

**A STUDY TO EVALUATE THE EFFECTIVENESS OF  
PLANNED TEACHING PROGRAMME ON  
PREVENTION AND CONTROL OF MALARIA AMONG  
MOTHERS IN KARATTUPPALAYAM UNDER  
TIRUCHENGODE TALUK, NAMAKKAL  
DISTRICT, TAMIL NADU.**

**By  
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**VIVEKANANDHA COLLEGE OF NURSING**

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**ELAYAMPALAYAM, TIRUCHENGODE, PIN -637205**

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*APRIL 2011*

**A STUDY TO EVALUATE THE EFFECTIVENESS OF  
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AND CONTROL OF MALARIA AMONG MOTHERS IN  
KARATTUPPALAYAM UNDERTIRUCHENGODE  
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**1. INTERNAL EXAMINER**

**2. EXTERNAL EXAMINER**

*Submitted in partial fulfillment of the requirements for the  
DEGREE OF MASTER OF SCIENCE (NURSING) The  
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## **CERTIFICATE**

This to certify that, this thesis, titled “**A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON PREVENTION AND CONTROL OF MALARIA AMONG MOTHERS IN KARATTUPPALAYAM UNDER TIRUCHENGODE TALUK, NAMAKKAL DISTRICT, TAMIL NADU**” submitted by **Mrs.K.MARAGATHAVALLI, M.Sc(Nursing), (2009-2011 Batch)** Vivekananda College of Nursing in partial fulfillment of the requirement of the Degree of Master of Science (Nursing) from the Tamilnadu Dr.M.G.R. Medical University is her original work carried out under our guidance.

This thesis or any part of it has not been previously submitted for any other Degree or Diploma.

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## **DECLARATION**

*I hereby declare that this thesis entitled, “**A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON PREVENTION AND CONTROL OF MALARIA AMONG MOTHERS IN KARATTUPPALAYAM UNDER TIRUCHENGODE TALUK, NAMAKKAL DISTRICT, TAMIL NADU**” is the outcome of the original work undertaken and carried out by me under the guidance and direct supervision of **Prof.(Mrs).R.KANAGAVALLI M.Sc, (N), (Ph.D)** Principal, Department of Community Health Nursing, Vivekanandha college of nursing (Sponsored By Angammal Educational Trust), Elayampalayam, Tiruchengode, Namakkal District.*

*I also declare that the material of this thesis has not formed in any way the basis for award of any other Degree, Diploma or Associate fellowship previously of the Tamil Nadu Dr. M.G.R. Medical University.*

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## **ABSTRACT**

**A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON PREVENTION AND CONTROL OF MALARIA AMONG MOTHERS AT KARATTUPPALAYAM UNDER TIRUCHENGODU TALUK, NAMAKKAL DISTRICT, TAMIL NADU.**

### **OBJECTIVES**

1. To assess the knowledge of mothers regarding Prevention and control of malaria before administering teaching programme.
2. To develop and administer Planned teaching programme on Prevention and control of malaria.
3. To find out the effectiveness of Planned teaching programme in improving the knowledge of mothers by post test.
4. To compare the pretest and post test knowledge score of mothers on prevention and control of malaria.
5. To explore the relationship between pretest knowledge scores with selected demographic variables like age, education, occupation, type of family, family income, method of water storage and drainage system.

The conceptual framework adopted for this study was based on Stuffle Beams Evaluation Model.

The research approach adopted for this study was quasi-experimental approach. The research design selected for this study was



one group pre test, post test, which was used to measure the effectiveness of planned teaching programme.

The selection of mothers was done by simple random sampling technique and the sample consists of 50 mothers in Karattuppalayam area, Tiruchengodu Taluk, Namakkal District.

The instrument developed and used for this present study was semi-structured interview schedule, which had two parts.

**Part I:** Comprised of 17 items related to socio demographic variables.

**Part II:** Comprised of

**Section A:** Comprised of 10 items related to knowledge of malaria.

**Section B:** Comprised of 24 items related to prevention and control of malaria.

The study was conducted during the month of December 2010, the collected data were analysed by using descriptive and inferential statistics in terms of frequencies, percentages, mean, SD, t-test and chi-square test.

## **SUMMARY OF THE MAJOR FINDINGS**

In the present study, majority of them were between 26-35 yrs and all are hindus and educated.58% of the mothers were house wives and 38% had the monthly income between 4001-6000.Among 50 mothers 38% of them belonged to nuclear family.12% of the mothers had the previous history of malaria in the family.

The post test mean score percentage (77.4%) on prevention and control of malaria were comparatively more than their pre-test knowledge

score 32.88%.It confirms that ,there was increase in knowledge after administration of planned teaching programme.

The paired 't' test analysis of the pre and post test knowledge  $t=34.253(P<0.05)$  was highly significant. This result evidently supports the effectiveness of planned teaching programme on prevention and control of malaria.

The present study also reveals that, there is a significant association between the score on prevention and control of malaria with selected socio demographic variables like age, income, occupation, method of water storage, type of drainage and previous history of malaria.

### **RECOMMENDATIONS**

1. The study can be replicated by using a larger sample there by findings can be generalized.
2. Comparative study may be conducted to find out similarities or difference in knowledge between urban and rural communities.
3. A study may be conducted to identify the factors which influence the spread of malaria among the people in the community.
4. A longitudinal study can be done among the public on the prevention and control of malaria.
5. Mass and individual regional language health education campaign can be conducted.

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# CHAPTER I

## INTRODUCTION

### *“Health is Wealth”*

Health is the secret of every happy man. It helps people live well, work well and enjoy them in the world.

Health is a state of complete physical, mental and social well being and not merely an absence of disease or infirmity (WHO). Health is considered as the most important component of the level of living because its impairment always means impairment of the level of living.

Attainment by all people of the highest possible level of health is the target of WHO. This implies the removal of obstacles to health that is the elimination of malnutrition, ignorance, disease, unsafe water supply and unhygienic housing. If a person loses his health then he also loses happiness from his life. The UN Millennium Development Goals (MDGs) recognize, health is inextricably linked with development - a failing economy cannot provide adequate health care, and a sick population, unable to work productively, cannot boost the economy.

The infectious diseases often affect the developing nations, malaria, HIV/AIDS, and tuberculosis is ravaging the vast areas of Africa, Latin America and Asia. These diseases are especially common in poor, deprived and under developed regions where it has enormous effect on



public health. An increasingly globalized world makes it harder than ever to contain these diseases. Malaria imposes a great socio economic burden on humanity. Malaria itself accounts for 85% of global infectious diseases burden.

Malaria is a communicable protozoan disease caused by protozoan of genus plasmodium and transmitted to man by species of infectious female anopheles mosquitoes called vectors or carriers. The term malaria is derived from Latin (Mal = bad), aria = air). One of the oldest manifestations known to the mankind. One of the Vedas Postulates that Malaria is caused by mosquitoes.

Sir Horace and Walpole first time named the fever as malaria (1740). Lavelon (1880) discovered malaria parasite in blood. The four distinct species of malarial parasites are plasmodium Vivax, Plasmodium falciparum, plasmodium, malaria and plasmodium Ovale. Pl. Vivax has the widest geographical distinction throughout the world. In India about 70% of the infections are reported to be due to Pl. Vivax, 20-30% due to Pl. falciparum and 4-8% due to mixed infection.

The four factors that determine the epidemiology of malaria are environmental, Vectorial, parasite and host factors. Their interplay determines the two polar epidemiological extremes-stable malaria and unstable malaria. The transmission plateau of malaria does vary within the same country, sometimes within short distances.

Malaria is primarily a disease of developing world. But the developed countries like United Nations, Europe and Italy had the vectors still present in their areas. All of the malaria cases reported in the United States have occurred among immigrants, refugees and travelers from parts of the world where ongoing transmission persists.

In developing countries, the malaria burden is considerable, accounting to 300-500 million clinical cases per year – 80% of which occur in Africa. It is responsible for 1 million deaths per year and 90% of which in Africa. In the south East Asian Region (SEAR) of WHO, 1.2 billion people are exposed to the risk of malaria, most of whom live in India. India alone contributes 76% of the total cases. Although annually India reports about two million cases and 1000 deaths, attributable to Malaria (Dash A.P., 2008).

In India, the States of Orissa, Jharkhand, west Bengal, North Eastern States, Chhattisgarh, Madhyapradesh Contribute to the bulk of malaria. Urban areas contribute about 15% of the total malaria cases in India and are primarily associated with construction activities and migrant population. WHO estimated that there had been 10.6 million cases of malaria and 15,000 deaths from malaria in India during 2006 (WHO, World Malaria Report, 2008).

In Tamilnadu out of total malaria cases reported in the State 74% are occurring in Chennai city and remaining percentage of diseases are in Tuticorin, Erode, Vellore, Dindigul, Salem, Tiruchengodu, Tiruvallur and Tiruvottriyur.

The coastal villages (Ramanathapuram, paramakudi, Nagapatinam) and reverine villages (Dharmapuri, Krishnagiri, and Tiruvannamalai) were endemic for Malaria. Malaria is a emerging problem in Nagerkoil. Malarial cases in Tamilnadu also imported from other States. The importations of cases are due to migration of labors and fisherman, pilgrimage population.

Malaria affects millions of people in India today, despite decades of efforts to control it. National Malaria control Programme (NMCP) was launched in 1953. The NMCP was in operation for 5 years (1953-1958). It was highly successful in that an estimated 80% reduction in the malaria problem in 1958.

In 1958, National malaria eradication programme (NMEP) was launched by the government of India with a view to eradicate the malaria from India. Initially the programme was successful but soon setbacks appeared. The malaria was resumed. The annual incidence escalated from 50,000 in 1961 to a peak of 6.4 million malarial cases in 1976. So that the Govt. of India revised the strategy of NMEP and implemented Urban Malaria scheme (UMS) in 1971 and the modified plan of operation

(MPO) in 1977 under NMEP. Within the MPO, *Pl. falciparum* containment programme (PFCP) has been introduced in 1977.

Under MPO, regular insecticidal spraying, entomological assessment, surveillance, presumptive and radical treatment was greatly emphasized. To cope up with the demand for antimalarial drugs, Drug distribution depots (DDC) and fever treatment depots (FTDs) were established. The Urban Malaria scheme (Ums) covers 181 cities and towns including New Delhi, Mumbai, Kolkata and Chennai. Due emphasis is given to the health education to the public to enlist their co-operation in malaria control activities.

A new approach to malaria control was evolved in 1978 that is the implementation of malaria control in the context of the primary health care (PHC) strategy. In the year 1999, the government of India renamed the term national malaria eradication programme to 'National Anti-malaria Programme'. The Ant malarial activities were intensified in the states of Andrapradesh, Bihar, Gujarat, Madhyapradesh, Maharashtra, Orissa, Karnataka, West Bengal and Tamilnadu, an Enhanced Malaria Control project (EMCP) has been launched in 1997.

The launch of Roll Back Malaria (RBM) in 1998, the United Nations Millennium declaration in 2000, the Abuja declaration by African heads of state in 2000, the world health assembly in 2005 has all contributed to the establishment of goals, indicators and targets for

malaria control. The current targets of MDGs are to reduce the number of cases and deaths caused by malaria to one half of the 2005 values by 2010, and to one quarter by 2015.

Despite all these efforts against malaria, instead of being wiped out from the country, still exists. The obstacles for the malaria eradication such as insecticide resistance, changes in mosquito behavior, drug resistance in the malarial parasites and lack of adequate resources to fight the disease.

Environmental factors like rainfall directly or indirectly affect the abundance of breeding sites. Man made malaria is the result of economic development direct from social development urbanization leads to lack of proper drainage of surface water and use of unprotected water reservoirs favour vector breeding the occupations like bamboo cutting and mining are few high risk occupations. Increased vector breeding through disruption of agriculture and water management increase in man vector contract through destruction of housing and cattle and increased intermixing of both non-immunes and reservoirs of infection are due to impact of breakdown of the social order.

Another obstacle for malaria eradication are operational and administration deficiencies. There are insufficient workers or trained staff available to cover vast areas for antimalarial work. Many of the sanctioned posts remained unfulfilled up to the present. Overall poor

organization and administrative management, lack of supervisors and cross checks coupled with financial constraints of local bodies causing malaria control unachievable.

The number one killer infection, malaria the King of Diseases is reemerging as world's number one killer. Once merely eradicated, the disease now affects more than 300 million and kills more than 3 million people every year. The dreaded disease is difficult to eradicate and this is again and again gives more exercises to the health care personnel and to general public.

## **NEED FOR THE STUDY**

Communicable diseases are growing threat to the communities' worldwide. Malaria is the most important parasitic disease of the mankind, and the most important cause of mortality and mortality in the tropical world. About 40% of the world's population lives in malaria endemic areas, 300-400 million cases of malaria occur every year, contributing to an annual mortality of 1.2 million. The incidence of malaria has remained as such for the last two decades.

In the world scenario of 94,048 were reported as malarial cases, America is reported to have 1,042 cases, western pacific 2,133 cases Eastern Mediterranean 2,133 cases and Africa contribute to the bulk of 83,618 and south East Asia reported 4,338 cases (WHO, 2006).

About 109 countries in the world are considered endemic for malaria, 45 countries within the WHO African region. Nearly 3.3 billion people were living in malaria risk areas. The malarial deaths were estimated at 881,000 in 2006, of which 91% were in Africa and 85% were of children under five years of age. Malaria is an important public health problem in all the countries. India contributes to 70% of the malaria cases in the region.(WHO)

Malaria continues to pose a major public health threat in India, particularly due to *Pl. falciparum* which is prone to complications. In India 60-65% of the infections are due to *Pl. Vivax* and 35 to 45% due to *Pl. falciparum*. Only few cases of *Pl. malariae* have been reported in India. A total of 1,533,169 malaria cases were reported in India in 2009. The highest number of 375,401 cases were reported at Orissa, followed by 228,116 from Jharkhand (NVBDCP Report, MHFW, 2009)

In the year 2009, 14,920 malarial cases were reported in Tamil Nadu. Out of which Chennai alone contributes 59.8%. In 2010 (Jan to March), the total malarial cases are 2045 out of which Chennai contributes 67.4% and other areas 2.3%. In Tamilnadu malaria is an urban not a rural problem.

Poverty and its associated problems play a significant role in every infectious disease in the developing countries. In order to remove the threat of malaria and other health problems, communities need to be

empowered through awareness of primary health issues and healthy behaviours. The success of Anti malaria campaign depends upon the community participation which can be elicited by Information, Education and Communication (IEC) and Behavioural change communication. (Lewis KJ, 2006).

The investigator felt that the general attitude of the public (mosquitogenic conditions are exclusively to corporation & municipalities) has to be changed. Community co-operation, participation and assistance are needed for the antimalarial programmes.

To achieve the prevention and control of malaria, the best method is to educate the public about the etiology, transmission and the effect of malaria. Stressing the importance of ongoing integrated vector control measures and thus can only be the control of malaria is possible.

The investigator has noticed that most of the public are unaware of the causes, signs and symptoms and treatment. Also they do not realize the severity of complications of malaria. It is essential that the general public should receive the information on malaria. The community should receive complete information on measures available in the health care society to prevent and control the malaria.

Thus the investigator realized the adequate knowledge regarding prevention and control measures help the public to achieve vector control



and thus reduce the malarial incidence and also prevention of malaria is possible.

In the light of above ideas, it is essential to intensify and improve the awareness regarding the prevention and control measures of malaria. Therefore the investigator planned to conduct the study on prevention and control of malaria among mothers to enhance their knowledge through teaching programme on malaria. Thereby, the community may be free from the risk of getting the malaria and the people may maintain positive holistic health.

## **STATEMENT OF THE PROBLEM**

A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON PREVENTION AND CONTROL OF MALARIA AMONG MOTHERS IN KARATTUPPALAYAM AT TIRUCHENGODU TALUK, NAMAKKAL DISTRICT, TAMILNADU.

## **OBJECTIVES OF THE STUDY**

- ✍ To assess the knowledge of mothers regarding prevention and control of malaria before administering teaching programme.
- ✍ To develop and administer planned teaching programme on prevention and control of malaria.

- ✍ To find out the effectiveness of planned teaching programme in improving the knowledge of mothers by post test.
- ✍ To compare pretest and post test knowledge score of mothers on prevention and control of malaria.
- ✍ To explore the relationship between pretest knowledge scores with selected demographic variables such as age, religion, education, occupation, type of family, family income, method of water storage, drainage system.

## **OPERATIONAL DEFINITIONS**

### **Effectiveness**

It refers as a result produced by the planned teaching about prevention and control of malaria.

### **Planned Teaching Programme**

A systematically planned teaching material on prevention and control of malaria to enhance the knowledge of mothers with the help of appropriate A V aids.

### **Malaria**

It is a communicable disease caused by protozoan infection and transmitted through female anopheles mosquitoes

### **Mothers**

It refers to the mothers (15 – 45 yrs) who is having school age children.

## **Prevention and control**

It means planned measures to stop the spread of malaria and to influence the behaviour of the people and in the course of preventive action.

## **ASSUMPTIONS**

- ✍ Mothers may have inadequate knowledge regarding prevention and control of malaria.
- ✍ The planned teaching programme on prevention and control of malaria will enhance the knowledge of mothers.
- ✍ The knowledge level of mothers may be influenced by selected socio demographic variables like age, education, Occupation, type of family, family income.

## **RESEARCH HYPOTHESIS**

- ✍ The mean post test score on the subjects after planned teaching programme with regard to the knowledge on prevention and control of malaria will be significantly higher than pretest score.
- ✍ There will be a significant relationship between selected demographic variables and pretest knowledge level of mothers regarding prevention and control of malaria.

## **LIMITATIONS**

- ✍ The study is limited only to 50 mothers who is residing in one particular urban area. So the generalization of the findings can not be done.
- ✍ The study is limited to mothers who are in the age group of 15 to 45 years.

## **CONCEPTUAL FRAMEWORK**

A conceptual framework is a precursor of a theory. It is a group of concepts and a set of prepositions that spells out the relationship between them.

Conceptual framework plays several interrelated roles in the progress of science. The overall purpose is to make a scientific finding meaningful and generalizable.

Polit and Beck (2002) states that a conceptual framework is interrelated concepts on abstraction that are assembled together in some rational scheme by virtue of their relevance to a common theme. It is a device that helps to stimulate research and the extensions of knowledge by providing both direction and impetus.

The conceptual framework of the study on the context, input, process and output (CIPP) modeled by Stufflebeam. This model consists of four steps of programme evaluation and obtaining information for making decisions. It provides comprehensive, systematic and continuous ongoing framework for programme evaluation.

## **Stufflebeam's evaluation model consists of the following steps :**

- ✍ Context evaluation (Goals)
- ✍ Input evaluation (Plan)
- ✍ Process evaluation (action)
- ✍ Product evaluation (Outcomes)

### **CONTEXT EVALUATION**

Context evaluation describes the plan for identifying the problem and developing the objectives and its rationale. The present study is carried out to evaluate the effectiveness of planned teaching programme in terms of gain in knowledge of mothers regarding prevention and control of malaria.

### **INPUT EVALUATION**

It serves as a basis for structuring decisions. It specifies resources, strategies and designs to meet programme goals and objectives. Here in the present study the input refers to,

- ✍ Development of Planned teaching Programme on Prevention and control of Malaria.
- ✍ Development of Semi Structured interview schedule to assess the knowledge of mothers regarding Prevention and Control of Malaria.
- ✍ Validation of the tool by getting the experts opinion.
- ✍ Establishment of reliability of tool by split half method.
- ✍ Sample selection
- ✍ Framing of a research design.

## **PROCESS EVALUATION**

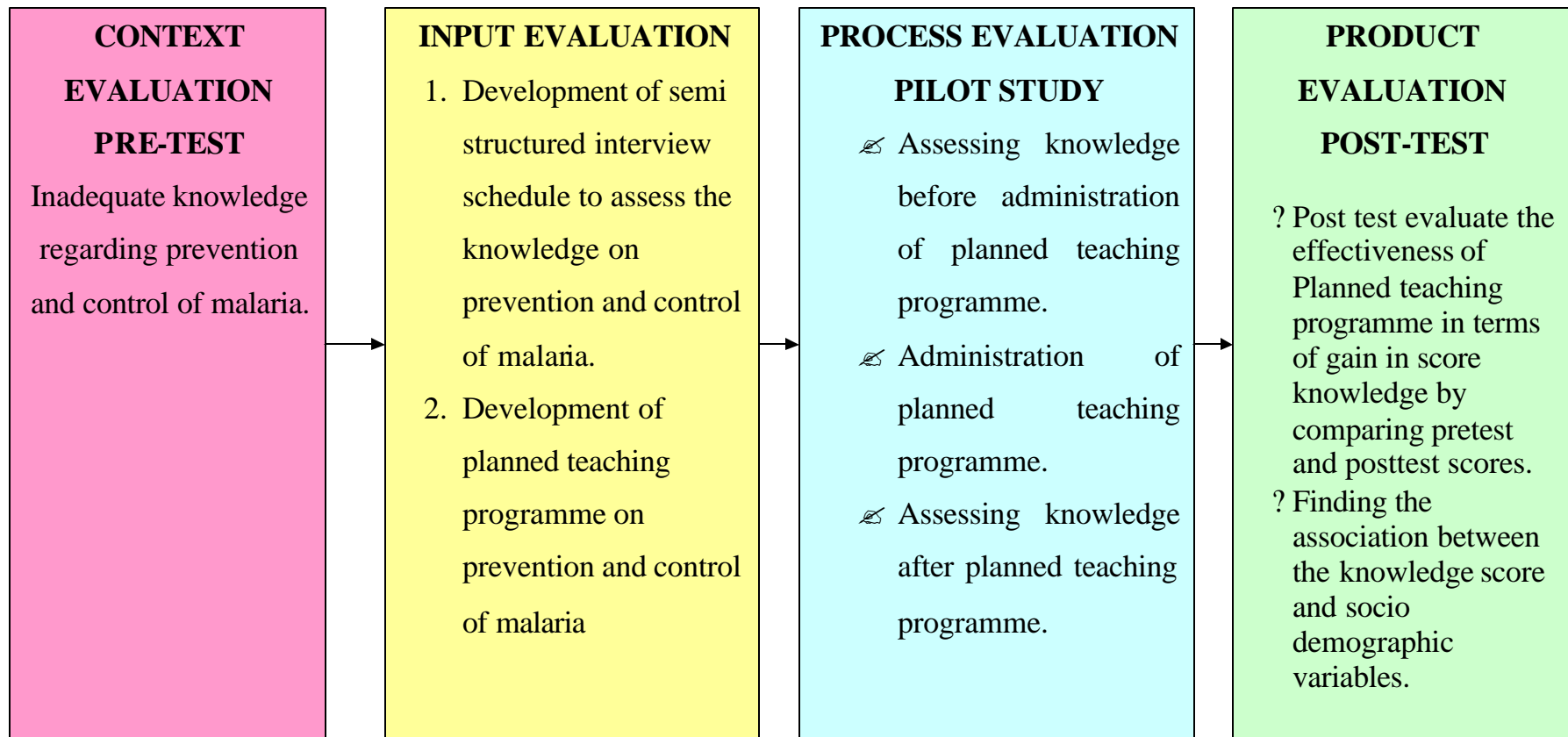
It describes about how the decisions implemented based on the limitations by means of establishing validity and reliability of the developed tool and relevant literature. In the present study, it refers to,

- ✍ Pilot Study
- ✍ Assessing the knowledge of the participants before administering planned teaching programme.
- ✍ Administering planned teaching Programme.
- ✍ Assessing knowledge of the participants after administration of planned teaching programme.

