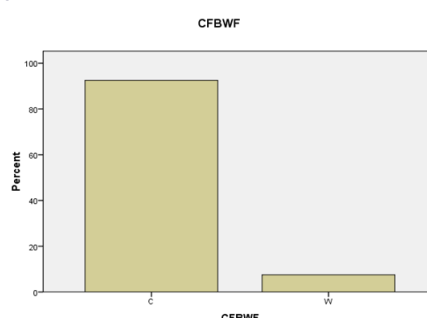
**Figure: 3**



**Figure: 4**



**Figure: 5**



**Chi-square results:** There is association between type of microbe and relapse. There is no association of programmes with nerve poison. There is association of vector transmission and most dangerous type of malaria .There is association

between rural vector and urban vector of malaria .there is association of dormant stages with schizont.

**DISCUSSION:**

Based on study done by Fabian Mendez elderly, travellers having the risk factor. Based on Gabriel carrasquilla; prolonged hospital stay community, community acquired are other risk factors<sup>(19)</sup>

By to Eli Schwartz drugs used are atovaquone and proguanil are for prophylaxis. Based on Mediterranean j hematol are chloroquine and proguanil prophylaxis. By Alvaro Munoz are only mefloquine<sup>(20)</sup> By Shratta R primaquine and artemether combination therapy used for malaria elimination in children also by Corner c Doxycycline and chloroquine<sup>(21)</sup> Malaria management in past, present, future by Enayati A ;vaccine, better drugs, insecticide, insecticide treated bed nets, insect control is part of malaria parasite transmission<sup>(22)</sup> Based on study to Annur rev entamol;vector control, improved choices of insecticide, educate the community effectively.Field trail to assess the vaccine.By to Sammy khagayi,on, on ; on clinical bases vaccine not effective. By to Meghana Desai; drugs, insecticide, bed nets can help. But vaccine would be most effective malaria parasite is coated with ever changing proteins<sup>(23)</sup> Incubation period. By to our study 85% of interns researched 10-14days.By Patricia Brazil; plasmodium vivax malaria 3-12 months Brazil according to Renata saliva Pedro; plasmodium vivax 3months in Brazil<sup>(24)</sup> Clinical features. According to our study 91.2% of interns reported that fever, chills, vomiting, headache, body pains, sweating. By Bartaloni; influenza, cold, based on Trampuz; ; weakness, increases fever, enlarged spleen, liver, increase respiratory rate, mild jaundice<sup>(25)</sup>Diagnosis by to our study 86% blood smear is gold standard test for diagnosis. Study done by N Tangpukdee; serology, PCR, drug resistance FD Krampa; blood smear with Giemsa stain,<sup>(26)</sup> Modes of transmission. Based on our study 100 of interns reported malaria transmitted by female anopheleses. By Paulo PP contaminated syringes and needles, contaminated blood transmission based on Alesandra s Orfano mother to the growing fetus<sup>(27)</sup> Complications based on research 512% renal and CNS problems. By Al Conroy acute renal failure, cerebral malaria by plasmodium falciparum. By B Batabal severely infected person with anemia, hemoglobinuria, metabolic acidosis, hypoglycemia<sup>(28)</sup> .

**CONCLUSION:**

Every house surgeon knows well about the vector for transmission of malaria. Very few of them know about the stage of parasite in blood transmission. Many of them have knowledge about the incubation period of malaria. Most of them know about the dangerous type of malaria. Some of them know about the epidemiology of malaria.

**RECOMMENDATION:** More number of studies should be conducted at various places

**LIMITATION:** It is a hospital – based study.

**CONFLICT OF INTEREST:** Nil

**FUNDING:** self

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