## **PRODUCT EVALUATION**

The input and process enables to achieve the objectives of the investigation which is identified with the product evaluation. It refers to the valid and reliable tool development. The planned teaching programme is implemented as per plan. The planned teaching programme regarding knowledge related to prevention and control of malaria will show gain in knowledge by the participants in most of the areas which is identified with the statistical computation.

The investigator found that this conceptual framework to be very useful to evaluate the gain in knowledge of mothers as administration of planned teaching programme on prevention and control of malaria.



**FIG - 1.1: CONCEPTUAL FRAME WORK ADOPTED FROM STUFFLE BEAM MODEL**

## **SUMMARY**

This chapter dealt with the introduction, need for the study, statement of the problem, objectives of the study, operational definitions, research hypothesis and limitations. The conceptual framework used for this study was based on the Stufflebeam's content, input, process and product (CIPP) model of programme evaluation.



## **CHAPTER – II**

### **REVIEW OF LITERATURE**

“A literature review involves the systematic identification, location, security and summary of written material that contains information on research problem” (Polit, 2004).

The primary purpose of reviewing relevant literature is to gain a broad background or information that is available related to a problem. In conducting a research, the literature from various perspectives like medicine, nursing were taken to explain about the prevention and control of malaria.

Review of literature refers to the activities involved in searching for information and developing a comprehensive picture of knowledge on the topic. The written literature review provides the background for the reader understanding what has been already learnt and illuminate significant of new study.

Review of literature was done from published articles, text books and reports for the present study. The investigator organised the related literature as the following section.

- ? Literature related to malaria
- ? Literature related to prevention and control of malaria.
- ? Studies related to prevention and control of malaria.

## **LITERATURE RELATED TO MALARIA**

Malaria kills over one million people annually and infants between 350 - 500 million. Sub Saharan Africa is the hardest hit region with 90% of these deaths, especially among children and it has a serious impact on health and economic development (WHO, 2008)

Malaria is an important cause of morbidity and mortality on south asia. About 2 million cases and 1000 deaths due to malaria are reported annually in india. About 10% of cases are imported from the urban areas, due to construction activities, population migration, inappropriate water storage and disposal. The National Health Policy (NHP 2002) and Millennium Development Goal six are aiming for the reduction in malaria mortality. (Ghai OP, et.al, 2009)

The epidemiological patterns of malaria which has been identified in India are rural malaria, urban malaria, tribal malaria, forest malaria, project malaria, border malaria has unstable pattern of endemicity (Dhaar & Robbani, 2008)

Malaria in man is caused by four distinct species (agent) of the parasite— *pl.vivax*, *pl.falciparum*, *pl.malariae*, and *pl.ovale*. In India about 70% of the infections are due to *p.vivax*. Malaria is transmitted by the bite of certain species of infected female anopheles mosquitoes. Malaria may be induced accidentally by hypodermic intramuscular injections of blood or plasma. Persons who have lived in an endemic area and anyone

who has had malaria should not be accepted as blood donor until 3 years. Congenital infection of the newborn from an infected mother may also occur but rarely (Park. J.E, 2009)

Malaria is transmitted by the bite of infected female anopheles mosquitoes. Direct transmissions occur may be induced accidentally by hypodermic intramuscular and intra injections of blood or plasma. Congenital infection of the newborn from an infected mother may also occur but it is comparatively rare.

The duration of the incubation period varies with the species of the parasite, and in natural infections this is 12(9-14) days for falciparum malaria, 14(8-17) days for vivax malaria. Some of the strains of pl.vivax, the incubation period may be delayed for as long as 9 months (Mathur, 2008)

The attack of malaria comprises three distinct stages, the cold stage, the hot stage and the sweating stage. These are followed by a febrile period in which the patient feels greatly relieved (Suzanne and Brenda, 2004)

In cold stage, the onset is with lassitude, head ache, nausea, vomiting and chilly sensation followed in an hour or so by rigour. The temperature rises rapidly to 39-41 degree centigrade. Parasites are identifiable in the blood. The pulse is rapid and may be weak. This stage lasts for ½ - 1 hour (Onila salins, 2003)

In hot stage, the skin of the patient is hot and dry, face is flushed, pulse is full and bounding, rapid respiration and restless, the patient may pass into delirium. Hot stage lasts for 2-6 hours. In sweating stage fever comes down with profuse sweating. The temperature drops rapidly to normal and skin is cool and moist. The pulse rate becomes slower; patient feels relieved and after falls asleep. This stage lasts for 2-4 hours (Dhaar &Robbani, 2008)

The gold standard for the diagnosis of malaria is the demonstration of parasites in strained smears of blood. The blood is examined both in their smear as well as thick smear diagnostics dipsticks(Rapid Detection Tests [RDT]) depends upon immunological recognition of malaria antigens.Histidine-rich protein-2 (HRP -2) is used to capture antigen in p.falciparum.A second dipstick based on the detection of parasite specific lactate dehydrogenase(PLDH).Polymerase chain reaction(PCR) can be used as a sensitive diagnostic method, but it is expensive(T V Rajan,2009)

In presumptive treatment all fever cases are assumed to be due to malaria and administered with a single dose tablet of chloroquine 150mg, 4 tablets for adults and for children according the age group the dose is given to the malarial cases.

The new drug policy 2007 gives emphasis on complete treatment among diagnosed cases of malaria rather than presumptive treatment to

avoid chloroquine resistance. The first line of treatment of malaria is chloroquine.

### **PRESUMPTIVE TREATMENT**

All fever cases are assumed as malaria and administer a single dose tablet of chloroquine 150mg or according to the age.

<b>Age in years</b>	<b>Dose</b>	<b>Frequency</b>
0-1	75mg(1/2 tab)	Once daily
1-4	150mg(1 tab)	Once daily
4-8	300mg(2 tab)	Once daily
8-14	450mg(3 tab)	Once daily
14&above	600mg(4 tab)	Once daily

### **RADICAL TREATMENT**

Treatment is given after confirmation of the malarial parasites in the blood.

Plasmodium vivax (14 days treatment)

<b>Age in years</b>	<b>Chloroquine(mg) 150mg base</b>			<b>Primaquine(mg) 2.5mg base daily dose for 14 days.</b>	
	<b>Day I</b>	<b>Day II</b>	<b>Day III</b>	<b>mg base</b>	<b>No. of tablets</b>
0-1	75	75	37.5	nil	Nil
1-4	150	150	75	2.5	1
4-8	300	300	150	5.0	2
9-14	450	450	225	10.0	4
15&above	600	600	300	15.0	6

Plasmodium falciparum (one day treatment only)

Age in years	Chloroquine(150mg base)			Primaquine (7.5mg base)	
	Day I	Day II	Day III	I Day	No. of tablets
0-1	75	75	37.5	nil	Nil
1-4	150	150	75	7.5	1
4-8	300	300	150	15.0	2
9-14	450	450	225	30.0	4
15&above	600	600	300	45.0	6

? No Primaquine is given for infants and pregnant women

? Chloroquine resistant cases are treated with Artesunate (500mg tab) + Sulpha Pyrimethamine (525mg tab) [ACT] combination.

The chloroquine toxicity is minimal. It should not be administered in empty stomach. Some side effects may occur like gastric irritation, nausea, vomiting, head ache, pruritis, blurring of vision and sometimes dysplasia. Some may have ocular damages. The above symptoms usually disappear after withdrawal of chloroquine (Basavanthappa BT, 2010)

Increased ineffectiveness of antimalarial drugs due to development of drug resistance, particularly for the parasite of the most deadly (Pl.falciparum) form of the disease, has brought attention to the need for new antimalarial medications. This problem is most acute on the Thai-Myanmar border in South East Asia, but also widespread in Africa (Allander & Spradly, 2005)

Chemoprophylaxis is essential for all the non immune individuals visiting a malaria endemic area. Chemoprophylaxis should be given at least one week before entering the endemic area and continued at least 4 to 6 weeks after leaving the area (Sunitha Patney, 2008)

The supportive therapy for malarial cases includes antibiotics, anticonvulsants, blood transfusion and exchange transfusion and fluid administration. Relapse of malaria signifies recurrence of symptoms of disease, following a primary attack of malaria. Relapse may occur a year or more after a primary attack. Relapses occur when parasites persisting in liver (hypnozoites) are released in the blood stream and invade erythrocytes, initiating a fresh cycle of schizogony. Relapse is common in *pl.vivax* and *pl.ovale* infections (Dhaar & Robbani, 2008)

The complications of malaria include cerebral malaria, pulmonary involvement, gastrointestinal complications, acute renal failure, severe dehydration and anaemia. (Gupta and Mahajan, 2004)

The centre for Disease Control Control (CDC), based in Atlanta, Georgia, continues work on developing an antimalarial vaccine with recombinant gene techniques. India and Kenya also have vaccine studies underway (Allander & Spradley, 2005)

The vaccine (RTs, S/AS 02) is being tested by GlaxoSmithKline and the MV1 at PATH in phase I. In 2002, Phase II trials are being conducted among children in Mozambique. This vaccine has been safely

tested in adult volunteers In Belgium, Gambia, and Kenya and in United States; the vaccine protected 70% of adults against infection making it the world's only potential malaria in the field (Park J E, 2010)

## **LITERATURE RELATED TO PREVENTION AND CONTROL OF MALARIA**

Malaria prevention depends on protection against mosquitoes and approximate chemoprophylaxis. Drug resistance is an increasing problem in combating malaria (Marcia Stanhope, 2008)

No preventive vaccine is available now against malaria. Antimosquito measures, personal prophylaxis, early diagnosis and treatment, better housing, control of migration of people, better health facilities and health education can help in prevention of malaria (Muthu.v.k. 2005)

Preventive measures are based on following steps like

1. Personal prophylaxis against malaria.
2. Prevention of mosquito breeding
3. Destruction of mosquito larvae
4. Antiadult measures

Personal prophylaxes are the protective measures adopted by individuals against mosquito bite. Using protective clothing's like wearing long sleeved shirts, pants and socks, using mosquito repellents



like mosquito coils, mats, liquid vaporisers and creams and lotions. Using mosquito nets at night prevents mosquito bite.

Mosquito breeding can be reduced by avoiding stagnation of water near the dwelling places and other parts of the city or town or village, sanitary improvement such as filling of depressions, ponds, pools to eliminate hiding places of mosquitoes and larvae (Clement, 2009)

Larvae are destroyed by sprinkling Malathion, fuel oil or kerosene oil over water collections, Paris green is mixed with fine dust and sprayed over the mosquito breeding sites. Use of larvicides and insecticides such as Abate, Malathion, and Pyrethrum are effective against mosquito larvae. Due to increased vector resistance DDT is now replaced with other insecticides like Malathion and Abate. (Vidya Ratan, 1994)

Biological methods, the use of larvicidal fishes has proved very effective to kill the mosquito larvae. The most common fishes are guppy, gambusia. These fishes eat up the mosquito larvae. These fishes are available in town area authorities, municipalities and PHCs. Adult mosquitoes are controlled by adopting personal protective measures and using indoor and outdoor insecticidal spray. (Basavanthappa B T, 2008)

Malaria control has a long history beginning with early attempts by drainage of marshy lands in Roman Times. The introduction of DDT (Dichloro diphenyl trichloro ethane) and other insecticides after the Second World War gave a new dimension to another activity.

As malaria has no extra human reservoir, it is theoretically possible by control of the vector mosquito and treatment of patients and carriers. In India the National Malaria Control Programme (NMCP) operated very successfully for 5 years bringing down the annual incidence of malaria from 75 million in 1953 to 2 million in 1958. The National Malaria Eradication Programme (NMEP) was introduced in 1958, with the objective of ultimate eradication of the disease.

By 1961, the incidence dropped to an all time low of 50,000 cases and no deaths. However there have been setbacks from 1970's and by 1976 the incidence raised to more than six million cases. In 1996, malaria has re-emerged and virtually covered all parts of India. The obstacles such as insecticide resistance, changes in mosquito behaviour, drug resistance in the malarial parasites and lack of adequate resources to fight the disease caused the re-emergence in India. (Panicker, 2002)

Considering the resurgence of malaria, the govt. of India evolved a Modified Plan of Operation (MPO) IN 1977 to control malaria. The objectives of MPO are

- ? to prevent deaths due to malaria
- ? to reduce malaria morbidity
- ? to maintain agricultural and industrial production by undertaking
- ? intensive anti malarial measures in such areas, and
- ? to consolidate the gains so far achieved

A new approach to malaria control was approved by WHO, in 1978, the implementation of malaria in the context of primary health care strategy.

During 1990s the malaria has re-emerged and virtually covered all parts of India. In 1995, Malaria Action Plan (MAP) was launched at the high risk areas and provided with one Fever Treatment Depots (FTDs) per 1000 population to control malaria, if the villages are more than three kilo meters apart. In 1999, the govt. of India decided to drop the term National Malaria Eradication Programme due to the problems encountered in eradicating the malaria and renamed it as National Anti-Malaria Programme.

The susceptible can be protected by using chemoprophylaxis for travellers visiting endemic areas (300mg chloroquine) per week, one week before and six weeks after visit, using mosquito nets and repellents, surveillance of affected areas periodically and health education for the community. (Vijay, 2007)

Space application involves the application of insecticides in the form of fog or mist using vehicle mounted generators or air craft equipment. The ultra low volume method of insecticide dispersion by air or by ground equipment has proved effective and economical. Outdoor space spray reduces vector population quickly. Man vector contact is

reduced by mosquito screening and using protective clothing's and insect repellents. (Dhaar & Robbani, 2008)

The individuals can be protected from mosquitoes by keeping the body well covered through use of long sleeved shirts, pants and socks in thick materials, sleeping in mosquito nets, providing wire gauze doors to prevent entry of mosquitoes into the house and applying mosquito repellents over exposed skin like citronella oil, dimethyl phthalate (DMP) cream, using insecticide treated nets (ITNs). (Gupta & Mahajan, 2005)

Control of malaria demands action at three levels; the case, the community and the vector. A case of malaria is a reservoir of infection, which can be eliminated only by appropriate chemotherapy. Three regimens of chemotherapy are required to deal with chloroquine-sensitive, chloroquine resistant and severe forms of malaria. Control measures at the community includes a sustained search through a team of trained health personnel identify cases of malaria, mass chemotherapy can be carried out in high incidence areas, and health educating the community by Information, Education, Communication IEC activities. (Dhaar & Robbani, 2008)

Control measures are isolating the malarial cases in screened room and investigating the source of infection and contacts and reporting about the case to the health authorities, immediately disinfecting the infected

places with insecticides and as far as possible maintaining rigid anti mosquito sanitation. (Clement, 2009)

## **STUDIES RELATED TO PREVENTION AND CONTROL OF MALARIA**

Kinung'hi SM, et.al, (2010) conducted a study on knowledge, attitudes and practices about malaria among 504 participants under communities of Muleba District in North western Tanzania. The result revealed that 92.1% knew that malaria is transmitted through mosquito bite.63.3% of the respondents had at least one member in the family was suffered from malaria.87.2% sought treatment from health facilities while 8.5% obtained drugs from drug shops and 3.1% used local herbs. It is important that health education packages are developed to address the intensified knowledge gap.

Adedotun AA, et.al, (2010) conducted a study to determine the level of knowledge, attitudes and practices about malaria among 192 households in South Western Nigeria. The results revealed that about 93.2% of respondents recognised mosquito bites as the cause of malaria. The study concludes that health education improves the malaria related knowledge attitude and parasites.

Baragatli M, et.al, (2009) conducted a study to determine the social and environmental malaria risk factors among 3354 children in urban areas of Ouagadougou, Burkino Faso. The results revealed that over all

prevalence of *P. falciparum*. The infections were 7.8% and 16.6% increased during the dry season, and 12.3% and 26.1% in rainy season. In general malaria control should be focused in areas which are irregularly or sparsely built up or near the hydro graphic network.

Al adhorey AH, et.al, (2010) conducted a study to determine the level of knowledge, attitudes and practices on malaria among aboriginal and rural communities in peninsular Malaysia. The results revealed that knowledge about malaria and its transmission is higher among rural participants (86.2%). The study concluded that efficient health education is needed to improve knowledge, attitudes and practices regarding malaria.

Okara RM, et.al, (2010) conducted a study to determine the distribution of main malaria vectors in Kenya. The results revealed that *Anopheles arabiensis* and *A. funestus* were widely reported species. These data's help with the planning of vector control suites nationally.

Lesi FE, et.al, (2010) conducted a study to determine the clinical presentation of congenital malaria among 100 mothers at the Lagos University Teaching Hospital, Nigeria. The results revealed that congenital malaria was documented in 13.6% of babies at delivery. The study concluded that babies who present with poor feeding and irritability

on day 14<sup>th</sup> of life should be screened for malaria in addition to the routine investigations for neonatal sepsis.

Chaturvedi HK, et al, (2009) conducted a study to determine the treatment seeking behaviour for febrile illness among 1989 households in north east India in the malaria endemic zone. The study revealed that 17.8% households seeks self medication, 39.2% went to traditional healer. The study concluded that popular use of self medication and traditional system especially in remote areas, which may be main cause of delay in diagnosis of malaria. The health education to the people would help to improve the utilisation of govt. health services and thereby improve the quality of the people.

Deressa W, and Ali A, (2009) conducted a study to investigate the local perceptions, practices and treatment seeking behaviour for malaria among women with children under the age of five years in rural Ethiopia. The study revealed that 80% of mothers were familiar with the main signs and symptoms of malaria. 60% of mothers with recent episodes received initial treatment from non-public health facilities such as community health workers and private care providers (21%). Concentrated effort is needed to improve their knowledge of the community about the link between malaria and mosquitoes.

Anberber. S, et.al, (2003) conducted a study to determine the symptoms of malaria among 101 under fives with malaria at district hospital,Ethiopia.The study revealed that the most frequently reported symptoms include fever 96.3%,chills and shivering 95.3%,head ache 96.1%,loss of appetite 92.2% and joint pain 90.2%.The study concluded that the community need intensive health education packages for the awareness of malarial symptoms.

Daboer JC, et.al, (2010) conducted a cross sectional study to understand the knowledge and treatment practices of malaria among mothers and caregivers of children in an urban slums in Jos,Nigeria.The study revealed that a low level of knowledge of malaria with 49.6% being able to recognize the disease and 24.9% attributing it to the mosquito bite. The attitude of most respondents towards malaria as an illness was however good as 55% viewed it as a serious illness and most of them would use hospitals/clinics for treatment. The study concluded that an improvement in the level of education and the economic power of the urban areas could improve their knowledge and treatment practices.

Ajayi IO, et. al, (2010) conducted a study to evaluate an assessment of accuracy of mothers presumptive diagnosis of fever among 162 children at home in Southwest Nigeria . The results revealed that 72.8% and 83.7% of the febrile cases presumed to have malaria. The study emphasised on all the fever cases are need to be suspected for malaria.



Srivastava. S, et.al, (2010) conducted a retrospective observational study on cases with p.vivax among 74 patients in tertiary referral centre of Uttarakhand. The results revealed that 82% of cases with thrombocytopenia being the commonest manifestation, 62% cases had liver dysfunction, 22% cases had renal impairment, 16% cases had shock, and 6% of cases had severe anaemia. The complications can be prevented by prompt treatment.

Gama H, et.al, (2009) conducted a cross sectional study to determine the factors associated with chloroquine induced pruritis during malarial treatment among 795 participants at Mozambican university. The results revealed that 77.4% participants reported at least one malaria episode and 73.2% had used chloroquine. The prevalence of chloroquine induced pruritis was 30.1%. One third of the population using chloroquine had pruritis at least once. The study concluded that lower doses of chloroquine tend to reduce adverse effects.

Imbahale. SS, et.al, (2010) conducted a study on people's knowledge, attitudes and practices of mosquito larval source management for malaria control among 90 households in Kenya. The study revealed that 32% of the respondents did not know that mosquitoes are responsible for transmission of malaria. 66% of the respondents said that mosquito breeding site could be close to their homes but current knowledge of habitat characteristics was poor. Suitable community based training

programmes developed to increase people's awareness of manmade vector breeding sites communities.

Vijaykumar, et.al, (2009) conducted a study to determine the knowledge, attitude and practices on malaria with reference to use of long lasting treated mosquito nets[LLTs] among tribal belt of Orissa state,india.64% of the respondents stated that avoiding mosquito bite could prevent malaria.99% of the people reported using personal protection measures to avoid mosquito bites. Although a majority of the people were aware of malaria but still there is a need for the development of the appropriate communication strategies along with ITNs/LLTNs distribution to make the people adopt such preventive measures.

Tilaye T, and Deressa, (2007) conducted a study to determine the community perceptions and practices about urban malaria prevention and control among 489 households in Gondar town, North West Ethiopia. The results revealed that 58% knew that malaria could be transmitted from one person to another, 97.2% associated malaria with the bite of mosquito, 39% household possessed at least one mosquito net, 46.3% practised draining stagnant water, 43.3% clearing vegetation for malaria prevention.81.6% knew about chloroquine and 90.4% knew about sulphadoxime – Pyrimethamine. To fill the considerable gaps between knowledge and practices of malaria, health education packages are need to be intensified on prevention and control methods.

Sharma AK, et.al, (2007) conducted a study to examine the factors that predict the knowledge of Indian population regarding malaria among 15,750 adults in tribal rural and urban from 21 states. The study reveals that the female sex, illiteracy and tribal population were associated with wrong beliefs about fatality of malaria. Tribal respondents were the important predictor of inadequate knowledge. Use of smoke for killing of adult mosquitoes was predicted by rural or slum residence and illiteracy. The appropriate health education packages helps to improve the knowledge, attitudes and practices.

Akpan. SS, (2007) conducted a study to determine the popularity of insecticide – treated nets (ITNs) as a preventive method of malaria control among 612 residents of Calabar Municipality, Cross River State, Nigeria. The results revealed that 88.9% of residents claimed that they were aware of the use of ITNs for preventing mosquito bites and 13.2% of the respondents owned ITNs.

Isah EC, et.al, (2007) conducted a study to determine the knowledge of malaria and its control methods among urban dwellers in Benin City, Edo State by multistage sampling technique. The results revealed that 92.5% had correct knowledge about symptoms, 98% knew its mode of transmission, all the respondents knew at least one method of its preventive measures, 87% knew chloroquine and other drugs. 10.6% knew about the artemisinin combination therapy. 27.8% using door and

window nettings and only .8% using ITNs and 25.6% of the dwellers were using insecticides. To bring about the positive changes in both knowledge and practice of malaria control, appropriate health education is need to be developed.

Omole MK, et.al, (2007) conducted a study to document the knowledge of mothers on the cause, prevention and symptoms of malaria in Jaja clinic, university of Ibaden, Nigeria among the mothers of the enrolled children. The results revealed that 74.2% of mothers knew mosquito bite as the cause of malaria, 86.2% practising netted windows, 76.1% using insecticides, only 17% using mosquito coils, there was less knowledge regarding ITNs.IEC activities must be intensified among the communities.

## **CHAPTER III**

### **METHODOLOGY**

Research methodology involves systematic procedure in which the researcher states from initial identification of problem to its final conclusion. The role of methodology consists of procedures and techniques for conducting a study (Polit and Hungler, 2004).

This chapter deals with methodological approach for the study. Research methodology is a way to solve the research problems systematically. It involves research approach, research design, study setting, sample and sampling technique, development and description of the tool, validity, reliability, pilot study, data collection procedure and plan for data analysis.

#### **RESEARCH APPROACH**

A research approach tells the researcher from whom to collect the data, how to analyse them. It also suggests possible conclusions and helps the researcher in answering specific research question in the most accurate and efficient way possible (Nancy and Groove, 2005).

Research approach adopted for the present study was quasi experimental approach.

## RESEARCH DESIGN

Research design is the plan, structure and strategy of investigation conceived. Research design designates the logical manner in which the individuals or other units are compared and analysed, it is the basis of making interpretations from the data.

Research design adopted for this present study was one group pre test – post test quasi experimental design. ( $O_1$  ----- X -----  $O_2$ ).

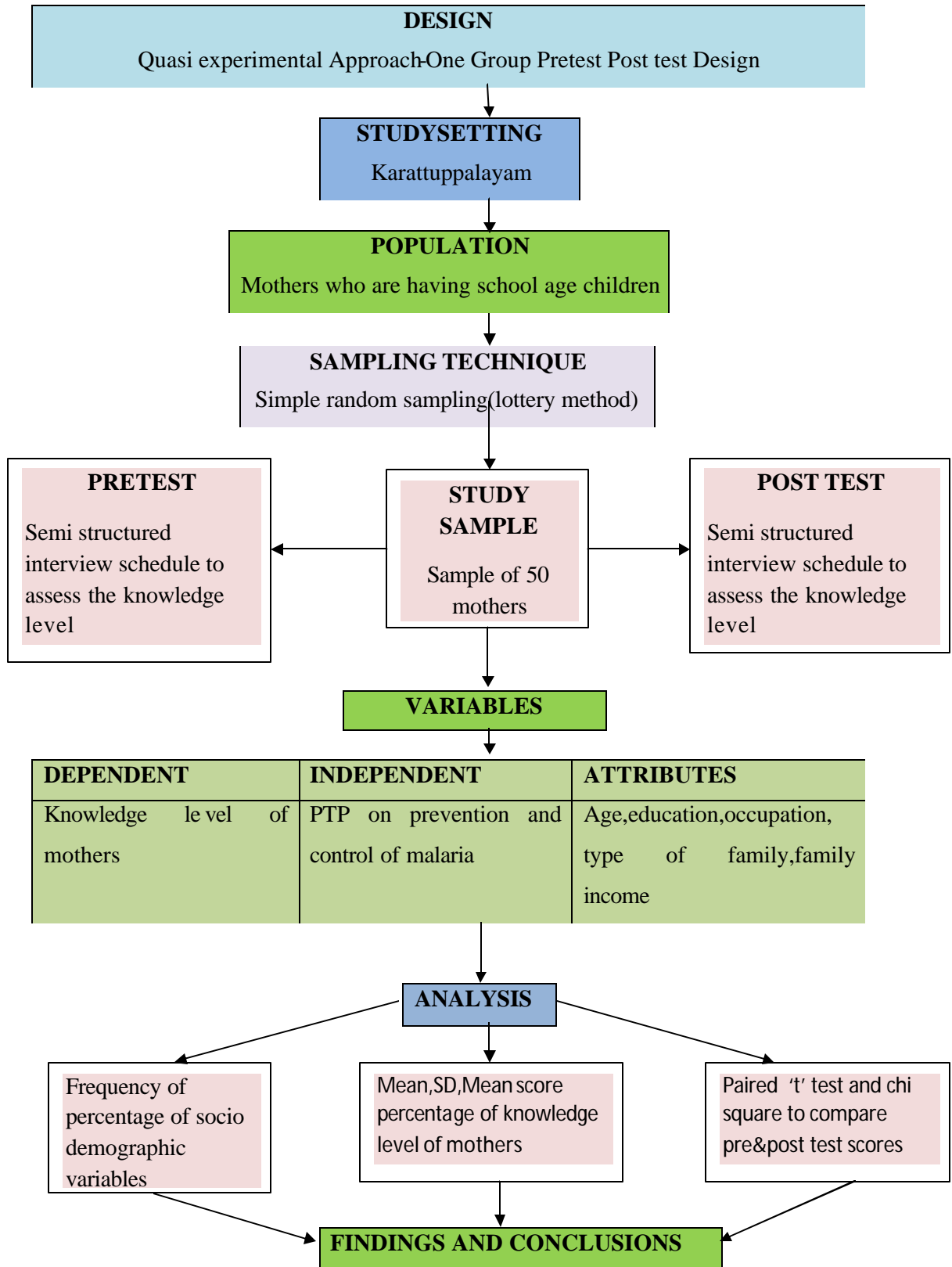
GROUP	PRE TEST	TREATMENT	POST TEST
Mothers (15-45yrs) who are having children	Knowledge level $O_1$	Planned teaching programme [PTP]	Knowledge level $O_2$

$O_1$ : Knowledge level before administration of PTP

X: Planned teaching programme on prevention and control of malaria.

$O_2$ : Knowledge level after administration of PTP.

**FIGU – 3.1: SCHEMATIC REPRESENTATION OF THE RESEARCH DESIGN**



In this study, the one group pre test post test design was used to assess the knowledge of mothers regarding prevention and control of malaria ( $O_1$ ) and administered planned teaching programme on prevention and control of malaria (X). After 7 days, the knowledge of mothers regarding prevention and control of malaria ( $O_2$ ) was again assessed using the same tool. The differences in the score were examined to evaluate the effectiveness of the planned teaching programme. This design is widely used in educational research.

## **VARIABLES UNDER THE STUDY**

### **Independent variable**

Independent variable is a stimulus or activity that is manipulated or varied by the researcher to create an effect on dependent variable. The independent variable is also called a treatment or experiment variable. In the present study, the dependent variable was planned teaching programme on prevention and control of malaria.

### **Dependent variable**

A dependent variable is the response or outcome that the researcher wants to predict or explain the knowledge of mothers regarding prevention and control of malaria.



### **Attributed variable**

Attributed or demographic variable are the characteristics of subjects that are collected to describe the samples. Age, education, occupation, type of family and family income.

### **STUDY SETTING**

Setting is the physical conditions and locations in which data collection takes place in a study. Selection of the area for the study is one of the essential steps in the research process. The selection of the setting for the present study was on the basis of availability of subjects, feasibility of conducting the study, economy of time and energy.

The study was conducted in karattuppalayam under Tiruchengodu taluk, Namakkal Dt. Vivekanandha college of nursing has a health centre in karattuppalayam with a view to impart the preventive aspects of care. Therefore, the investigator felt that karattuppalayam was feasible to conduct the study.

### **TARGET POPULATION**

Target population is the entire population in which the researcher interested and would like to generalize the study. (Polit and Beck, 2006)

Target population for the present study was mothers residing in the Karattuppalayam area.

## **SAMPLE AND SAMPLING TECHNIQUE**

Sample consists of a subset of total population. Sampling techniques refers to the process of selecting a portion of population to represent the entire population (Polit and Hungler, 2003). The samples were selected from karattupalayam area. The investigator personally visited the area with the help of health worker working in the village. The list of mothers residing in the area was collected. From the list, the mothers were selected by using simple random technique (lottery method). The sample of the study was comprised of 50 mothers.

## **SAMPLE SELECTION CRITERIA**

### **Inclusion criteria**

- ? Mothers who are in the age group between 15-45 years and having school age children.
- ? Mothers who are residing in the karattupalayam under Tiruchengode taluk.

## **SELECTION AND DEVELOPMENT OF THE TOOL**

The instrument selected for research study is a vehicle that would obtain best data for drawing conclusions pertaining to the study (Treece and Treece, 2004).

Semi structured interview schedule was used to assess the knowledge of mothers. Since it was considered to be the most appropriate instrument to elicit the response from illiterate subjects.

## **DEVELOPMENT AND DESCRIPTION OF THE TOOL**

### **Development of the tool**

The investigator prepared semi structured interview schedule to assess the knowledge of mothers regarding prevention and control of malaria. In the process of developing the tool, the investigator reviewed the related literature and held discussions with subject experts.

### **Description of the tool**

The semi structured interview schedule was organised into two parts.

#### **Part I – Socio demographic variables**

Consists of totally 17 items related to age, religion, marital status, educational qualification, occupation, family income, type of family, type of house, number of windows, number of persons living in the house, number of children, source of drinking water, method of water storage, method of waste disposal, stagnation of water near the house, family history of malaria and source of information about malaria.

#### **Part II - Knowledge regarding malaria - Section-A**

This part consists of 10 items related to knowledge on malaria and that is causes, risk factors, transmission, signs and symptoms, diagnostic tests and complications of malaria.

## **Section – B**

This part consists of 24 items related to knowledge on prevention and control of malaria which includes treatment modalities, side effects, and anti larval and anti mosquito measures and control measures of malaria.

### **DEVELOPMENT OF THE PLANNED TEACHING PROGRAMME**

A planned teaching programme was developed to educate the mothers regarding prevention and control of malaria. Keeping in mind, the objectives, literature review and the opinion of the experts developed a first draft of Planned Teaching Programme (PTP). The main factors considered while preparing PTP are , the method of teaching, simplicity of language, literacy level of the samples and the areas covered in the knowledge assessment and the relevance of teaching aids charts,pamphlets,flip charts, flash cards.

The PTP was prepared to enhance the knowledge of mothers regarding prevention and control of malaria including anti malarial drugs, duration of the treatment and control measures. PTP was finalised according to the expert's opinion.

## **VALIDITY**

The content validity of the tool was obtained from experts in the field of health, community health nursing and medical surgical nursing. Based on the expert's opinion, the tool was modified. In section A, item no. 22 and 48 were modified. The final tool comprised of socio demographic variables consists of 17 items, section – A has 10 items and section – B has 24 items.

## **RELIABILITY OF THE INSTRUMENT**

The tool was administered to 10 mothers and the reliability was established by using spearman brown split half technique and co-relation co-efficient was found to be  $r = 0.90$  which indicates high degree of reliability.

## **PILOT STUDY**

Rose Maric, (1993) states that, pilot study is a miniature trial version of study before the actual data are collected. Pilot study was conducted in the month of October 2010. The investigator translated the semi structured interview schedule into Tamil to maintain the objectivity. The tool was administered to selected 10 mothers. The pretest was done and teaching programme was given. The post test was done after 7 days. All the mothers responded well and were very co-operative. The result of data revealed that the tool was feasible to conduct the study.

## **DATA COLLECTION PROCEDURE**

The permission was obtained from the concerned authority to conduct the study. The purpose of the study was explained to the selected subjects with self introduction. The selected subjects were made comfortable and relaxed. Pretest was conducted with semi structured interview schedule. PTP was administered by using charts, posters, flash cards, flip charts and real items. Post test was done after 7 days. Totally the investigator has taken one month to complete the study.

## **PLAN FOR DATA ANALYSIS**

The obtained data were analysed in terms of objectives of the objectives by using descriptive and inferential statistics. The data were organised in master sheet. The findings of socio demographic data and knowledge were analysed in the form of frequencies percentage. Mean, mean score percentage and standard deviation of pre and post test scores were analysed. Paired (t) test was used to find out the effectiveness of PTP on prevention and control of malaria, in terms of gain in knowledge of mothers. Inferential statistics especially chi-square test was used to find out the association between pre-test knowledge of mothers with selected socio demographic variables.

## **SUMMARY**

This chapter dealt with research approach, research design, variables under the study, study setting, target population, sample and sampling technique, sample selection criteria, selection, development and description of the tool and planned teaching programme, validity, reliability, pilot study, data collection procedure and plan for data analysis.

## **CHAPTER IV**

### **DATA ANALYSIS, INTERPRETATION AND DISCUSSION**

This chapter deals with the analysis and interpretation of data collected to evaluate the effectiveness of planned teaching programme on Prevention and control of malaria among mothers. The purpose of analysis is to reduce the data to a manageable and interpretable form, so that the research problems can be studied and tested.

Polit and Hungler, (2003) States that the statistical analysis helps the researcher to make sense of quantitative information statistical procedure enable researches to summaries, organize, interpret and communicate numerical information.

The data collected by semi structured interview schedule were analyzed by using descriptive and inferential statistics which are necessary to provide substantive summary by the results in relation to the objective.

#### **OBJECTIVES**

1. To assess the knowledge of mothers regarding Prevention and control of malaria before planned teaching programme.
2. To develop and administer Planned teaching programme on Prevention and control of malaria.



3. To find out the effectiveness of Planned teaching programme in improving the knowledge of mothers by post test.
4. To compare the pre test and post test knowledge score of mothers on prevention and control of malaria.
5. To explore the relationship between pre test knowledge score with selected demographic variables like age, education, occupation, type family, family income, method of water storage, drainage system.

## **PRESENTATION OF DATA**

The data were organized and presented in five sections.

### **Section – I**

Description of socio demographic variables of sampled subjects.

### **Section - II**

Analysis of Pre test score of mothers regarding Prevention and control of malaria before administration of planned teaching programme.

### **Section - III**

Analysis of Post test score of mothers regarding Prevention and control of malaria after administration of planned teaching programme.

### **Section – IV**

Analysis of effectiveness of planned teaching programme by comparison of pre test and post test scores.

## **Section - V**

Chi-square analysis to find out the association between knowledge score of mothers on prevention and control of malaria with demographic variables such as age, educational status, occupation, types of family, family income, method of water storage, drainage system.

**SECTION – I**  
**DESCRIPTION OF SOCIODEMEGRAPHIC VARIABLE OF**  
**MOTHERS**

**Table & Fig- 4.1.1: Distribution of subjects according to their age**

Sl.No	Age (Years)	No	%
1.	15 – 20	6	12%
2.	21 - 26 Yrs	13	26%
3.	26 – 35 Yrs	20	40%
4.	36 – 45 Yrs	11	22%
	<b>Total</b>	<b>50</b>	<b>100%</b>

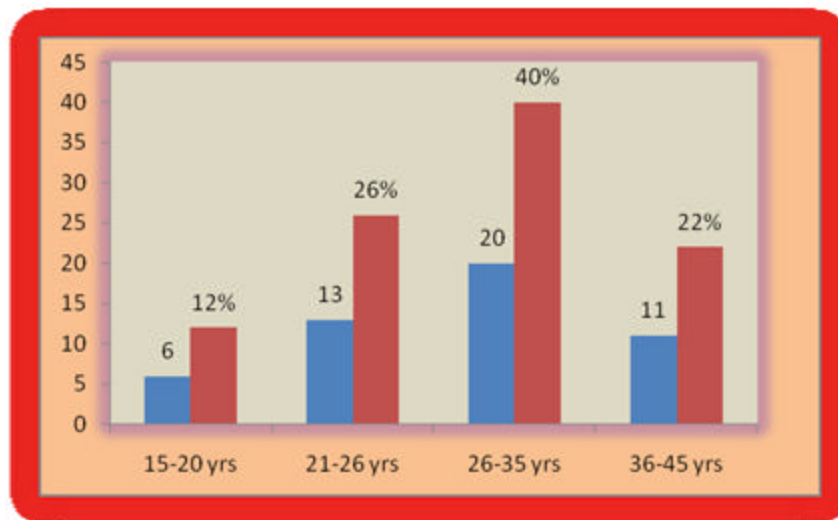


Table 4.1.1 and fig 4.1.1 shows that among 50 mothers 6 (12%) of mothers were between 15-20 Yrs, and 13 (26%) of mothers between 21-25 Yrs, 26 (40%) of mothers between 26-35 Yrs and 11 (22%) of mothers between 36-45 Yrs

**Table & Fig- 4.1.2: Distribution of Subjects According to their Educational Status**

Sl.No	Education	No	%
1.	Illiterate	-	-
2.	Primary School	16	32 %
3.	High School	20	40 %
4.	Higher	12	24 %
5.	Graduate	2	4 %
<b>Total</b>		<b>50</b>	<b>100</b>

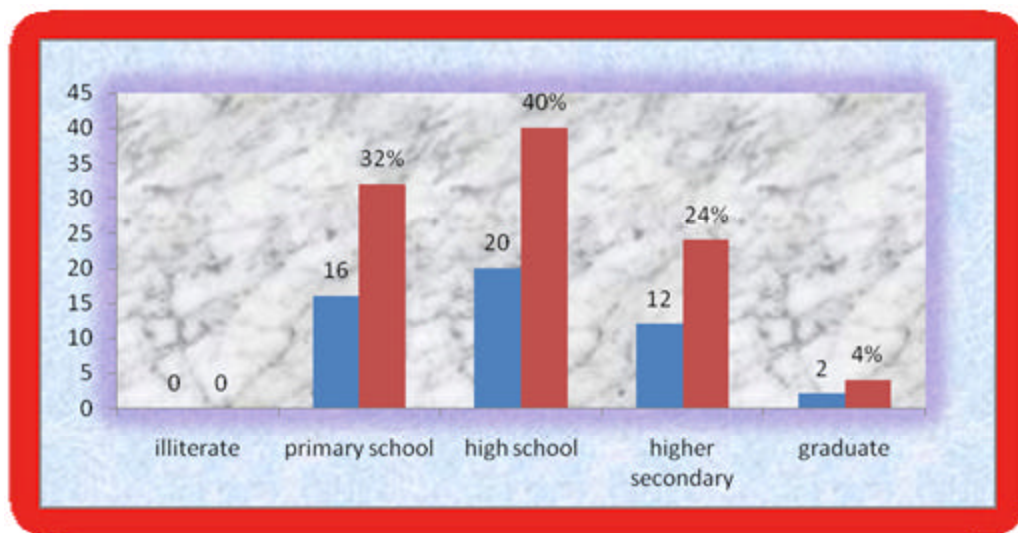


Table 4.1.2 and Fig 4.1.2 shows that, among 50 mothers 20 (40%) had high school education, 16 (32%) had primary school education, 12 (24%) of them had higher secondary education and 2 (4%) of them had graduate level education.

**Table & Fig- 4.1.3: Distribution of Subjects According to their Occupation**

Sl.No	Occupation	No	%
1.	Coolie	17	34%
2.	Employed (Private)	4	8%
3.	Unemployed / House wife	29	58%
<b>Total</b>		<b>50</b>	<b>100</b>

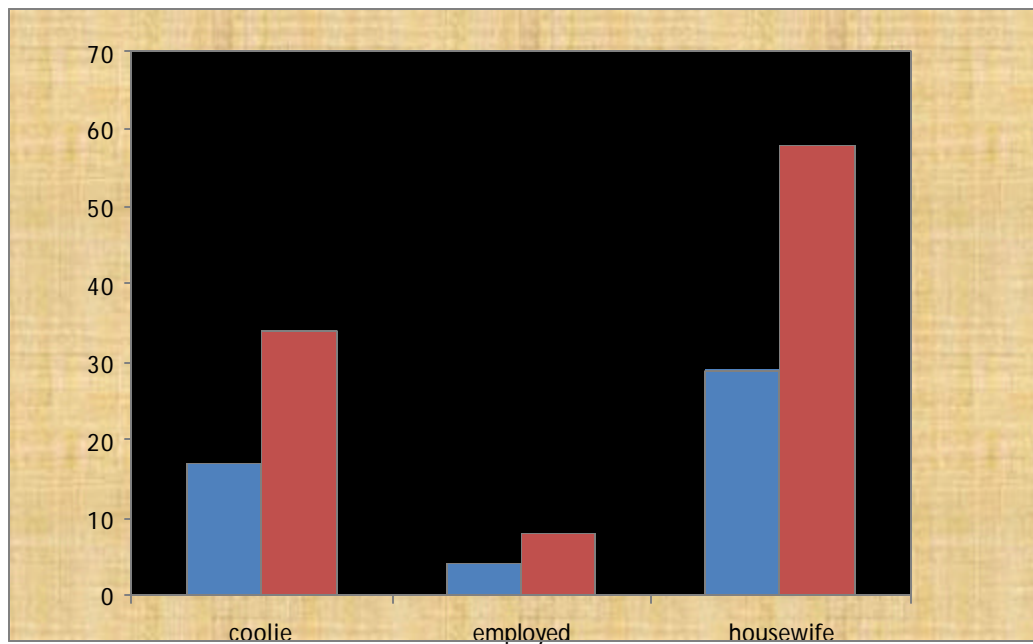


Table 4.1.3 and Fig 4.1.3 shows that, among the 50 mothers 29 (58%) were Housewife's, 17 (34%) of them were coolie 4 (8%) were Private employees.

**Table & Fig - 4.1.4: Distribution of Subjects According to their family income**

Sl.No	Family Income	No	%
1.	Below Rs. 2000/-m	6	12%
2.	Rs. 2001 - 4000/ m	15	30%
3.	Rs. 4001 – 6000/ m	19	38%
4.	Above Rs. 6000/ m	10	20
	<b>Total</b>	<b>50</b>	<b>100</b>

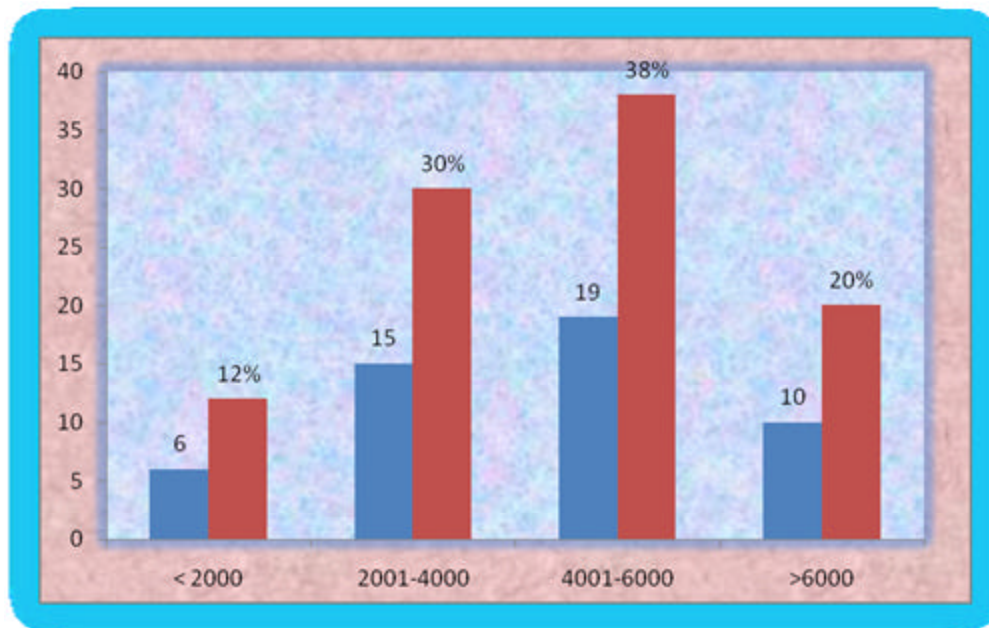


Table.4.1.4 and Fig.4.1.4 shows that, among 50 mothers 19(38%) of the mothers had monthly income between 4001- 6000, 15(30%) had between Rs. 2001 – 4000, 10(20%) of them had monthly income above 6001, 6(12%) of the mothers had monthly income below 2000.

**Table & Fig- 4.1.5: Distribution of Subjects According to the type of family**

Sl. No	Type of family	Number	% (100)
1.	Small	30	60%
2.	Joint family	11	22%
3.	Extended family	9	18%
<b>Total</b>		<b>50</b>	<b>100</b>

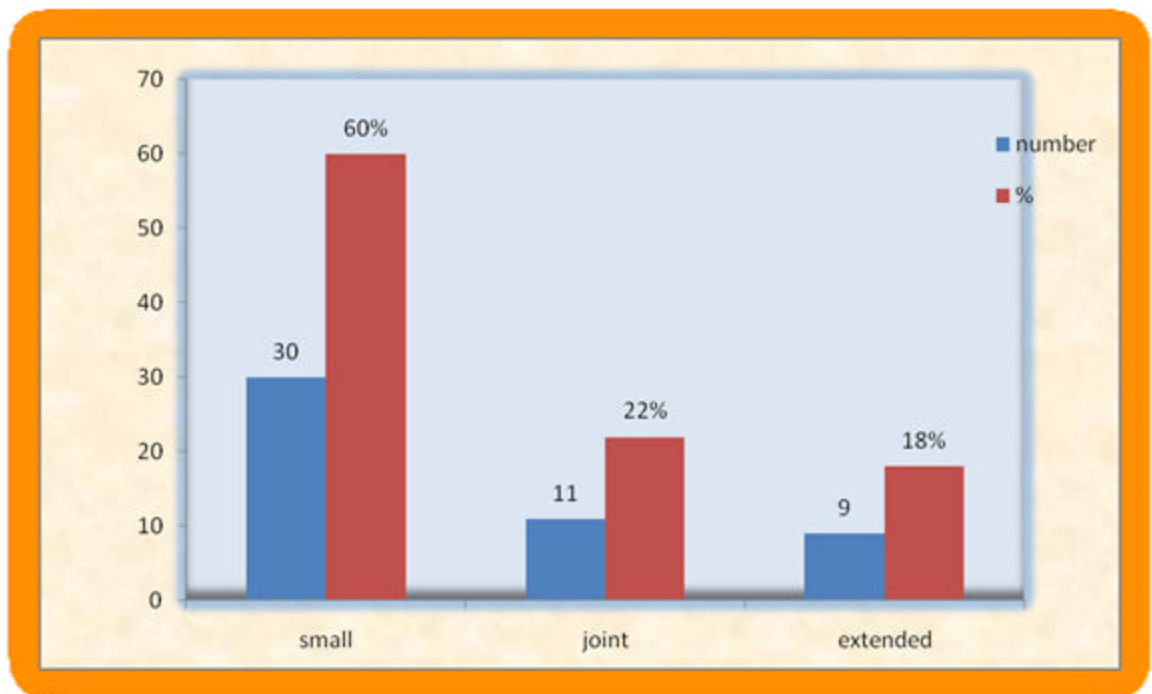


Table 4.1.5 and Fig. 4.1.5 shows that, among 50 mothers 30(60%) belongs to small family, 11(22%) belongs to joint family and 9(18%) belongs to extended family.

**DISRIBUTION OF MOTHERS ACCORDING TO THEIR LIVING  
PATTERN AND HEALTH CONDITION**

**Table - 4.1.6: Frequency and Percentage Distribution of the mothers.**

Demographic variables		Number	Percentage
1. Type of House	Hut	8	16
	Pucka	15	30
	Kutchra	27	54
2. No. Of Windows	One	6	12
	Two	23	46
	Three	21	42
3. No. of person in house	Three members	15	30
	Above three members	35	70
4. No. of child in the house	One	12	24
	Two	23	46
	Above three	5	10
5. Source of Drinking water	Tap water	46	82
	Bore well	4	8
6. Type of water storage	Vessels	40	80
	Overhead Tank	10	20
7. Previous history of malaria	Yes	6	12
	No	44	88
8. Type of drainage	Open	12	24
	Closed	34	68
	Directed to kitchen garden	4	8
9. Water stagnation near the house	Yes	12	24
	No	38	76
10. Source of information	Television/ Radio	20	40
	Books/ Newspapers	17	34
	Friends/ Relatives	5	10
	Health Professionals	8	16
<b>Total</b>		<b>50</b>	<b>100</b>



The table 4.1.6 shows that 27(54%) of the mothers were in Kutcha type of house, 15(30%) of them in Pucka house and 8(16%) of them were in Hut. According to the number of windows present for ventilation 23(46%) of the respondents had two windows, 21(42%) of them had three windows and 6(12%) of them were having one window for ventilation in their house.

According to the number of children in the house, 23(46%) had two children, 12(24%) had one children 5(10%) of the houses had three and above three children in the house. According to the source of drinking water 46(82%) of houses using tap water and 4(8%) were using Bore well Water.

According to the Number of persons living in house, 15(30%) houses were having three members, 35(70%) houses had above three members. According to the type of drainage, 34(68%) had closed drainage system in the house and 12(24%) having open drainage in the house and 4(8%) having the water directed to the kitchen garden.

According to the water stagnation near the house, 38(76%) had no water stagnation near the house and 12(24%) had water stagnation near the house. According to Family members history of malaria, 44(88%) of the family had previous illness of malaria and 6(12%) of the family had no previous illness of malaria.

According to their source of information about malaria 20(40%) of them had information from TV/Radio, 17(34%) of them received from Newspapers/Books/Magazines and 8(16%) of them health workers and 5(10%) from relatives / friends.

## SECTION – II

### ASSESSMENT OF KNOWLEDGE LEVEL OF MOTHERS ON MALARIA AND PREVENTION AND CONTROL OF MALARIA BEFORE ADMINISTRATION OF PLANNED TEACHING PROGRAMME

**Table- 4.2.1: Overall pre test knowledge score of mothers before planned teaching programme.**

Aspect	Max score	Range score	Respondent Knowledge		
			Mean	Mean (%)	SD (%)
Pre-test	86	22-49	28.28	32.88	9.08

Table - 4.2.1 depicts that the overall knowledge score of mothers before planned teaching programme was found to be 28.28 with SD 9.08.

**Table-4.2.2 & Fig- 4.2.1 : Overall Pre test Knowledge level of Mothers before Planned Teaching Programme**

Knowledge	Respondents	
	Number	Percentage
Inadequate (50%)	42	84
Moderate (50-75%)	8	16
<b>Total</b>	<b>50</b>	<b>100</b>

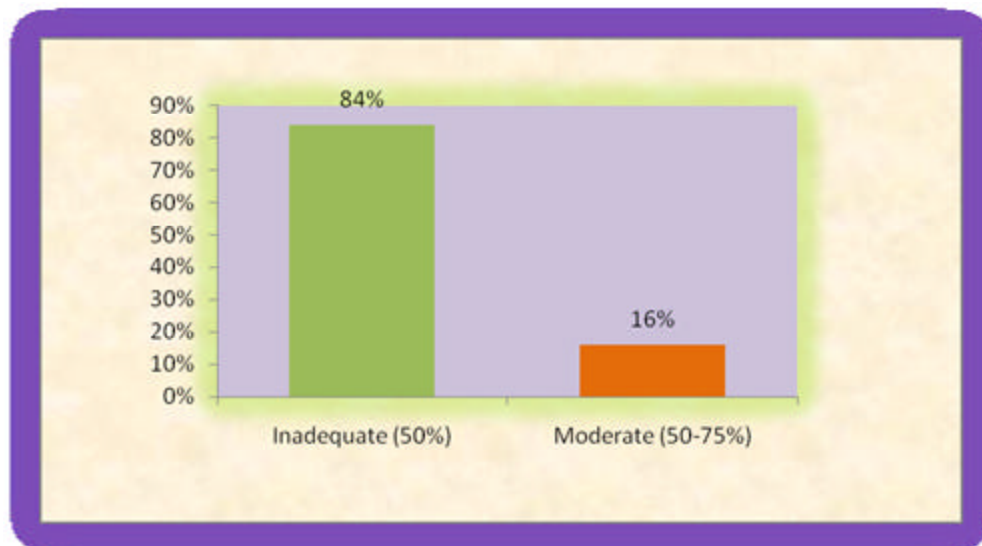


Table-4.2.2 and Fig-4.2.1 shows the distribution of Mothers according to their level of overall pretest knowledge before planned teaching programme. The investigator classified the knowledge level into three categories for easy understanding. Among the 50 mothers, 42(84%) mothers have inadequate knowledge and 8(16%) of them has moderate knowledge in pre-test.

**Table-4.2.3 & Fig- 4.2.2: Pre test knowledge level of mothers on malaria before planned teaching programme**

Knowledge	Respondents	
	Number	Percentage
Inadequate (50%)	41	82
Moderate (50-75%)	9	18
<b>Total</b>	<b>50</b>	<b>100</b>

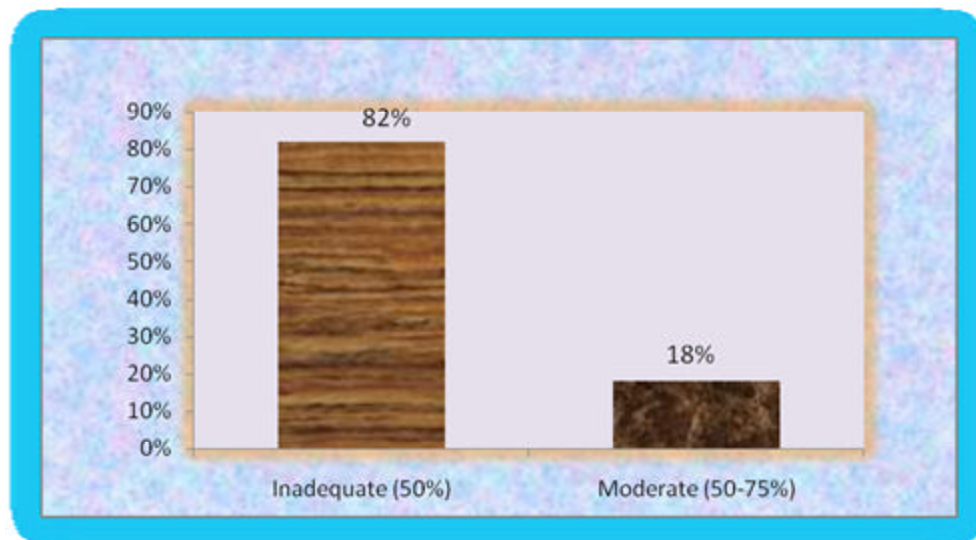


Table 4.2.3 and Fig 4.2.2 shows the distribution of mothers according to their level of pretest knowledge regarding malaria before planned teaching programme. The investigator classified the knowledge level into three categories for easy understanding. Among the 50 patients, 41(82%) mothers were having inadequate knowledge and 9(18%) were having moderate knowledge on malaria.

**Table 4.2.4 & Fig- 4.2.3: Pre-test Knowledge level of mothers on prevention and control of malaria before planned teaching programme.**

Knowledge	Respondents	
	No	%
Inadequate (50%)	42	84
Moderate (50-75%)	8	16
<b>Total</b>	<b>50</b>	<b>100</b>

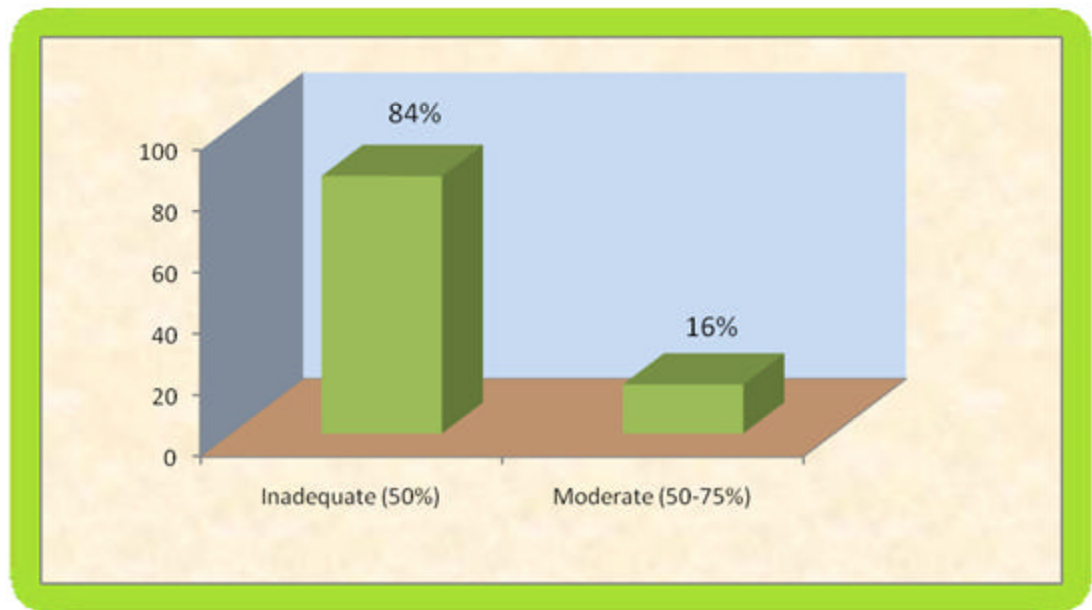


Table 4.2.4 and Fig 4.2. 3 show the distribution of mothers according to their level of pretest knowledge regarding prevention and control of malaria before planned teaching programme. The investigator classified the knowledge level into three categories for easy understanding. Among the 50 mothers 42(84%) mothers were having inadequate knowledge and 8(16%) were having moderate knowledge on prevention and control of malaria.

**Table-4.2.5: Pre test mean knowledge score on Prevention and Control of malaria among mothers over different aspects.**

S.No	Aspect	Max score	Range score	Respondent knowledge		
				Mean	Mean(%)	SD
A1	Malaria	22	4-13	7.6	34.54	2.84
A2	Prevention and control of malaria	64	16-36	20.68	32.31	6.24
	<b>Combined</b>	<b>86</b>	<b>20-49</b>	<b>28.28</b>	<b>32.88</b>	<b>9.08</b>

Table 4.2.5 indicate the result of different aspects of pretest mean knowledge score on Prevention and Control of malaria among mothers. The overall pretest mean knowledge score percentage score on Prevention and Control of malaria was found to be 32.88% with SD value of 9.08 among respondents. The pretest mean knowledge score percentage score on malaria was found to be 34.54% with SD value of 2.84 and for Prevention and Control of malaria it was found to be (32.31%) with SD value of 6.24.

The pre-test knowledge of mothers regarding malaria was, 40 subjects were correctly identified the definition of malaria, 10 subjects know about the causes of malaria, 10 were know about the transmission of malaria, 11 of them were aware of the signs & symptoms, 8 of them know about the investigations of malaria, 6 of them were know about the

smear collection for malaria, 15 of them were identified the dietary pattern for malaria and none of them know about the complications, relapse and reasons for the relapse.

Regarding prevention and control aspect, 6 subjects were correctly identified treatment measures, 4 of them know about the anti malarial drugs and none of them know about the doses of chloroquine and its side effects and 6 of them were know about the duration of the treatment. 15 subjects were aware of the management of nausea and vomiting, fever and none of them know about the reasons for not taking chloroquine in empty stomach. 10 subjects were aware of the presumptive treatment and radical treatment and 8 subjects were aware of the preventive measures and measures used for individual protection. 20 of them know about the meaning of the mosquito repellents, 11 of them were aware of the chemical repellents and none of them were aware of the natural repellents. 12 subjects were aware of the protective clothing's and liquid mosquito destroyer. 4 of them know about the control of mosquito breeding sites, control of adult mosquitoes and none of them were aware of the control of larva's, insecticides and larvicides.



### SECTION – III

#### ASSESSMENT OF KNOWLEDGE LEVEL OF MOTHERS ON MALARIA AND PREVENTION AND CONTROL OF MALARIA AFTER ADMINISTRATION OF PLANNED TEACHING PROGRAMME

**Table4.3.1: Overall post test knowledge score of mothers after  
planned teaching programme.**

Aspect	Max score	Range score	Respondent Knowledge		
			Mean	Mean(%)	SD(%)
Post test	86	46-80	66.58	77.4	6.18

Table 4.3.1 represents that the overall knowledge score of mothers after planned teaching programme was found to be 66.58 with SD 6.18.

**Table-4.3.2 & Fig-4.3.1: Overall Post test Knowledge level of Mothers after Planned Teaching Programme**

Knowledge	Respondents	
	No	%
Moderate (50-75%)	9	18
Adequate (75%)	41	82
<b>Total</b>	<b>50</b>	<b>100</b>

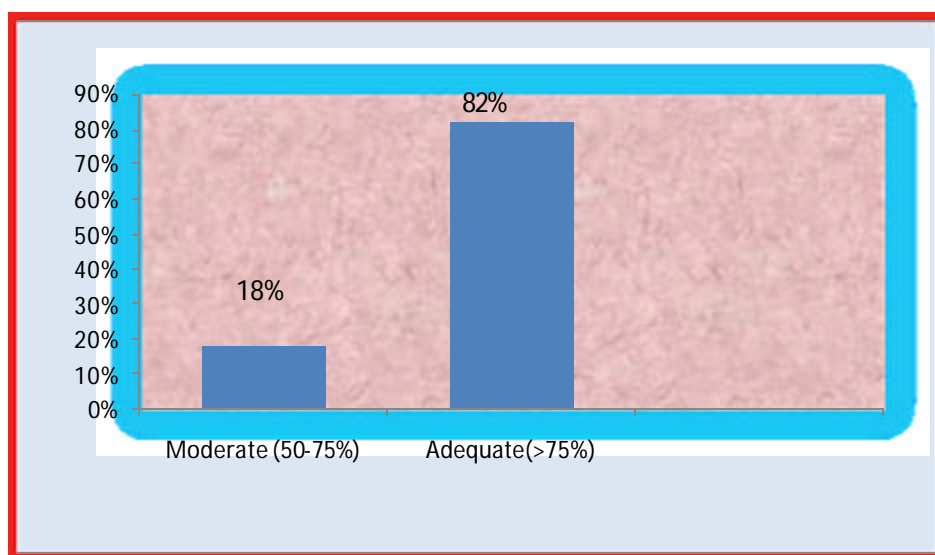


Table 4.3.2 and Fig 4.3.1 shows the distribution of Mothers according to their level of overall post test knowledge after planned teaching programme. The investigator classified the knowledge level into three categories for easy understanding. Among the 50 mothers, 41(82%) mothers have inadequate knowledge and 9(18%) of them has moderate knowledge in post test and none of them been having adequate knowledge.

**Table- 4.3.3 & Fig- 4.3.2: Post test Knowledge level of mothers on malaria after planned teaching programme.**

Knowledge	Respondents	
	No	%
Moderate (50-75%)	11	22
Adequate (75%)	39	78
<b>Total</b>	<b>50</b>	<b>100</b>

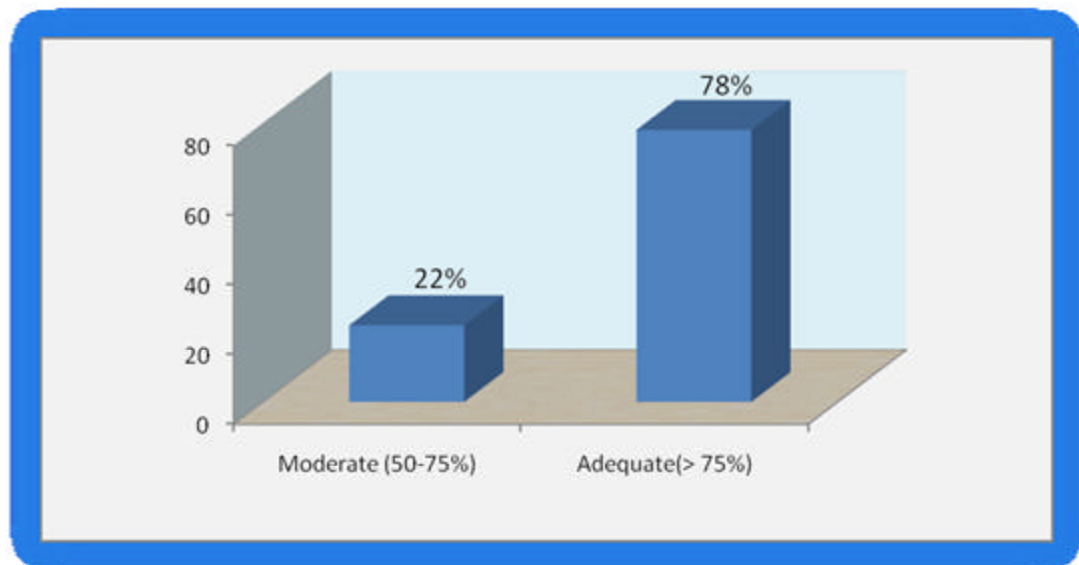


Table 4.3.3 and Fig4.3.2 shows the distribution of mothers according to their level of post test knowledge regarding malaria after planned teaching programme. The investigator classified the knowledge level into three categories for easy understanding. Among the 50 mothers 11(22%) mothers were having moderate knowledge and 39(78%) were having adequate knowledge on malaria.

**Table-4.3.4 & Fig- 4.3.3: Post test Knowledge level of mothers on prevention and control of malaria after planned teaching programme.**

Knowledge	Respondents	
	Number	Percentage
Moderate (50-75%)	6	12
Adequate (75%)	44	88
<b>Total</b>	<b>50</b>	<b>100</b>

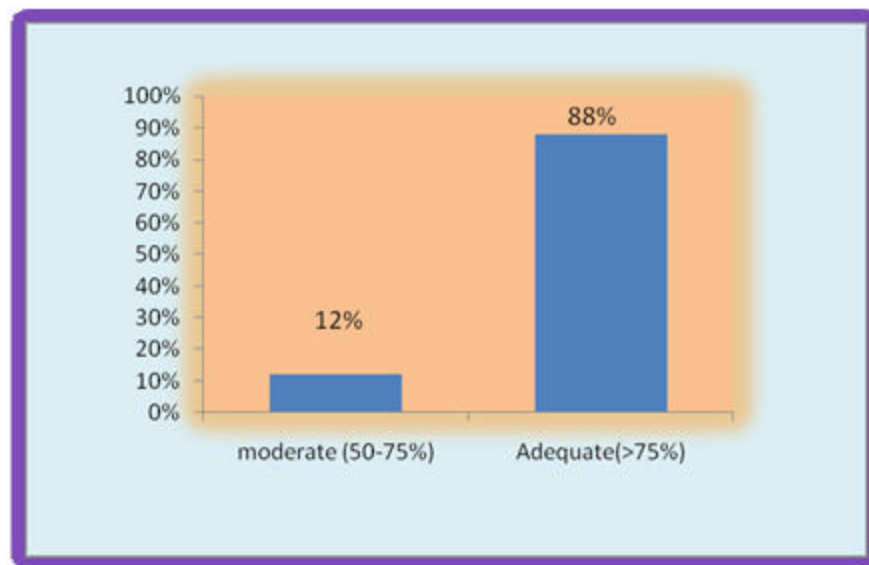


Table 4.3.4 and Fig 4.3.3 shows the distribution of mothers according to their level of post test knowledge regarding prevention and control of malaria after planned teaching programme. The investigator classified the knowledge level into three categories for easy understanding. Among the 50 mothers 6(12%) mothers were having moderate knowledge and 44(88%) were having adequate knowledge on prevention and control of malaria.

**Table 4.3.5: Post test mean knowledge score on Prevention and Control of malaria among mothers over different aspects.**

S.No	Aspect	Max score	Range score	Respondent knowledge		
				Mean	Mean(%)	SD
A1	Malaria	22	14-20	17.4	79	2.88
A2	Prevention and control of malaria	64	32-55	49.36	77.12	4.09
	<b>Combined</b>	<b>86</b>	<b>46-75</b>	<b>66.58</b>	<b>77.4</b>	<b>6.18</b>

Table 4.3.5 indicate the result of different aspects of post test mean knowledge score on Prevention and Control of malaria among mothers. The overall post test mean knowledge score percentage on Prevention and Control of malaria was found to be 77.4% with SD value of 6.18 among respondents. The post test mean knowledge score on malaria was found to be 79% with SD value of 1.8 and for Prevention and Control of malaria it was found to be 77.12% with SD value of 6.24.

The pre-test knowledge of mothers regarding malaria was, all the subjects were correctly identified the definition of malaria, 46 subjects know about the causes of malaria, 41 were know about the transmission of malaria, 45 of them were aware of the signs & symptoms, 40 of them know about the investigations of malaria, 39 of them were know about

the smear collection for malaria, 48 of them were identified the dietary pattern for malaria and 38 of them know about the complications, 37 of them know about the relapse and reasons for the relapse.

Regarding prevention and control aspect, 39 subjects were correctly identified treatment measures, 37 of them know about the anti malarial drugs and none of them know about the doses of chloroquine and its side effects and 39 of them were know about the duration of the treatment. 41 subjects were aware of the management of nausea and vomiting, fever and 33 of them know about the reasons for not taking chloroquine in empty stomach. 39 subjects were aware of the presumptive treatment and radical treatment and 40 subjects were aware of the preventive measures and 39 of them know about the measures used for individual protection. All of them know about the meaning of the mosquito repellents, 41 of them were aware of the chemical repellents and 30 of them were aware of the natural repellents. 42 subjects were aware of the protective clothing's and liquid mosquito destroyer. 38 of them know about the control of mosquito breeding sites, 37 of them know about the control of adult mosquitoes and 32 of them were aware of the control of larva's, insecticides and larvicides and 33 of them know about the larvicides and insecticides.

## SECTION –IV

In this section the researcher was interested to examine the effectiveness of Planned teaching programme.

In order to evaluate the effectiveness of Planned teaching programme on knowledge of the mothers, paired 't' test was used.

### **Hypothesis-1**

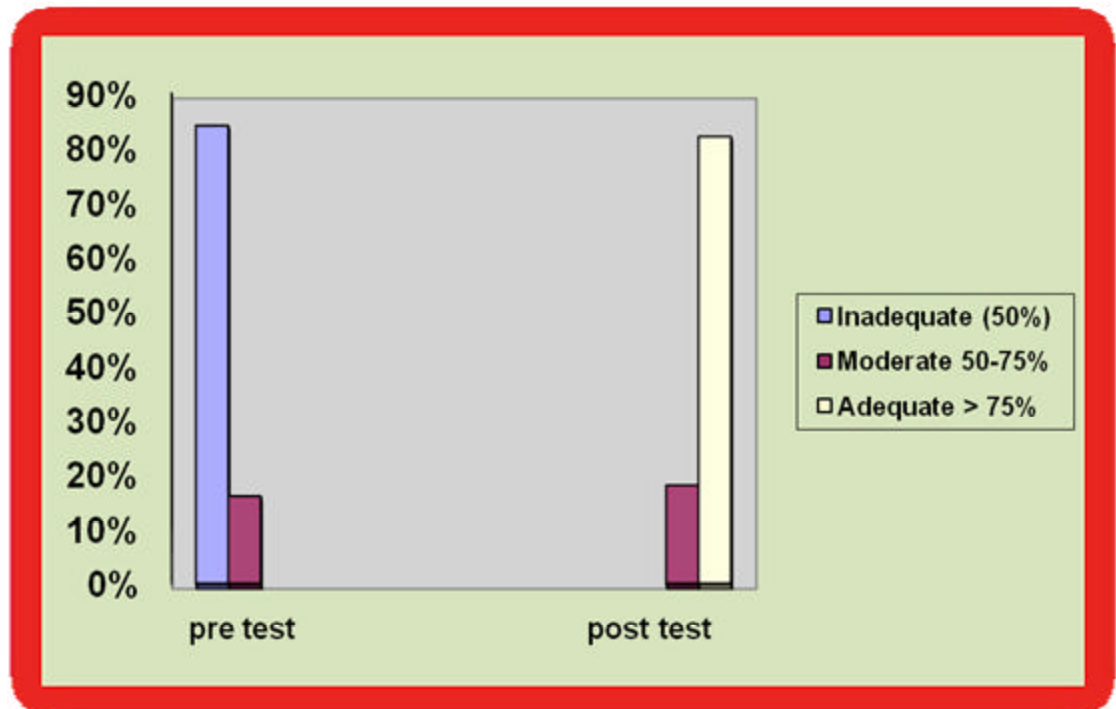
To test the significant difference between mean percentages knowledge on prevention and control of malaria among mothers, the following hypothesis were formulated

**H<sub>1</sub>:** The mean post test knowledge score on the Subjects after planned teaching programme with regard to the knowledge on prevention and control of malaria will be significantly higher than the pretest s

**COMPARISON OF KNOWLEDGE LEVEL OF MOTHERS REGARDING PREVENTION AND CONTROL OF MALARIA AFTER PLANNED TEACHING PROGRAMME**

**Table 4.4.1 & Fig - 4.3.3: Pretest and post test knowledge level of Mothers**

Aspect	Respondents knowledge level			
	Pre test		Post test	
	Number	Percentage	Number	Percentage
Inadequate (50%)	42	84	--	--
Moderate 50-75%	8	16	9	18
Adequate > 75%	--	--	41	82
<b>Total</b>	<b>50</b>	<b>100</b>	<b>50</b>	<b>100</b>





The comparison of value of pretest and post test knowledge level depicted in table 4.4.1 and fig 1. The investigator classified the knowledge level into three categories for easy understanding. Among 50 mothers 42(84%) had inadequate knowledge in the pretest, but no one had inadequate knowledge in the post test 8(16%) had moderate knowledge level in the pretest and 9(18%) had moderate knowledge level in the post test. None of the patients had adequate knowledge level in the pre test but in the post test 41(82%) had adequate knowledge level.

**Table-4.4.2: Pretest and post test mean knowledge score of prevention and control of malaria among mothers**

Aspect	Max score	Range score	Respondent knowledge			Paired t-test
			Mean	Mean (%)	SD	
Pre test	86	20-49	28.28	32.88	9.08	34.253
Post Test	86	46-80	66.58	77.4	6.18	
Enhancement	86	26-31	38.3	44.52	2.38	

Table 4.4.2 pre test and post test mean knowledge score on prevention and control of malaria among mothers reveals that, post test mean knowledge score was found higher (77.4% and SD of 6.18) when compared with pre test mean knowledge score value which was 32.88% with SD of 9.08 The statistical paired ‘t’ test implied that, the difference in pre test and post test knowledge score was found highly significant at level  $P < 0.05$  further the mean enhancement score was 44.52% with SD value of 2.38

It implies that the Planned teaching programme (PTP) improved the knowledge level of mothers on prevention and control of malaria and were proved by the assessment of the statistical paired “t” test.

**Table-4.4.3 & Fig- 4.4.2: Pretest and post test knowledge level of mothers on malaria**

Aspect	Respondents knowledge level			
	Pre test		Post test	
	No	%	No	%
Inadequate(50%)	41	82	--	--
Moderate 50-75%	9	18	11	22
Adequate > 75%	--	--	39	78
<b>Total</b>	<b>50</b>	<b>100</b>	<b>50</b>	<b>100</b>

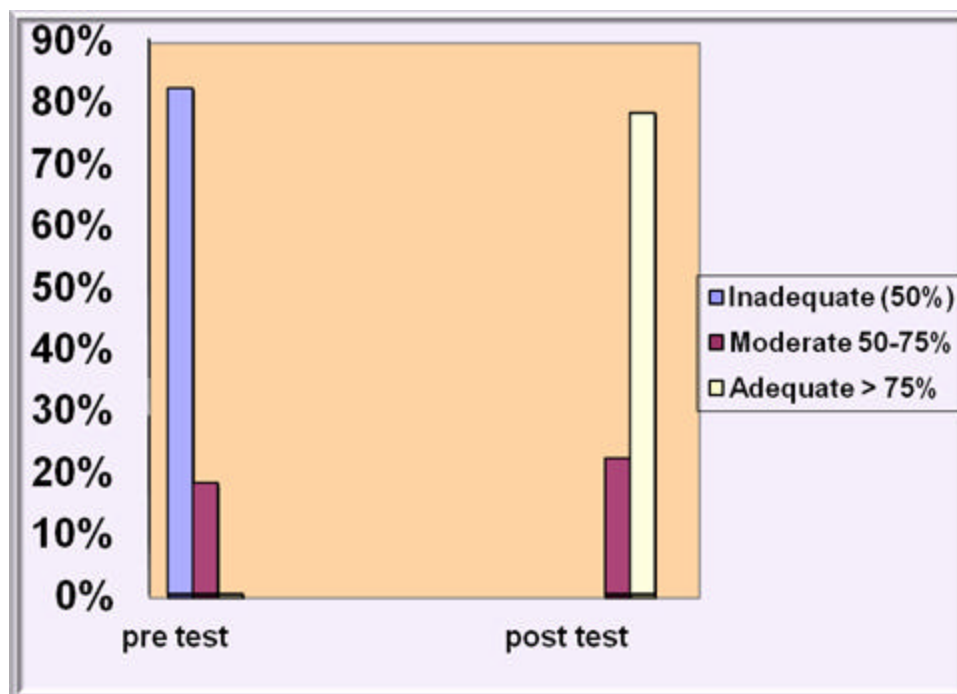


Table 4.4.3 fig 4.4.2 Shows the comparison values of pretest and post test knowledge level of patients on Malaria 41 (82%) mothers had inadequate knowledge in pretest while none of the patients had inadequate knowledge in post test. 9 (18%) patients had moderate knowledge in pretest while 11 (22%) had moderate knowledge in post test. None of the patients had adequate knowledge in the pre test but in the post test 39(78%) had adequate level.

**Table 4.4.4 & Fig 4.4.3: Pretest and Post test knowledge level of mothers on prevention and control of malaria**

Aspect	Respondents knowledge level			
	Pre test		Post test	
	No	%	No	%
Inadequate (50%)	42	84	--	--
Moderate 50-75%	8	16	6	12
Adequate > 75%	--	--	44	88
<b>Total</b>	<b>50</b>	<b>100</b>	<b>50</b>	<b>100</b>

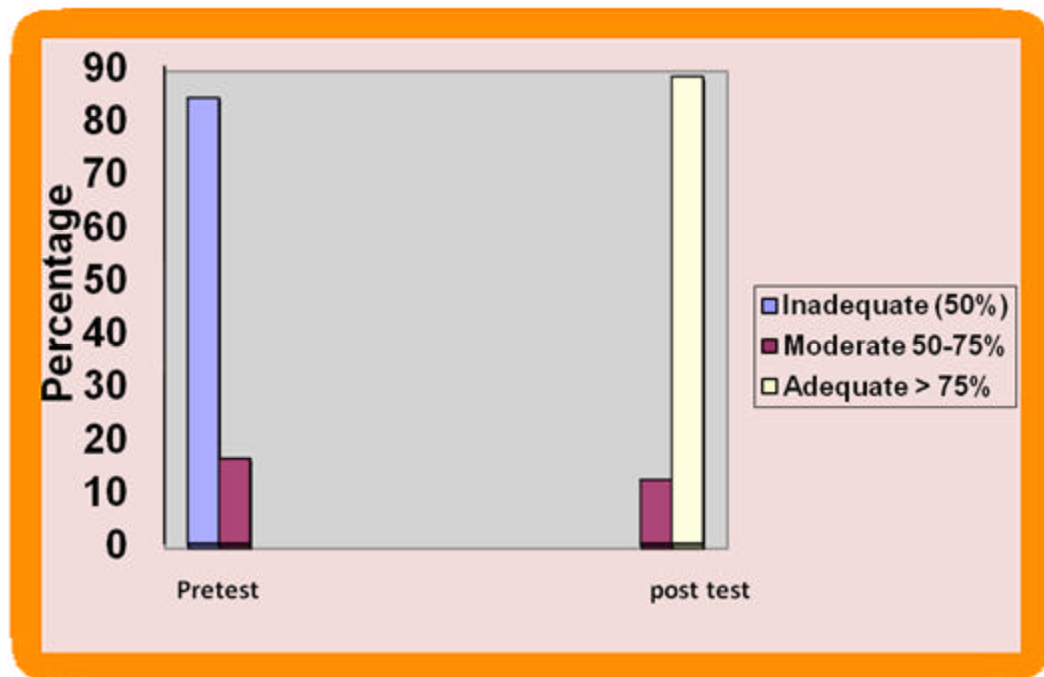


Table 4.4.4. and Fig 4.4.3 Shows the comparison of values of pretest and post test knowledge level of patients on Prevention and control of malaria. 42(84%) had inadequate knowledge in pretest while no one had inadequate knowledge in post test 8(16%) of patients had moderate knowledge in pretest 6(12%) had moderate knowledge in post test. None of the patients had adequate knowledge level in the pretest but in the post test 44(88%) had adequate knowledge level

**Table-4.4.5: Pretest and Post test knowledge level of mothers on prevention and control of malaria**

S. No	Aspect	Max score	Respondent knowledge (%)						't' Value
			Pre test		Post Test		Enhancement		
			Mean %	SD	Mean %	SD	Mean %	SD	
1	Malaria	22	34.54	2.84	79	2.09	44.46	.75	9.869
2	Prevention and control of malaria	64	32.31	6.24	77.12	4.09	44.53	2.15	24.383
	<b>Combined</b>	<b>86</b>	<b>32.58</b>	<b>9.08</b>	<b>77.4</b>	<b>6.18</b>	<b>44.52</b>	<b>2.38</b>	<b>34.253</b>

Table 4.4.5 indicates the pretest and post test mean knowledge score on mothers over different aspects like knowledge regarding malaria and Prevention and control of malaria

Regarding the aspect of Malaria the mean score % of pre test knowledge was 34.54% and increased to 79% in post test. Regarding the aspect Prevention of control of malaria knowledge was 32.31% and increased after administration of planned teaching programme to 77.12.

## SECTION – V

In this section, the researcher was interested to bring the association between knowledge regarding age, education, occupation, family income, type of family, method of water storage, drainage system, and previous history of malaria and source of information.

### **Hypothesis II**

In this test, the significant association between the pretest knowledge with selected socio-demographic variables of mothers. The following hypotheses were formulated.

**H<sub>2</sub>:** There will be significant relationship between the mean pretest scores on selected demographic variables such as age, education, occupation, family income, type of family, method of water storage, drainage system, previous history of malaria and source of information.



**ASSOCIATION BETWEEN THE OVERALL PRETEST  
KNOWLEDGE OF MOTHERS WITH SELECTED SOCIO-  
DEMOGRAPHIC VARIABLES.**

**Table- 4.5.1: Association between the overall pretest knowledge of mothers with selected socio-demographic variables.**

Demographic variables		Level of knowledge				Total		df	χ <sup>2</sup>
		Inadequate		Moderate					
		No.	%	No.	%	No	%		
Age	15-20 yrs	5	10	1	2	6	12	3	6.148
	21-25 yrs	11	22	2	4	13	26		
	26-35 yrs	17	34	3	6	20	40		
	36-45 yrs	9	18	2	4	11	22		
Education	Primary	16	32	-	-	16	32	3	30.24**
	High school	19	38	1	2	20	40		
	Higher secondary	7	14	5	10	12	24		
	Graduate	-	-	2	4	2	4		
Occupation	Coolie	15	30	2	4	17	34	2	4.257*
	Employee (private)	4	8	2	4	29	58		
	House wife	27	54	4	8	4	8		
Family Income	<2000	6	12	-	-	6	12	3	1.127
	2001-4000	13	26	2	4	15	30		
	4001-6000	15	30	4	8	19	38		
	>6001	8	16	2	4	10	20		

Type of Family	Small	27	54	3	6	30	60	2	0.512
	Joint	8	16	3	6	11	22		
	Extended	7	14	2	4	9	18		
Water Storage	Vessels	36	72	4	8	40	80	1	5.356*
	Overhead tank	6	12	4	8	10	20		
Type of drainage	Open	9	18	3	6	12	24	2	4.069*
	Closed	31	62	3	6	34	68		
	Kitchen garden	2	4	2	4	4	8		
Previous history of malaria	Yes	-	-	6	12	6	12	1	35.8**
	No	42	84	2	4	44	88		
Source of information	TV/Radio	19	38	1	2	19	38	3	11.8834**
	Newspapers/ Magazines	16	32	1	2	16	32		
	Friends/Relative s	5	10	-	-	5	10		
	Health workers	2	4	6	12	2	4		

**\* Significant at 5% \*\*Highly significant**

The result revealed that the chi square analysis of the association between the overall knowledge on prevention and control of malaria among mothers and the socio-demographic variables such as education, occupation, water storage, type of drainage, previous history of malaria and source of information were significantly associated and some of the other variables like age, family income, type of family were not significantly associated.

**Table 4.5.2: Association between the pretest knowledge of mothers regarding malaria with selected socio-demographic variables.**

Demographic variables		Level of knowledge				Total		df	$\chi^2$
		Inadequate		Moderate		No.	%		
		No.	%	No.	%				
Age	15-20 yrs	5	10	1	2	6	12	3	0.19
	21-25 yrs	10	20	3	6	13	26		
	26-35 yrs	17	34	3	6	20	40		
	36-45 yrs	9	18	2	4	11	22		
Education	Primary	16	32	-	-	16	32	3	13.48**
	High school	18	36	2	4	20	40		
	Higher secondary	7	14	5	10	12	24		
	Graduate	2	4	2	4	2	4		
Occupation	Coolie	15	30	2	4	17	34	2	0.83
	Employee (private)	26	52	3	6	29	58		
	House wife	-	-	4	8	4	8		
Family Income	<2000	6	12	-	-	6	12	3	1.76
	2001-4000	12	24	3	6	15	30		
	4001-6000	15	30	4	8	19	38		
	>6001	8	16	2	4	10	20		
Type of family	Small	26	52	4	8	30	60	2	1.10
	Joint	8	16	3	6	11	22		
	Extended	7	14	2	4	9	18		

Water Storage	Vessels	35	70	5	10	40	80	1	3.56
	Overhead tank	6	12	4	8	10	20		
Type of drainage	Open	8	16	4	8	12	24	2	6.06*
	Closed	31	62	3	6	34	68		
	Kitchen garden	2	4	2	4	4	8		
Previous history of malaria	Yes	-	-	6	12	6	12	1	27.14**
	No	41	82	3	6	44	88		
Source of information	TV/Radio	18	36	2	4	19	38	3	14.91**
	Newspapers/Magazines	16	32	1	2	16	32		
	Friends/Relatives	5	10	-	-	5	10		
	Health workers	2	4	6	12	2	4		

\* significant at 5% \*\*highly significant

The result revealed that the chi square analysis of the association between the overall knowledge on prevention and control of malaria among mothers and the socio-demographic variables such as education, type of drainage, previous history of malaria and source of information were significantly associated and some of the other variables like age, occupation, family income, type of family were not significantly associated.

**Table 4.5.3: Association between the pretest knowledge of mothers regarding prevention and control of malaria with selected socio-demographic variables.**

Demographic variables		Level of knowledge				Total		df	χ <sup>2</sup>
		Inadequate		Moderate		No.	%		
		No.	%	No.	%				
Age	15-20 yrs	5	10	1	2	6	12	3	0.005
	21-25 yrs	11	22	2	4	13	26		
	26-35 yrs	17	34	3	6	20	40		
	36-45 yrs	9	18	2	4	11	22		
Education	Primary	16	32	-	-	16	32	3	16.72**
	High school	19	38	1	2	20	40		
	Higher secondary	7	14	5	10	12	24		
	Graduate	2	4	2	4	2	4		
Occupation	Coolie	15	30	2	4	17	34	2	4.25*
	Employee (private)	-	-	2	4	29	58		
	House wife	27	54	4	8	4	8		
Family Income	<2000	5	10	1	2	6	12	3	2.93
	2001-4000	14	28	1	2	15	30		
	4001-6000	15	30	4	8	19	38		
	>6001	8	16	2	4	10	20		
Type of Family	Small	27	54	3	6	30	60	2	1.24
	Joint	8	16	3	6	11	22		
	Extended	7	14	2	4	9	18		

Water Storage	Vessels	35	70	5	10	40	80	1	1.82
	Overhead tank	7	14	3	6	10	20		
Type of drainage	Open	9	18	3	6	12	24	2	1.41
	Closed	31	62	3	6	34	68		
	Kitchen garden	2	4	2	4	4	8		
Previous history of malaria	Yes	-	-	6	12	6	12	1	35.8**
	No	42	84	2	4	44	88		
Source of information	TV/Radio	19	38	1	2	19	38	3	11.88**
	Newspapers/Magazines	16	32	1	2	16	32		
	Friends/Relatives	5	10	-	-	5	10		
	Health workers	2	4	6	12	2	4		

**\* Significant at 5%; \*\*Highly significant**

The result revealed that the chi square analysis of the association between the overall knowledge on prevention and control of malaria among mothers and the socio-demographic variables such as education, occupation, previous history of malaria and source of information were significantly associated and some of the other variables like age, family income, occupation, water storage, type of family were not significantly associated.

## DISCUSSION

The study was focussed on assessing the knowledge of mothers regarding prevention and control of malaria. The discussion was described under the following headings.

- ? Socio demographic variables of mothers.
- ? Analysis of effectiveness of planned teaching programme on prevention and control of malaria.
- ? The relationship between the knowledge of mothers with selected socio-demographic variables like age, education, occupation, family income, type of family, method of water, storage and type of drainage.

### **Socio Demographic variables**

Among 50 mothers 6(12%) belonged to the age group of 15-20 yrs, 13(26%) belonged to the age group of 21-25 yrs. 20(40%) of mothers belonged to the age group 26-35 yrs and 11(22%) of mothers belonged to the age group of 36-45 yrs.

Out of the 50 mothers, 20(40%) had high school education, 16(32%) had primary school education, 12(24%) of them had higher secondary education and 2(4%) of them had graduate level education.

Out of the 50 mothers, 29(58%) were housewives/unemployed, 17(34%) of them were coolie, 4(8%) were private workers.

Among 50 mothers, 19(38%) had monthly income between 4001-6000, 15(30%) had between Rs 2001-4000, 6(12%) of them had monthly income below 2000 and 10(20%) of the mothers had monthly income of above Rs 6000. Out of the 50 samples majority 30(60%) belonged to small family and 20(40%) belonged to joint families.

Among 50 mothers, 40(80%) were using vessels for storing water, and 10(20%) were using overhead tank for water storage.

Among the 50 mothers, 34(68%) of them were having closed drainage system, 16(32%) were having open drainage system.

Among 50 mothers, 38(76%) had no water stagnation near the house and 12(24%) had water stagnated near the house, 6(12%) of them had previous history of malaria.

### **Analysis of effectiveness of planned teaching programme**

Knowledge of mothers regarding prevention and control of malaria divided into three for easy understanding.

Inadequate : Below 50%

Moderate : 50%-70%

Adequate : Above 70%

Results revealed that the mothers 42(84%) were having inadequate knowledge regarding prevention and control of malaria during pre test and 8(16%) had moderate knowledge which was increased to 9(18%)



moderate level knowledge in post test, 41(82%) had adequate level of knowledge.

Daboer. JC, et.al, (2010) conducted a study on knowledge and treatment practices of malaria among mother and care givers of children in the urban slums of Jos, Nigeria. The result revealed a low level knowledge (49%) among the mothers and care givers. This study supports the present study to improve the level of knowledge of mothers and care givers on treatment practices. Findings of the study revealed that the mothers having inadequate knowledge regarding malaria during pre-test 41(82%) and 9(18%) moderate knowledge was increased to 39(78%) had adequate and 11(22%) had moderate level knowledge. None of them were having inadequate knowledge during the post-test.

Rakshani. F, et.al, (2003) conducted a study on knowledge, perceptions and prevention of malaria among the married women in sistern va Baluchistan, Islamic Republic of Iron. The result showed that majority of the women (85%) had inadequate knowledge regarding the prevention of malaria. This study supports the present study and shows that women have to improve their knowledge regarding prevention of malaria.

Results of the study revealed that the mothers having inadequate knowledge regarding prevention and control of malaria during pre-test 42(84%) and 8(16%) were having moderate knowledge which was

increased to 41(82%) had adequate and 9(18%) had moderate level knowledge during post test.

By comparing the pretest and post test knowledge on prevention and control of malaria, mothers were having inadequate level of knowledge 84% and increased to adequate level (82%) after the administration of planned teaching programme on prevention and control of malaria.

### **The Relationship between the Selected Socio-Demographic Variables and pre test knowledge.**

The present study reveals that there was no significant relationship between the mothers knowledge on prevention and control of malaria with age, family income, type of family, water stagnation. But there was significant relationship with educational status, occupation, previous history of malaria, water storage, method of drainage and source of information of mothers with knowledge level.

### **SUMMARY**

This chapter dealt with analysis and interpretation of the data collected from tuberculosis patients with the help of semi – structured interview schedule and discussion.

## **CHAPTER V**

### **SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS**

This chapter deals with summary of the study, its findings and conclusions. The implication of planned teaching programme to improve the knowledge of mothers regarding prevention and control of malaria, recommendations of the study.

#### **SUMMARY OF THE STUDY**

The main aim of the study was to evaluate the effectiveness of planned teaching programme in terms of gain in knowledge of mothers regarding prevention and control of malaria.

The objectives of the present study were

1. To assess the knowledge of mothers regarding prevention and control of malaria before administering teaching programme.
2. To develop and administer planned teaching programme on prevention and control of malaria.
3. To find out the effectiveness of Planned teaching programme in improving the knowledge of mothers by Post Test.
4. To compare the pretest and post test knowledge score of mother's regarding prevention and control of malaria.

5. To explore the relationship between pretest knowledge scores with selected demographic variable like age, education, occupation, family income, method of water storage, and drainage system.

**The study attempted to examine the following research hypothesis**

**H<sub>1</sub>:** The mean post test score of the subjects after planned teaching programme with regard to the knowledge on prevention and control of malaria will be significantly higher than their pretest score.

**H<sub>2</sub>:** There will be significant relationship between selected demographic variables and knowledge level of mothers regarding prevention and control of malaria.

The conceptual frame work adopted for this study is based on the context input, process and product (CIPP) model developed by stuffle beam, which provides a comprehensive systematic ongoing frame work for programme evaluation.

The review for the related literature enable the investigator to develop the conceptual frame work, semi-structured interview schedule, develop planned teaching programme on prevention and control of malaria, determine the methodology for the study and plan for analysis of data in the most effective and efficient way.

The research approach adopted for the study was Quasi-Experimental with one group pre-test post test research design.

The instrument developed and used for the presentation was semi structured interview schedule, which consisted of 2 parts. Part I consists of 17 items related to socio-demographic variables. In Part II, Section A consists of 10 items related to knowledge on malaria, Section B consists of 24 items related to knowledge of Prevention and control of malaria.

The content validity of the tool was established on the basis of expert's judgments. The semi-structured interview schedule was carried out for selected 10 mothers' to find out the reliability. The reliability of the tool was established by split half technique. Co-relation co-efficient of knowledge test was 0.90. The instrument was found to be reliable and feasible.

Teaching programme was planned on prevention and control of malaria was organized in sequence and continuity. They were prepared to enhance the knowledge level of mothers regarding Prevention and control of malaria. Based on the evaluative criteria check list developed by the investigator, PTP was validated by 7 experts with the assistance of language experts and also the PTP was translated into Tamil.

Pilot study was conducted in the month of October 2010. The purposes of the pilot study were,

1. To find the feasibility of conducting final study.
2. To determine the method of statistical analysis

Teaching programme was tested for its effectiveness.

The final study was conducted in the month of November 2010 at Karattuppalayam, Tiruchengodu Taluk, Namakkal District. Teaching strategies were tested for its effectiveness by one group pre-test post test research design. Simple random sampling technique was used to select the sample. The sample consisted of 50 mothers. Confidentiality was assured to the subjects and pretest was given and the teaching strategy was administered to the group of mothers and post-test was given one week after the administration of PTP for the same group of mothers.

The data gathered were analyzed and interpreted in terms of objectives. Descriptive and inferential statistics were used for the data analysis.

### **MAJOR FINDINGS OF THE STUDY**

- ✍ Among 50 mothers 6(12%) of mothers between 15-20 Yrs, 13(26%) of mothers between 21-25Yrs, 20(40%) of mothers between 26-35 Yrs and 11(22%) of mothers between 36-45 Yrs.
- ✍ Out of the 50 mothers 20(40%) had high school education, 16(32%) primary school education, 12(24%) of them had higher secondary education and 2(4%) of them had graduate level education.
- ✍ Out of the 50 mothers 29(58%) were unemployed/ house wives, 17(34%) were coolie and 4(8%) were private employees.

✍ Among 50 mothers 19(38%) of the mothers had monthly income between 4001-6000, 15(30%) had between Rs. 2001-4000, 10(20%) of the mothers had monthly income of above Rs. 6000 and 6(12%) of the mothers had family income below 2000. Out of the 50 samples majority 19(38%) belonged to nuclear family.

### **Findings Related to Effectiveness of Planned Teaching Programme**

Mothers had inadequate knowledge regarding Prevention and control of malaria.

- ✍ The mean percentage of overall pre test knowledge score was 28.28(32.88%)
- ✍ The mean percentage of overall post test knowledge score on malaria was 66.58(77.4%)
- ✍ The mean percentage of pretest knowledge score on malaria was 7.6(34.54%)
- ✍ The mean percentage of post test knowledge score on malaria was 17.4(79%)
- ✍ The mean percentage of pretest knowledge score on Prevention and control of malaria was 20.68(32.31%)
- ✍ The mean percentage of post test knowledge score on prevention and control of malaria was 49.36(77.12%)
- ✍ The post-test mean score percentage was higher than the pre-test mean score percentage.

- ✍ The mean knowledge score 28.28 with SD percentage 9.08% before the planned teaching programme had increased to the mean knowledge score 66.58 with 6.18% SD after planned teaching programme. It shows the effectiveness of planned teaching programme.
- ✍ By comparing the overall pre test and post test knowledge on prevention and control of malaria among the selected subjects, they had below average knowledge 42(84%) and it was increased to 41(82%) adequate and 9(18%) moderate level through the administration of planned teaching programme on prevention and control of malaria.
- ✍ By comparing the pre test and post test knowledge on malaria among mothers ,they had below average41(82%) and moderate level 9(18%) and it was increased to 39(78%) adequate and 11(22%) moderate level through the administration of planned teaching programme on prevention and control of malaria
- ✍ By comparing the pre test and post test knowledge on prevention and control of malaria among mothers, they had below average knowledge 42(84%) and moderate 8(16%) and it was increased to 44(88%) adequate and 6(12%) moderate level after the administration of planned Prevention and control of malaria.



✎ The paired 't' test was highly significant ( $p > 0.01$ ) and it indicates that the intervention was very effective in increasing knowledge on Prevention and control of malaria among mothers.

### **Findings related to the relationship between the knowledge levels of mothers with selected demographic variables**

The investigator tries to find out the relationship between the knowledge of mothers with age, education, occupation, family income, type of family, method of drainage system. The chi-square test was used to determine the statistical significance; it was found that the education, occupation, type of drainage, previous history of malaria and source of information were significantly associated and remaining variables such as age, family income, and type of family were not significantly associated with pre test knowledge.

The present study reveals that there was significant relationship between the knowledge of mothers regarding malaria with the selected demographic variables such as education, type of drainage, previous history of malaria in the family and source of information. But there was no significant relationship with age, occupation, type of family and family income

The present study reveals that there was no significant relationship between the knowledge of mothers regarding prevention and control of malaria with the selected demographic variables such as age, type of

family, type of drainage. But there was significant relationship with education, occupation, previous history and source of information.

## **CONCLUSION**

The present study reveals that the mothers were having below average level of knowledge regarding prevention and control of malaria 82% during pretest. The planned teaching programme was introduced to improve the knowledge of mothers and that showed significantly increase in knowledge on prevention and control of malaria. The paired 't' test was highly significant that shows that the planned teaching programme was found to be effective in improving the knowledge level of mothers regarding prevention and control of malaria.

## **NURSING IMPLICATIONS**

### **Nursing Practice**

Mothers are the key person for protecting the family members from any disease. The planned teaching programme / training programme by the health care personnel on prevention and control of malaria to the mothers will improve their knowledge regarding the Transmission, prevention and treatment that helps to achieve the prevention of malaria.

### **Nursing Education**

Malaria is considered a common condition affecting people from all over the world. In service education regarding prevention and control

of malaria may be planned to the nursing personnel especially at community health centres.

Conferences, workshops, seminars and symposium can be held for all health professionals and basic workers at village level in identifying the factors to assessment, diagnosis, treatment and prevention of malaria. Detailed chapter related to prevention and control of malaria can be included in nursing curriculum to improve the knowledge of students on malaria.

### **Nursing Administration**

The administrator should initiate health education programme in the community by utilizing the trained staff and encouraging them to involve in such activities.

Extend the role in strengthening and designing the primary health care services as per the felt needs of the community to bring health of future citizen. Regular follow up services are to be planned in an effective way to screen them to improve the peripheral approach.

Motivate the VHN's to diagnose and help in treatment of malaria. They should educate the communities in all aspects of prevention and control of malaria.

### **Nursing Research**

Nurse researcher should be motivated to conduct more studies on malaria.

Nurse researcher should develop concepts to tackle the problems that causing malaria.

Nurse researcher should develop and validate new strategies to improve the knowledge and awareness of the communities.

### **RECOMMENDATIONS**

6. The study can be replicated by using a larger sample there by findings can be generalized.
7. Comparative study may be conducted to find out similarities or difference in knowledge between urban and rural communities.
8. A study may be conducted to identify the factors which influence the spread of malaria among the people in the community.
9. A longitudinal study can be done on the public about prevention and control of malaria.
10. Mass and individual regional language health education campaign can be conducted.

### **SUMMARY**

The chapter dealt with summary major findings of the study conclusion, implications and recommendations.

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4. [www.malariasite.com](http://www.malariasite.com)
5. [www.mrcindia.org](http://www.mrcindia.org)
6. [www.nvbdc.gov.in](http://www.nvbdc.gov.in)
7. [www.onlinelibrary.wiley.com](http://www.onlinelibrary.wiley.com)
8. [www.paediatricinfectious-diseases.com](http://www.paediatricinfectious-diseases.com)
9. [www.searo.who.int](http://www.searo.who.int)
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## **APPENDIX - A**

### **LETTER SEEKING PERMISSION TO CONDUCT THE STUDY**

From

**MRS.K.MARAGATHAVALLI,**  
M.Sc (Nsg) II year  
Vivekanandha College of Nursing.  
Trichengodu.

To

THE MEDICAL OFFICER  
Govt. Hospital,  
Tiruchengode.

Sub: Letter seeking permission to conduct the study

Sir/Madam,

I am Mrs.K.Maragathavalli,II year M.Sc (Nsg) student of vivekanandha college of nursing,Elayampalayam,Trichengode have taken a project on **“A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON PREVENTION AND CONTROL OF MALARIA AMONG MOTHERS IN KARATTUPPALAYAM UNDER TIRUCHENGODE TALUK, NAMAKKAL DISTRICT, TAMIL NADU”** to be submitted to The TamilNadu Dr M.G.R. Medical University as a partial fulfilment for Master of Nursing Degree.

## **OBJECTIVES OF THE STYDY**

1. To assess the knowledge of mothers regarding prevention and control of malaria before administering teaching programme.
2. To develop and administer planned teaching programme on prevention and control of malaria.
3. To find out the effectiveness of planned teaching programme in improving the knowledge of mothers by post test.
4. To compare pretest and post test knowledge score of mothers on prevention and control of malaria.
5. To explore the relationship between pretest knowledge scores with selected demographic variables such as age, religion, education, occupation, type of family, family income, method of water storage, drainage system.

I would request you to kindly grant me permission to conduct the study karattupalayam area under Tiruchengode taluk and also issue necessary instruction to the mothers to extend their co operation to undertake my study successfully.

Thanking you

Yours faithfully,

Place: Tiruchengode

Date:

(K.Maragathavalli)

## APPENDIX – B

From

THE MEDICAL OFFICER

Govt. Hospital,

Tirucnengode.

Sub: Permission to conduct the study in Karattuppalayam under Tiruchengode taluk, **“A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON PREVENTION AND CONTROL OF MALARIA AMONG MOTHERS IN KARATTUPPALAYAM UNDER TIRUCHENGODE TALUK, NAMAKKAL DISTRICT, TAMIL NADU”**

With reference to the above letter, it has been informed that, Mrs. K. MARAGATHAVALLI II year M.Sc (N) student, Vivekanandha College of Nursing, Elayampalayam, is allowed to conduct the study on the above stated topic in karattuppalayam under Tiruchengode Taluk, Namakkal Dt.

With Thanks,

Yours sincerely

THE MEDICAL OFFICER

Govt. Hospital,

Tirucnengode.

Place:

Date:

## **APPENDIX - C**

### **LETTER SEEKING CONSENT FROM PARTICIPANTS**

Dear participant,

I, Mrs.K.Maragathavalli, II-Year, M.Sc(N)., student, Vivekanandha College of Nursing, Tiruchengode, is interested to assess the knowledge level of mothers regarding prevention and control of malaria and provide teaching programme to improve the knowledge. The information which you are giving will be kept confidential and will be used only for this study. Please participate in this programme by answering my questions honestly and state your willingness to participate in this study.

Thanking you,

Yours Sincerely

### **CONSENT FROM THE PARTICIPANTS**

I understand the purpose of this study and I am willing to participate in this study.

Signature

**APPENDIX - D**  
**LETTER FOR VALIDATION OF THE TOOL**

From

**MRS.K.MARAGATHAVALLI,**  
II year M.Sc (Nsg),(Speciality-Community Health Nursing),  
Vivekanandha College of Nursing.  
Trichengode.

To

Through

The Principal,  
Vivekanandha College of Nursing,  
Elayampalayam, Tiruchengode.

**Sub: Request for the content validation of the tool.**

Sir/Madam,

I Mrs.K.Maragathavalli,II year M.Sc (Nsg) student of Vivekanandha College of Nursing,Elayampalayam,Tiruchengode have taken a project on **“A STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON PREVENTION AND CONTROL OF MALARIA AMONG MOTHERS IN KARATTUPPALAYAM UNDER TIRUCHENGODE TALUK, NAMAKKAL DISTRICT, TAMIL NADU”** to be submitted to The TamilNadu Dr M.G.R. Medical University as a partial fulfilment for Master of Nursing Degree.



## **OBJECTIVES OF THE STYDY**

1. To assess the knowledge of mothers regarding prevention and control of malaria before administering teaching programme.
2. To develop and administer planned teaching programme on prevention and control of malaria.
3. To find out the effectiveness of planned teaching programme in improving the knowledge of mothers by post test.
4. To compare pretest and post test knowledge score of mothers on prevention and control of malaria.
5. To explore the relationship between pretest knowledge scores with selected demographic variables such as age, religion, education, occupation, type of family, family income, method of water storage, drainage system.

Thanking you,

Yours faithfully,

### **Enclosures:**

1. Certificate of validation
2. Structured questionnaire
3. Score Key
4. Evaluation checklist

**APPENDIX - E**  
**SEMISTRUCTURED INTERVIEW SCHEDULE**

**PART-I**

**SOCIO DEMOGRAPHIC DATA**

**1. Age**

- 1.1) 15-25 Yrs ( )
- 1.2) 26-35 yrs ( )
- 1.3) 36-45 yrs ( )

**2. Religion**

- 2.1) Hindu ( )
- 2.2) Christian ( )
- 2.3) Muslim ( )
- 2.4) Others ( )

**3. Marital status**

- 3.1) Single ( )
- 3.2) Married ( )
- 3.3) Widowed/separated ( )

**4. Educational Qualification**

- 4.1) Illiterate ( )
- 4.2) Primary school ( )
- 4.3) High school ( )
- 4.4) Higher secondary ( )
- 4.5) Graduate ( )
- 4.6) any technical course (specify) ( )

**5. Occupation**

- 5.1) Collie/Farmer ( )
- 5.2) Business ( )
- 5.3) Employed (Private/government) ( )
- 5.4) Unemployed ( )

**6. Family income**

- 6.1) Below Rs 2000/month ( )
- 6.2) Rs 2001-4000/month ( )
- 6.3) Rs 4001-6000/month ( )
- 6.4) Above Rs 6001/month ( )

**7. Type of family**

- 7.1) Nuclear family ( )
- 7.2) Joint family ( )
- 7.3) Extended family ( )

**8. Type of house**

- 8.1) Hut ( )
- 8.2) Pucka ( )
- 8.3) Kutcha ( )
- 8.4) Mixed ( )

**9. How many windows are present in the house?**

- 9.1) One ( )
- 9.2) Two ( )
- 9.3) Three and above ( )
- 9.4) None ( )

**10. Number of persons living in the family.**

- 10.1) Two members ( )
- 10.2) Three members ( )
- 10.3) above three members ( )

**11. Number of children in the family.**

- 11.1) One ( )
- 11.2) Two ( )
- 11.3) Three and above ( )

**12. Source of drinking water.**

- 12.1) Tap water ( )
- 12.2) well water ( )
- 12.3) Bore well water ( )
- 12.4) any other specify ( )

**13. Method of water storage.**

- 13.1) Earthenware ( )
- 13.2) Vessels ( )
- 13.3) Overhead tank ( )
- 13.4) any other specify ( )

**14. Type of drainage**

- 14.1) Open ( )
- 14.2) Closed ( )
- 14.3) Directed to kitchen garden ( )
- 14.5) Recycling ( )

**15. Is there any stagnation of water near your house?**

- 15.1) Yes ( )
- 15.2) No ( )

**16. Have any of your family members had malaria?**

- 16.1) Yes ( )
- 16.2) No ( )

**17. From whom you have received information about malaria?**

- 17.1) TV/Radio ( )
- 17.2) Books/Magazines/Newspapers ( )
- 17.3) Friends/Relatives ( )
- 17.4) Health professionals. ( )

**PART-II**  
**SECTION-A**  
**KNOWLEDGE OF MOTHERS REGARDING MALARIA**

**18. What is malaria?**

- 18.1) A fever caused by mosquito bite. ( )
- 18.2) A non infectious disease. ( )
- 18.3) A chronic disease with no cure. ( )
- 18.4) A hereditary disease ( )

**19. What are the causes and risk factors for malaria?**

- 19.1) Bite of parasite infected mosquitoes. ( )
- 19.2) Water stagnation. ( )
- 19.3) preservation of water in vessels and tank for longer duration. ( )
- 19.4) Poor sanitation. ( )

**20. What is the mode of transmission of malaria?**

- 20.1) through direct contact with the patient. ( )
- 20.2) through transfusion of blood. ( )
- 20.3) through mosquito bite. ( )
- 20.4) through sharing clothes and utensils. ( )

**21. What are the major signs and symptoms of malaria?**

- 21.1) Intermittent fever with rigour ( )
- 21.2) Nausea and vomiting ( )
- 21.3) Hot flushes with headache ( )
- 21.4) don't know ( )

**22. What are the common investigations to diagnose malaria?**

- 22.1) Blood smear examination. ( )
- 22.2) Urine examination. ( )
- 22.3) Sputum examination. ( )
- 22.4) Don't know. ( )

**23. When the blood smear will be taken?**

- 23.1) Smear taken just before the onset of fever. ( )
- 23.2) Smear taken during fever. ( )
- 23.3) smear taken after the fever. ( )
- 23.4) Don't know. ( )

**24. What type of diet to be given to the patients with malaria?**

- 24.1) Solid diet. ( )
- 24.2) Semisolid diet. ( )
- 24.3) Liquid diet. ( )
- 24.4) Don't know. ( )

**25. What are the complications of malaria?**

- 25.1) Cerebral malaria. ( )
- 25.2) Acute renal failure. ( )
- 25.3) Liver damage. ( )
- 25.4) Anaemia. ( )

**26. What is relapse?**

- 26.1) Complete cure from malaria. ( )
- 26.2) Developing resistance to malaria. ( )
- 26.3) Recurrence of malarial symptoms after primary attack. ( )
- 26.4) Don't know ( )

**27. What are the reasons to develop relapse?**

- 27.1) Mosquito bite. ( )
- 27.2) Not completing treatment regimen. ( )
- 27.3) Parasites persisting in liver. ( )
- 27.4) Don't know. ( )

**SECTION-B**  
**KNOWLEDGE OF MOTHERS REGARDING**  
**PREVENTION AND CONTROL OF MALARIA**

**28. What are the measures available to treat malaria?**

- 28.1) Supportive measures ( )
- 28.2) Antimalarial drugs ( )
- 28.3) Chemotherapy. ( )
- 28.4) Don't know. ( )

**29. Which is the common antimalarial drug?**

- 29.1) Chloroquine ( )
- 29.2) Primaquine ( )
- 29.3) Clindamycine ( )
- 29.4) Don't know. ( )

**30. What is the dosage of chloroquine?**

- 30.1) 100 mg ( )
- 30.2) 150 mg ( )
- 30.3) 200 mg ( )
- 30.4) don't know ( )

**31. How long the drugs are administered to the malarial patients?**

- 31.1) 12 days ( )
- 31.2) 13 days ( )
- 31.3) 14 days ( )
- 31.4) don't know. ( )

**32. What are the side effects of chloroquine?**

- 32.1) Nausea and vomiting ( )
- 32.2) Pruritis. ( )
- 32.3) Blurred vision. ( )
- 32.4) don't know. ( )

**33.What are the steps available to manage nausea and Vomiting?**

- 33.1) Bed rest. ( )
- 33.2) Administering more fluids. ( )
- 33.3) Administering antiemetics. ( )
- 33.4) don't know. ( )

**34.Why chloroquine should not be administered in empty stomach?**

- 34.1) It increases gastrointestinal disturbance. ( )
- 34.2) It decreases the food metabolism. ( )
- 34.3) To avoid toxicity. ( )
- 34.4) don't know. ( )

**35.What are the measures available to reduce fever?**

- 35.1) Complete bedrest. ( )
- 35.2) Blankets during rigor. ( )
- 35.3) Cold compress during hot stage. ( )
- 35.4) Administering antipyretics. ( )

**36.What is presumptive treatment?**

- 36.1) Treating all suspected and clinical cases ( )
- 36.2) Treating all fever cases. ( )
- 36.3) Treatment after microscopic confirmation of species. ( )
- 36.4) don't know. ( )

**37.What is radical treatment?**

- 37.1) Survey of the malarial cases ( )
- 37.2) Treating all fever cases ( )
- 37.3) Treatment after microscopic confirmation of malaria. ( )
- 37.4) don't know. ( )

**38.What are the measures used to prevent malaria?**

- 38.1) Prevention of man vector contact. ( )
- 38.2) Prevention of mosquito breeding ( )
- 38.3) Destruction of mosquito larvae ( )
- 38.4) Antiadult measures. ( )



**39. What are the measures used to prevent man vector contact?**

- 39.1) Closing the doors and windows in evening. ( )
- 39.2) Using mosquito repellents and vaporizers. ( )
- 39.3) Protective clothing. ( )
- 39.4) Using mosquito nets. ( )

**40. what is mosquito repellents?**

- 40.1) Natural and chemical substances used to repel the mosquitoes ( )
- 40.2) Spraying chemicals on the mosquitoes. ( )
- 40.3) Killing mosquitoes ( )
- 40.4) don't know. ( )

**41. What are the natural repellents?.**

- 41.1) Citronella oil. ( )
- 41.2) Lemongrass oil. ( )
- 41.3) Neem oil. ( )
- 41.4) don't know ( )

**42. What are the chemical repellents?**

- 42.1) Mosquito coils(Martin) ( )
- 42.2) Odomos ( )
- 42.3) Dettol ( )
- 42.4) don't know ( )

**43. What type of clothes are used for individual protection?**

- 43.1) Long sleeved shirts and long pants. ( )
- 43.2) Clothes on thick materials. ( )
- 43.3) Socks. ( )
- 43.4) don't know. ( )

**44. What type of vaporizers are available?**

- 44.1) Electronic mats (Good night) ( )
- 44.2) Liquid vaporisers (All out) ( )
- 44.3) Savlon ( )
- 44.4) don't know. ( )

**45. What are the measures available to prevent and control mosquito breeding?**

- 45.1) Early diagnosis and treatment. ( )
- 45.2) do not keep the waste items near the house that can stagnate water ( )
- 45.3) close the pits and depressions near the house. ( )
- 45.4) Adopt measures to control mosquito breeding. ( )

**46. What are all the measures to control the larvae?**

- 46.1) Source reduction of mosquitoes ( )
- 46.2) Using larvicides. ( )
- 46.3) Introducing gambusia fishes into water sources. ( )
- 46.4) don't know. ( )

**47. What are all the source reduction measures to control mosquito breeding?**

- 47.1) Reducing mosquito breeding sites. ( )
- 47.2) Using insecticides. ( )
- 47.3) Environmental sanitation. ( )
- 47.4) don't know. ( )

**48. What are all the available larvicides and insecticides to control the spread of malaria?**

- 48.1) Pyrethrum. ( )
- 48.2) Abate. ( )
- 48.3) Malathion. ( )
- 48.4) Paris green. ( )

**49. What is the use of larvicides and insecticides?**

- 49.1) Used to destroy the mosquito larvae. ( )
- 49.2) Used to destroy the adult mosquitoes. ( )
- 49.3) Used to reduce the mosquito breeding sites. ( )
- 49.4) Don't know. ( )

**50. How the larvicides and insecticides are used?**

- 50.1) Sprinkling. ( )
- 50.2) Dusting. ( )
- 50.3) Spraying. ( )
- 50.4) Don't know. ( )

**51. What are all the measures used to control adult mosquitoes ?**

- 51.1) Personal protection. ( )
- 51.2) Indoor insecticidal spraying. ( )
- 51.3) Outdoor insecticidal spraying. ( )
- 51.4) Environmental sanitation. ( )

**APPENDIX - F**  
**EVALUATION CRITERIA CHECKLIST FOR THE**  
**VALIDATION OF THE TOOL**

**Instructions**

The expert is requested to go through the content and give your opinion in the column given in the criteria table. If the tool is not meeting the criteria please give your valuable suggestion in the remarks column.

<b>S.NO</b>	<b>CRITERIA</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
1	Baseline data The Items on baseline data cover all the aspects necessary for the study			
2	Semistructured interview schedule on knowledge. a) Relevent to the topic of the study b) Content organisation c) Language is simple and easy d) Clarity of items used e) Anyother suggestions.			

## APPENDIX - G

### CERTIFICATE OF VALIDATION

This is to certify that

Tool: Semi structured interview schedule consists of two parts

Part I: Socio demographic variables

Part II:

Section A: Knowledge on malaria

Section B: Knowledge on prevention and control of malaria

Prepared by **Mrs.K. MARAGATHAVALLI**, II year M.Sc (Nsg)  
student of Vivekanandha College of Nursing, to be used in her study  
titled of **“A STUDY TO EVALUATE THE EFFECTIVENESS  
OF PLANNED TEACHING PROGRAMME ON PREVENTION  
AND CONTROL OF MALARIA AMONG MOTHERS IN  
KARATTUPPALAYAM UNDER TIRUCHENGODE TALUK,  
NAMAKKAL DIST, TAMILNADU”** has been validated by me.

Signature

Name:

Designation:

Date:

### SCORE KEY

Q.NO	CORRECT RESPONSE	SCORE
<b>SECTION - A</b>		
18	18.1	1
19	19.1,19.2,19.3,19.4	4
20	20.2,20.3	2
21	21.1,21.2,21.3	3
22	22.1	1
23	23.1,23.2	2
24	24.3	1
25	25.1,25.2,25.3,25.4	4
26	26.3	1
27	27.1,27.2,27.3	3
<b>SECTION - B</b>		
28	28.1,28.2	2
29	29.1,29.2	2
30	30.2	1
31	31.3	1
32	32.1,32.2,32.3	3
33	33.1,33.2,33.3	3
34	34.1	1
35	35.1,35.2,35.3,35.4	4
36	36.1	1
37	37.2	1
38	38.1,38.2,38.3,38.4	4
39	39.1,39.2,39.3,39.4	4
40	40.1	1
41	41.1,41.2,41.3	3
42	42.1,42.2	2
43	43.1,43.2,43.3	3
44	44.1,44.2	2
45	45.1,45.2,45.3,45.4	4
46	46.1,46.2,46.3	3
47	47.1,47.2,47.3	3
48	48.1,48.2,48.3,48.4	4
49	49.1,49.2,49.3	3
50	50.1,50.2,50.3	3
51	51.1,51.2,51.3,51.4	4
<b>Total Score</b>		<b>86</b>

## gFj p -I

### 1/ taJ

- 1/ 1) 15 - 20 tUIk;
- 1/ 2) 26 - 35 tUIk;
- 1/ 3) 36 - 45 tUIk;

### 2/ kj k;

- 2/ 1) , eJ
- 2/ 2) fwpj th;
- 2/ 3) , \* yhkph;
- 2/ 4) , j u kj ' fS;

### 3/ j pUkz epi y

- 3/ 1) j pUkz khfhj th;
- 3/ 2) j pUkz khdth;
- 3/ 3) tj i t - j dj J thHgth;

### 4/ fy;tj j Fj p

- 4/ 1) goggwptwwth;
- 4/ 2) MukgggSSp
- 4/ 3) cahepi yggSSp
- 4/ 4) nkyepi yggSSp
- 4/ 5) gl j hhp
- 4/ 6) kww bj hHpy;fy;tp

### 5/ bj hHpy;

- 5/ 1) T yp (m) tptrhak;
- 5/ 2) tphghuk;
- 5/ 3) CHph; (muR - j dphh)
- 5/ 4) nti y , yyhj th;

### 6/ FLkg tUkhdk;

- 6/ 1) khj k; &. 2000fF fH;
- 6/ 2) khj k; &.2001- &.4000 ti u
- 6/ 3) khj k; &. 4001- &.6000 ti u
- 6/ 4) khj k; &. 6001fF nky;

### 7/ FLkgk;

- 7/ 1) rWFLkgk;
- 7/ 2) TI;LFLkgk;
- 7/ 3) bghpa FLkgk;

- 8/ vej ti fahd tL  
8/ 1) Foi r tL  
8/ 2) fhdfphl; tL  
8/ 3) XI L tL  
8/ 4) , twwpd; fyi t

- 9/ fhwrwhl; trj pf; fhf tllpy; css \$ddy;  
9/ 1) xdW  
9/ 2) , uz l  
9/ 3) %dW (m) %dwpwF nky;  
9/ 4) , twwp; VJk; , yi y

- 10/ tllpy; trpgnghhp; vz z pfi f  
10/ 1) , uz l eghfs;  
10/ 2) %dW eghfs;  
10/ 3) %dW ngUfFk; nky;

- 11/ tllpy; css FHei j fsp; vz z pfi f  
11/ 1) xdW  
11/ 2) , uz l  
11/ 3) %dwpwFk; nky;

- 12/ Foeh; Mj huk;  
12/ 1) FHha; eh;  
12/ 2) f; z wWeh;  
12/ 3) MHFHha; Foeh;  
12/ 4) ntW Vj htJ

- 13/ j z z h; nrkpfFk; Ki w  
13/ 1) kz ghi dfs;  
13/ 2) ghj j μ' fs;  
13/ 3) nkyepi y bj hl p  
13/ 4) ntW Vj htJ

- 14/ fHpteh; btspawWk; Ki w  
14/ 1) j pvej btsp  
14/ 2) %oaJ  
14/ 3) fha; fwp nj hl ; j j pwF gadgLj ; j y;  
14/ 4) kWRHw; rp



15/ tll'pd; mUf'py; j z z h; nj ' fpa'ssj h?

15/1) Mk;

15/2) , yi y

16/ c' fs; tll'py; cssth'fSfF knyhpah te;J ssj h?

16/ 1) Mk;

16/ 2) , yi y

17/ knyhpah gwwpa jfty'fi s e'p fs; ahhp'k; , Ue;J  
mwpej h'fs?

17/ 1) bj hi yf;fhl'rp - thbdhyp

17/ 2) gj j fk; - tpskgu' fs; - braj gj j hs;

17/ 3) ez gh'fs; - cwt'pdh'fs;

17/ 4) Rfhj hu gz pahsh'fs;

gFj p - II  
gphpt[ - m  
knyhpah gwwpa mwptj j pvd;

18/ knyhpah vdwby; vdd?

18/ 1) bfhRf;foapdy; VwgLk; fharry;

18/ 2) bj hwWneha; myy

18/ 3) eZ j fhy. Fz ggLj j Koahj neha;

18/ 4) gukgi u neha;

19/ knyhpah t p; fhd fhuz k; vdd?

19/ 1) xLz z p ghj pf;fggl j bfhR foj j y;

19/ 2) eh; nj ' Fj y;

19/ 3) ghj j μ' fs; kwWk; bj hl p f s y; mj pf ehl f S f F

el u nrkj j i t j j y;

19/ 4) Rfhj hu Fi wghL

20/ knyhpah xUthpl kpUe;J kwbwhUtUfF gut [tj w;fhd  
tHpKi wfs; vdd?

20/1) neuoj ; bj hl hgpd; %yk;

20/2) knyhpah nehahs p f s p d; r p Weh; kwWk; , u j j j j p d;

%yk;

20/3) bfhRf;foapd; %ykhf

20/4) nehahs p f s; gadgLj j pa Mi l fs; kwWk;

ghj j μ' fs; %ykhf

21/ knyhpah t p d; Kf; fpa mwpFw p f s; ahi t?

21/1) t p l t p l fharry; kwWk; F s p h Ruk;

21/2) Fkl j y; kwWk; thej p

21/3) j i y t y p kwWk; c l y r p t j j y;

21/4) bj hpahJ

22/ knyhpahi t fz j w p a k; ghprhj i d Ki wfs; ahi t?

22/ 1) , u j j g; ghprhj i d

22/ 2) r p Weh; ghprhj i d

22/ 3) v r r y; ghprhj i d

22/ 4) bj hpahJ

23/ knyhpahi t cWj pbraa vgbghGJ , uj j khj hp vLff  
ntz Lk?

23/1) fharry; tUtj wF rwW Kdg[

23/2) fharrypd; nghJ

23/3) fharrYffG; gpwF

23/4) bj hpahJ

24/ knyhpah nehahspFF Vww cz tKi w vJ?

24/1) j pl cz t[

24/2) bkdi kahd cz t[

24/3) j put cz t[

24/4) bj hpahJ

25/ knyhpahtpd; gpd;tpi stffs; ahi t?

25/1) %i s ghj pgg[

25/2) rWwLuf ghj pgg[

25/3) fyyly; ghj pgg[

25/4) , uj j nrhi f

26/ knyhpah kWtut[ vdwhy; vdd?

26/1) knyhpah KGi kahf Fz ki lj y;

26/2) knyhpah vj pgg[ rfj p mj pfhj j y;

26/3) Kj y; j hfFj Yff gpwF kLz Lk; knyhpah  
mwFwffs; tUtJ

26/4) bj hpahJ

27/ knyhpah kWtutpwfhd fhuz ' fs; ahi t?

27/1) bfhRf;fo

27/2) kUe;J fi s Ki wahf vLj ;J f; bfhsshkypUggJ

27/3) knyhpah xl;Lz z pfs; fyylypy; , UggJ

27/4) bj hpahJ

ghpt[ - M

28/ knyhpahi t Fz ggLjj cj tk; tHpKi wfs; ahi t?

28/ 1) Mj uthd Ki wfs;

28/ 2) knyhpah vj pgg[ khj j pi ufs;

28/ 3) fhkxhj ugp

28/ 4) bj hpahJ

29/ knyhpah vj phgg[ khj j pi u vJ?

29/1) FnshnuhFapd;

29/2) gpi ukhFapd;

29/3) fpsz j hi krpd;

29/4) bj hpahJ

30/ FnshnuhFapd; khj j pi uapd; mst[ vdd?

30/1) 100 kp/fp/

30/2) 150 kp/fp/

30/3) 200 kp/fp/

30/4) bj hpahJ

31/ knyhpah khj j pi ufi s vtst[ ehl fs; vLj ;J bbfhss  
ntz jk?

31/1) 12 ehl fs;

31/2) 13 ehl fs;

31/3) 14 ehl fs;

31/4) bj hpahJ

32/ knyhpah khj j pi ufspd; gfft pi st fs; vdd?

32/1) Fkl j y; thej p kwWk; tapwWtyp

32/2) mhgg[

32/3) k' fyhd ghhi t

32/4) bj hpahJ

33/ Fkl j y; kwWk; thej pi a rkhs pf Fk; Ki wfs; ahi t?

33/1) KG Xat[

33/2) mj pfkhf eil u vLj ;J f; bfhss Sj y;

33/3) thej p j Lgg[ khj j pi ufs;

33/4) bj hpahJ

34/ FnshnuhFapd; khj j pi ui a Vd; btWk; tapwWpy; vLj ;J f;  
bfhss TIhJ?

34/1) Fly; tapW cghi j i a mj pfhpf Fk; vdgj hy;

34/2) cz t[ \$uz j i j Fi wf Fk; vdgj hy;

34/3) erRj j di ki a Fi wggj wf hf

34/4) bj hpahJ

- 35/ fharri y Fi wggj wfhd tHkKi wfs; ahi t?  
 35/1) KGi kahd Xat[  
 35/2) FshRuj j pdnghJ fkgsp cgnahfij j y;  
 35/3) clybtggepi y mj pfhpfFkngghJ FSi kahd eUhy;  
 xjjlk; bfhLjj y;  
 35/4) fharry; vj fhgg[ khj j pi ufs; bfhLjj y;
- 36/ af rpfri r vdwwhy; vdd?  
 36/1) renj fj j pWFhpa nehahspfS fF khj j pi u  
 bfhLjj y;  
 36/2) fharry; cssthfS fF klLk; khj j pi u bfhLjj y;  
 36/3) knyhpahi t cWj p braj gpd; khj j pi u bfhLjj y;  
 36/4) bj hpahJ
- 37/ gUz rpfri r vdwwhy; vdd?  
 37/1) knyhpah nehahspfi s fz fbfLjj y;  
 37/2) mi djJ fharry; nehahspfS fFk; khj j pi u  
 bfhLjj y;  
 37/3) knyhpahi t cWj p braj gpd; khj j pi u bfhLjj y;  
 37/4) bj hpahJ
- 38/ knyhpahi t j LfFk; Ki wfs; vdd?  
 38/1) Ra ghJ fhgg[ Ki wfs;  
 38/2) bfhRf;fspd; cwggj j pi a j Ljj y;  
 38/3) bfhR g[Gf;fi s mHij j y;  
 38/4) tshrrpai lej bfhRf;fi s flLggLjJj y;
- 39/ Ra ghJ fhgg[ Ki wfs; ahi t?  
 39/1) khi y neuj j py; fj t[ kwWk; \$ddy;fi s mi ljj y;  
 39/2) bfhR tpu pfs; kwWk; j put bfhR mHggghd;fi s  
 gadgLjJj y;  
 39/3) ghJ fhggghd Jz pfi s mz ij y;  
 39/4) bfhRti yfi s cgnahfij j y;
- 40/ bfhR tpu pfs; vdwwhy; vdd?  
 40/1) bfhRf;fi s tpu p moggj wfhf gadgLj j ggLk;  
 , awi fahd kwWk; , urhad bghUl;fs;  
 40/2) , urhad' fi s bfhRf;fspd; kU bj sij j y;  
 40/3) bfhRf;fi s bfhy;Yj y;  
 40/4) bj hpahJ

41/ , awi fahd bfhR tpułofs; ahi t?

41/1) rpl nuhbddyh vz bz a;

41/2) bykdfpuh\* ; vz bz a;

41/3) ntgbgz bz a;

41/4) bj hphJ

42/ , urhad bfhR tpułofs; ahi t?

42/1) bfhRthj j r; RUS;

42/2) Xnl hkh\* ;

42/3) bl l j hy;

42/4) bj hphJ

43/ vej tj khd Mi l fi s bfhRffspk; , Ue;J  
ghJ fhggj wfhf mz pa ntz jk?

43/1) i ffi s ki wfFk; r l j l fs; kwWk; eBkh  
fhy; r l j l fs;

43/2) ml hj j pahd Jz payhd Mi l fs;

43/3) fhYi wfs;

43/4) bj hphJ

44 j put bfhR tpułofs; ahi t?

44/1) vyf l uhdpf; nkl; (Fl; i el)

44/2) j put ntgi u\* h; (My; mt l)

44/3) nrtyhd;

44/4) bj hphJ

45/ knyhpahi t j Lj j y; kwWk; fl LggLj ; J tj wfh  
tHpKi wfs; ahi t?

45/1) Kcdj hf neha; fz Lgpof;fggl L rpfri r th' Fj y;

45/2) t l od; mUfpy; css j z z l u nj ffp i tfFk;  
cgnahfkww bghUl;fi s effFj y;

45/3) gss' fi s %Lj y;

45/4) bfhR cwjj pi a fl LggLj ; k; Ki wfi s  
nkwbfhs;Sj y;

46/ bfhR yhh;thf;fi s fl LggLj ; k; Ki wfs; ahi t?

46/1) bfhRffspd; cUthffji j Fi wjj y;

46/2) yhh;th mHggghd;fi s gadgLj ; Jj y;

46/3) fkgirpah kb;fi s ehapi yfspy; t l j y;

46/4) bj hphJ

47/bfhRf;fspd; cUthff;j j fl;LggLj;Jk; tH;Ki wfs;  
ahi t?

47/1) bfhR cwjj;jahFk; , l;j;j Fi wjj;y;

47/2) g(r;rf;bfhyypfi s cgnahf;j;j;y;

47/3) RwWgg;w Rfhj hu nkkghL

47/4) bj h;ahJ

48/ g(r;rf;bfhyypfs; kwWk; yhh;th mHggghd;fs; ahi t?

48/1) i gh;j uk;

48/2) mngl;

48/3) khyj;j;ahd;

48/4) ghh;\* ; f;hd;

49/ g(r;rf;bfhyyp kwWk; yhh;th mHggghd;fspd; cgnahfk;  
vdd?

49/1) bfhR g[Gf;fi s mH;j;j;y;

49/2) bfhRf;fi s mH;j;j;y;

49/3) bfhR cwjj;jahFk; , l' ;fi s Fi wjj;y;

49/4) bj h;ahJ

50/ g(r;rf;bfhyyp kwWk; yhh;th mHggghd;fs; vt;thW kny;ah  
neha; guti y fl;LggLj;j cgnahfgg;Lj;jggLfpd;wJ?

50/1) bj s;j;j;y;

50/2) J}t;j;y;

50/3) gi fahftk;

50/4) bj h;ahJ

51/ tshrr;pai lej bfhRf;fi s fl;LggLj;Jk; Ki wfs; ahi t?

51/1) Ra ghJ fhggl

51/2) tll;pd; csg;wk; g(r;rf;bfhyyp kUej;pi d bj s;j;j;y;

51/3) tll;pwF btsna g(r;rf;bfhyyp kUej;pi d bj s;j;j;y;

51/4) Rfhj hukhd RwWgg;uk;

## **APPENDIX - H**

# **PLANNED TEACHING PROGRAMME ON PREVENTION AND CONTROL OF MALARIA**

TOPIC	: Prevention and control of malaria.
Group	: Mothers who are having children.
TIME	: 30 Minutes
TEACHING METHODS	: Lecture cum discussion
MEDIUM OF INSTRUCTION	: Tamil
AUDIO VISUAL AIDS	: Chart, Flash Cards, Pamphlet, Flip Chart, Real items.



### **CENTRAL OBJECTIVES:**

The mothers will gain knowledge regarding prevention and control of malaria and adopt the preventive measures in their houses to prevent and control the spread of malaria.

### **SPECIFIC OBJECTIVES:**

At the end of the teaching programme, mothers will be able to,

- Define malaria
- Enumerate the causes and risk factors for malaria
- Describe the modes of transmission of malaria
- Explain the investigations for malaria
- Describe the treatment of malaria.
- Explain about the malarial relapse.
- Explain about the prevention and control of malaria
- Mention the complications of malaria.

Time	Specific objective	Content	Teachers activity	Learners activity	AV aids	Evaluation
	<p>Define malaria</p> <p>Enumerate the causes and risk factors of malaria.</p>	<p>Malaria is a fever caused by infection with parasites of genus plasmodium and transmitted to man by mosquito bite.</p> <p><b>CAUSES OF MALARIA</b></p> <ul style="list-style-type: none"> <li>✍ Malaria is caused by parasites of plasmodium genus micro organism.</li> </ul> <p>There are two types of plasmodium seen in india</p> <ul style="list-style-type: none"> <li>✍ Plasmodium Vivax</li> <li>✍ Plasmodium Falciparum</li> </ul> <p><b>RISK FACTORS FOR MALARIA</b></p> <ul style="list-style-type: none"> <li>✍ Water stagnation</li> <li>✍ Deforestation</li> <li>✍ Migration of People</li> <li>✍ Increased rainfall causing more mosquito breeding sites</li> <li>✍ Preservation of water in tanks, Vessels for a longer duration</li> <li>✍ Poor environmental sanitation</li> </ul>	<p>Defining</p> <p>Explaining</p>	<p>Listening</p> <p>Listening</p>	<p>Chart (mosquito)</p> <p>Flash Cards (Risk factors for Malaria)</p>	<p>What is Malaria?</p>

	Describe the mode of transmission of malaria	<p><b>MODE OF TRANSMISSION OF MALARIA</b></p> <ul style="list-style-type: none"> <li>&gt; Malaria is transmitted by the bite of infected female mosquitoes.</li> <li>&gt; Through blood and organ transplantation,</li> <li>&gt; Through sharing of needles,</li> <li>&gt; From an infected mother to newborn. But it is rare.</li> </ul>	Explaining	Listening		What is the mode of transmission of malaria?
	List the signs and symptoms of malaria	<p><b>SIGNS &amp; SYMPTOMS OF MILD MALARIA</b></p> <ul style="list-style-type: none"> <li>✍ Intermittent fever with rigour.</li> <li>✍ Shivering followed by sweating</li> <li>✍ Hot flushes and head ache</li> </ul> <p><b>SIGNS AND SYMPTOMS OF CHRONIC MALARIA</b></p> <ul style="list-style-type: none"> <li>✍ Increased fever</li> <li>✍ Vomiting</li> <li>✍ Chronic diarrhea</li> <li>✍ Chronic dehydration</li> <li>✍ Anaemia and confusion</li> </ul>			Pamphlet (signs & symptoms of malaria)	List down the signs and symptoms of malaria?

	<p>Explain the investigations of malaria</p> <p>Describe the treatment of malaria</p>	<p><b>INVESTIGATIONS OF MALARIA</b></p> <ul style="list-style-type: none"> <li>✍ <b>Blood smear Examination</b>- Examination of blood smear under microscope will reveal the malaria parasite.</li> <li>✍ Smears are taken just before the onset of fever and during the fever</li> </ul> <p><b>TREATMENT OF MALARIA</b></p> <p><b>1. Presumptive treatment-</b></p> <p>All the fever cases are assumed due to malaria and administer a single dose tablet of chloroquine 150mg or according to age.</p> <table border="1" data-bbox="436 906 1171 1291"> <thead> <tr> <th>Age in years</th> <th>Chloroquine dose(150 mg base)</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>0-1</td> <td>75mg[half tab]</td> <td>Once daily</td> </tr> <tr> <td>1-4</td> <td>150mg[1 tab]</td> <td>Once daily</td> </tr> <tr> <td>4-8</td> <td>300mg[2 tab]</td> <td>Once daily</td> </tr> <tr> <td>8-14</td> <td>450mg[3 tab]</td> <td>Once daily</td> </tr> <tr> <td>14&amp;above</td> <td>600mg[4 tab]</td> <td>Once daily</td> </tr> </tbody> </table> <p>? The action of chloroquine is autodigestion of parasite cells and</p>	Age in years	Chloroquine dose(150 mg base)	Frequency	0-1	75mg[half tab]	Once daily	1-4	150mg[1 tab]	Once daily	4-8	300mg[2 tab]	Once daily	8-14	450mg[3 tab]	Once daily	14&above	600mg[4 tab]	Once daily	<p>Explaining</p> <p>Explaining</p>	<p>Listening</p> <p>Listening</p>	<p>Pamphlet (treatment of malaria)</p>	<p>When the blood smears have to be taken?</p> <p>What is the drug given in presumptive treatment?</p>
Age in years	Chloroquine dose(150 mg base)	Frequency																						
0-1	75mg[half tab]	Once daily																						
1-4	150mg[1 tab]	Once daily																						
4-8	300mg[2 tab]	Once daily																						
8-14	450mg[3 tab]	Once daily																						
14&above	600mg[4 tab]	Once daily																						

also it interference with the process of parasites.

? The dosage of chloroquine is 150 mg base.

**2.Radical treatment:** Treatment after microscopic confirmation of the species in the blood.

Age in years	Chloroquine (150 mg)						Primaquine 2.5 mg		
	1 Day		2 day		3 day		Mg	No.of tablets	Interval
	Dose mg	Interval	Dose mg	Interval	Dose mg	Interval			
0-1	75	Once daily	75	Once daily	37.5	Once daily	-	-	0
1-4	150	Once daily	150	Once daily	75	Once daily	2.5	1	Once daily
4-8	300	Once daily	300	Once daily	150	Once daily	5	2	Once daily
9-14	450	Once daily	450	Once daily	225	Once daily	10	4	Once daily
15 & above	600	Once daily	600	Once daily	300	Once daily	15	6	Once daily

Explaining

Listening

What are all the drugs given in radical treatment?

**Plasmodium falciparum**

Age	Chloroquine ( 150 mg base)				Primaquine (7.5 mg)	
	1 day	2 day	3 day	Interval	mg	Interval
0-1	75 (1/2)	75 (1/2)	37.5 (1)	Daily once	-	-
1-4	150(1)	150(1)	75(1/2)	Daily once	7.5	Daily once
4-8	300(2)	300(2)	150(1)	Daily once	15	Daily once
9-14	450(3)	450(3)	225 (1 1/2)	Daily once	30	Daily once
15 & above	600(4)	600(4)	300(2)	Daily once	14	Daily once

? The treatment is given for 14 days.

? Primaquine should not be given for children below one year and to the pregnant women.

The side effects of chloroquine are

? Nausea and vomiting

Explaining

Listening

What is the duration of the malarial treatment?

	<p>? Stomach ache</p> <p>? Purities</p> <p>? Blurred vision</p> <p>? Gastric irritation</p> <ul style="list-style-type: none"> <li>✍ The side effects usually disappear soon after the withdrawal of chloroquine</li> <li>✍ Chloroquine should be administered in empty stomach because it increases gastro intestinal disturbances.</li> </ul> <p><b><u>3.Supportive measures</u></b></p> <ul style="list-style-type: none"> <li>✍ Isolation of the patient</li> <li>✍ Complete bed rest</li> <li>✍ Apply cold compress and ice bags</li> </ul> <p>During shivering cover the patient with blankets and apply warmth with hot water bags</p> <ul style="list-style-type: none"> <li>✍ The patients clothing should wear light, loose, smooth and non irritating clothes during sweating.</li> <li>✍ change wet clothes, give a quick sponge and cover the patient. Put on clean dry clothes and cover the patient with light cotton blanket.</li> </ul>	Explaining	Listening	Chart (side effects of chloroquine)	What are the side effects of chloroquine
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	<ul style="list-style-type: none"> <li>✍ Give him sweet drinks {fruit juices} to treat fatigue.</li> <li>✍ Let the patient sleep and make him comfortable.</li> <li>✍ Since the digestive process are slowed down during malaria, the patients are given with liquid diet.</li> <li>✍ The patient has to take plenty of fluids that is 3000 ml in 24hrs to avoid dehydration because the patient loses large amount of fluid through sweating and vomiting.</li> <li>✍ If nausea and vomiting is not controlled the patient should be given with antiemetics.</li> </ul> <p><b><u>RELAPSE:</u></b> Relapse is the recurrence of malarial symptoms after primary attack.</p> <p><b><u>THE REASONS TO DEVELOP RELAPSE:</u></b></p> <ol style="list-style-type: none"> <li>1. Mosquito bite</li> <li>2. Not completing the treatment regimen</li> <li>3. Parasite persisting in liver</li> </ol> <p><b>PREVENTION OF MALARIA</b> The measures used to prevent malaria are</p> <ol style="list-style-type: none"> <li>1. <b>PERSONAL PROPHYLAXIS[ PREVENTION OF MAN/VECTOR CONTACT].</b></li> <li>2. <b>PREVENTION OF MOSQUITO BREEDING.</b></li> </ol>	Explaining	Listening		Why liquid diet is preferred during malarial fever?
		Discussing	Listening		What are the measures used to prevent malaria?



	<p><b>3. DESTRUCTION OF MOSQUITO LARVAE.</b></p> <p><b>4. ANTI ADULT MOSQUITO MEASURES.</b></p> <p><b>1. <u>PERSONAL PROPHYLAXIS</u></b> - protective measures adopted by individuals and families like using mosquito nets, repellents and protective clothings.</p> <p><b>Preventing the mosquitoes from entering the house:</b></p> <ul style="list-style-type: none"> <li>✍ Mosquitoes enter the house in the evenings but also early in the morning. To prevent the entering of mosquitoes the all the doors and windows kept closed during these hours.</li> <li>✍ Screening of windows with net are effective for preventing the entry of mosquitoes.</li> <li>✍ Mosquitoes hides in between the clothes and come out during night. so all the clothes and linen should be kept inside the wardrobes and cupboards.</li> </ul> <p><b>Protecting from mosquito bites:</b></p> <p>Mosquitoes bite human beings in the evenings with peak activity after midnight. Therefore protective measures should be used throughout this period.</p> <ul style="list-style-type: none"> <li>✍ <u>protective clothing</u></li> </ul>	Explaining	Listening	Flash cards (personal prophylaxis)	What is protective clothing?
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		<p>? Thick materials to avoid mosquitoes gaining access to the skin.</p> <p>? Wear long sleeved shirts, long pants and socks.</p> <p>✍ <u>mosquito repellants</u></p> <p>? These are substances applied to exposed skin or to clothing to prevent man/vector contact. The repellent only repels but does not kill mosquitoes.</p> <p>? Repellants are classified into two categories</p> <p>1.Natural repellants</p> <p>2.Chemical repellants</p> <p><u>Natural repellants:</u> essential oils from plant extracts</p> <p>1.citronella oil</p> <p>2.lemongrass oil</p> <p>3.neem oil</p> <p><u>Chemical repellants:</u></p> <p>1.DEET(N,N – diethyl-m-toluamide)</p> <p>2. permethrin is effective when impregnated in cloth.</p> <p>Products containing DEET are available in a variety of liquids,</p>	Explaining	Listening		What are all the natural repellants?
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lotions, sprays. the preparations contain 4-100% of DEET.

**APPLICATIONS OF REPELLANTS**

1. Apply during the biting time of mosquitoes
2. Avoid contact with eyes, nose, mouth, lips.
3. Don't spray on face.
4. Use enough repellents to cover exposed skin or clothing.
5. Avoid over application
6. Wash hands after application of repellents
7. Don't allow young children to use and don't use it on sensitive and damaged skin
8. Wash treated skin and clothing.
9. Repeated applications (3-4 hrs) needed in hot and humid climates.

✍ Insecticide vaporizers

These includes

1. Mosquito coils (martin)
2. Vaporizing mats (good night)
3. Liquid vaporizers (All out)

1. Mosquito coils

Used both in indoors and outdoors

One coil serves through the night

Explaining

Listening

Showing  
real items  
(coils, mats,  
vaporizers)

What is the  
commercial  
name of  
liquie  
vaporizers?

	<p>2.vaporizing mats and liquid vaporizers</p> <p>Insecticide mat is placed on an electrically heated grid,causing the insecticide to vaporize.</p> <p>✍ <u>Mosquito nets</u></p> <p>Best and safest means of protection against mosquitoes.</p> <p>Two types of nets are available</p> <p><b>1.Untreated nets</b></p> <p><b>2.Insecticide treated bed nets(ITNs)</b></p> <p>? <b>Untreated nets</b> - form a protective barrier against the persons.Net should be strong and with a mesh size no larger than1.5mm.Nets are tucked in under the mattress and there are no mosquitoes inside .Baby nets also available.</p> <p>? <b>Insecticide treated nets</b> – nets are impregnated with insecticides</p> <p>? Nets are treated at an interval of 6-12 months.</p> <p>? ITNs permit better ventilation and light than ordinary nets.</p> <p>Permethrin commonly used in ITNs.</p> <p><b><u>2.PREVENTION OF MOSQUITO BREEDING.</u></b></p> <p>? Throw out old tires, tin cans, empty bottles, jars, buckets, drums and broken vessels, tender coconut shells and other containers that</p>	Explaining	Listening		What is the use of mosquito nets?
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	<p>can stagnate water.</p> <ul style="list-style-type: none"> <li>? Avoid water stagnation on flat roofs and around the building structures.</li> <li>? Repair faulty septic systems.</li> <li>? Do not dump grass clippings, papers, polythene bags and other waste items in ditches.</li> <li>? Cover over head tanks and wells.</li> <li>? Close the pits and depressions near the house.</li> </ul> <p><b><u>3.DESTRUCTION OF MOSQUITO LARVAE:</u></b></p> <p>1.<b>Source reduction</b>– Eliminating the mosquito breeding sites,using insecticides and proper environmental sanitation.</p> <p>2.<b>Use of larvicides</b> - used to destroy the larvae in the breeding sites.</p> <p><u>Two types of larvicides are</u></p> <p>Chemical larvicides and biological larvicides</p> <p>☞ <b>Chemical larvicides</b> are</p> <p>Abate</p> <p>Malathion</p> <p>Pyrethrum and Paris green</p> <p>☞ Abate 500 EC [Themiphos] is used in water collections.</p>	Explaining	Listening		Why water should not be allowed to stagnate near the houses?
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		<ul style="list-style-type: none"><li>✍ Fenthion is also used in water collections</li><li>✍ 1% Paris green is prepared by combining with road dust, ash powder or charcoal powder and dusted on surface water to suffocate the larvae.</li><li>✍ Chemical larvicides have to be used twice a month.</li><li>✍ <b>Biological larvicides</b> - are larvicidal fishes. They eat up and destroy the mosquito larvae.</li><li>✍ Guppy, gambusia are larvivorous fishes.</li><li>✍ These fishes can be introduced into wells, tanks, ponds, lakes and other water sources.</li><li>✍ The fishes are available at municipal boards and urban area authorities.</li></ul> <p><b><u>4.ANTI ADULT MEASURES:</u></b></p> <p><b>1.Personal protection:</b></p> <ul style="list-style-type: none"><li>Protective clothing</li><li>Mosquito repellents</li><li>Insecticide vaporizers</li><li>Mosquito nets</li></ul> <p><b>2.Adult insecticidal sprays:</b></p> <ul style="list-style-type: none"><li>Application of insecticides in the form of fog or mist into the air.</li></ul>	Explaining	Listening		What is the use of larvicidal fishes?
			Explaining	Listening		What insecticide is used for indoor insecticidal spraying?

	<p>Mention the complications of malaria</p>	<p><b>Indoor spraying and outdoor spraying</b></p> <p><b>Indoor spraying</b> – spraying of the walls and other interior surfaces of the house by house hold aerosol sprays.</p> <ul style="list-style-type: none"> <li>? Doors and windows are kept closed for 5-10 mts after spraying.</li> <li>? Pyrethrum 2% is used for spraying</li> <li>? Malathion 25% also used.</li> <li>? Spraying repeated every six months</li> </ul> <p><b>Outdoor spraying</b> - sprays outside the house to kill the mosquitoes.</p> <ul style="list-style-type: none"> <li>? Insecticidal dispersion into air by portable spraying machines.</li> <li>? 95% undiluted malathion is used.</li> <li>? Repeated once a week.</li> </ul> <p><b>The insecticides are used by</b></p> <ul style="list-style-type: none"> <li>Sprinkling</li> <li>Dusting</li> <li>Spraying</li> </ul> <p><b>CONTROL OF MALARIA</b></p> <ul style="list-style-type: none"> <li>? Early diagnosis and treatment</li> <li>? Isolation of the malarial cases</li> </ul>	<p>Explaining</p>	<p>Listening</p>		<p>How the insecticides are used to control</p>
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? Report the cases to the health authorities

? Rigid anti mosquito sanitation.

### **COMPLICATIONS OF MALARIA**

? **Cerebral malaria:** The parasites affects the cerebrum and causes fits, confusion, paralysis

? **Liver damage:** The parasites causes Hepatomegaly and splenomegaly

? **Anaemia:** The parasites damages the red blood cells and causes anaemia and **acute renal failure**.

### **POINTS TO REMEMBER**

- ✍ Malaria can be fully cured by medicines if regular and complete treatment is given
- ✍ The complete course of medicines must be taken otherwise relapse may occur.
- ✍ Intermittent fever and rigour should be checked for malaria.
- ✍ Diagnosis and treatment of malaria are free of cost at all government health centres.

malaria?



**knyhpah Kdj Lgg[kwWk;fI Lgghl L Ki wfs;gwwpa  
toti kffggI fytp**

**knyhpah:**

knyhpah vdgJ gish! nkhoak;vdDk;xl LZ z paby;guggggLk;  
xU ti f fharry/, J bfhR Kyk;gut ffdwJ/

**knyhpah tUtj wfhd fhuz ' fs;:**

gish! nkhoak; vdDk; Ez z pa cahpdk; knyhpahi t  
VwgLj ;J ffwJ/ gish! nkhoak; ti ffsy; , uz L ti ffs;  
, ej phtpy;fhz ggLffwJ mi t :

1/ gish! nkhoak;i tthf! /

2/ gish! nkhoak;ghyrphuk/

**knyhpah tUtj wfhd fhuz pfs;:**

☞ eh;nj ' fpaUj j y/

☞ mj pfkhd ki HgbghHpt/

☞ bj hl o kwWk; ghj j p' ffsy; eZ l ehl fs; j z z ll u nj ffp  
i tj j y/

☞ Rfhj huk;Fi wghL/

☞ fhLfi smHj j y/

☞ kffs;, lk;td L , lk;khwp trj j y/

**knyhpah neha;gut[k;tj k;:**

? gish! nkhoak; ghj pffggI bfhR foggj pd; Kyk; knyhpah  
gut ffdwJ/

? cl ypy;knyhpah xl LZ z pcss , ujj j i j brYj ;J tj d;  
Kyk;kwWk; cl y; cWgg[khwW rpfri r Kykhft[k; knyhpah  
gut ffdwJ/

? Crpfi s gyh;ghp khwpf;bfhstj d;KyKk;

? knyhpah ghj pffggI j hapl kpUe;J FHej j fF gut ffdwJ/

**knyhpahtpd;mwFwps;:**

- 1/ FspUI d;Toa fharry;tp Ltp L tUj y/
- 2/ eLffk;bj hl he;J tphi t/
- 3/ j i yty/

**j Rpi knyhpahtpd;mwFwps;:**

- 1/ mj pfkhd fharry/
- 2/ thej /
- 3/ fLi kahd eh;, Hgg[
- 4/ , uj j nrhi f/
- 5/ FHggk/
- 6/ fLi kahd tapwWgnghfF/

**knyhahi t fz l wpa[;ghnrhj i dfs;:**

- ✍ , uj j j l ty; ghnrhj i d ? fharry; fz l thfspd; , uj j  
j l ty;khj pphi s nrfhj ; Ez nz hffpapy;Muhaj y/
- ✍ , uj j khj pps;fharry;tUtj wF Kdg[; fharrypd;nghJ  
vLffggLk/

**knyhah rpfri r Ki wfs;:**

- 1/ a(f rpfri r ? fharry; nehahsps; mi dti ua[;  
knyhah fharryhf fUj prpfri r msgj j y/

taR	khj j pi uapd;mst[ (k/f)	, i lbtsp
0?1	75 kpfp(1-2 khj j pi u)	j pdKk;xU Ki w
1?4	150 kpfp(1 khj j pi u)	j pdKk;xU Ki w
4?8	300 kpfp(2 khj j pi u)	j pdKk;xU Ki w
8?14	450 kpfp(3 khj j pi u)	j pdKk;xU Ki w
14? taJ fF nky;	600 kpfp(4 khj j pi u)	j pdKk;xU Ki w

2/ g(uz rpfprj r ? Ez nz hffpapy;xl Lz z p cWj pbraaggl l  
 gpd;14 ehl fSfF g(uz rpfprj r tH' fggLk/  
 gph! nkhoak;i tthf! ;(14 ehl fs)

taJ (tUI k)	FnshnuhFapd; 150 kpfpmstpy;		gpi ukhFapd; 2/5 kpfpj pdKk; 14 ehl fSfF			
	Kj y; ehs; 75 (1- 2)	, uz lhtJ ehs; 75 (1- 2)	KdwhTJ ehs; 37/5 (1- 4)	, i lbtsp kpfp mst[ j pdKk; xU Ki w	? j pdKk; xU Ki w	, i lbtsp
1?4	150(1)	150(1)	75 (1- 2)	@	2/5 (1)	j pdKk; xU Ki w
4?8	300(2)	300(2)	150(1)	@	5/0(2)	j pdKk; xU Ki w
9?14	450(3)	450(3)	225 (1 <sup>1</sup> - 2)	@	10/0(4)	j pdKk; xU Ki w
15 & taJ fF nky;	600(4)	600(4)	300(2)	@	15/0(6)	j pdKk; xU Ki w

gph! nkhoak; ghyrghuk;:

taJ (tUI k)	FnshnuhFapd; 150 kpfpmstpy;				gpi ukhFapd; 7/5 kpfpmstpy;	
	Kj y; ehs;	, uz   htJ ehs;	KdwhTJ ehs;	, i   btsp	kpfp mst[	, i   btsp
0?1	75 (1- 2)	75 (1-2)	37/5 (1-4)	j pdKk; xU Ki w	?	?
1?4	150(1)	150(1)	75 (1-2)	j pdKk; xU Ki w	7/5 (1)	j pdKk; xU Ki w
4?8	300(2)	300(2)	150(1)	j pdKk; xU Ki w	15/0(2)	j pdKk; xU Ki w
9?14	450(3)	450(3)	225 (1 <sup>1</sup> -2)	j pdKk; xU Ki w	30/04(4)	j pdKk; xU Ki w
15 & taJ fF nky;	600(4)	600(4)	300(2)	j pdKk; xU Ki w	14/0(6)	j pdKk; xU Ki w

? FnshnuhFapd;khj j pi uapd;mst [150 kpfp/

? FnshnhFapd; khj j pi uapd; brayghL xl Lz z pfi s \$bz k;  
bratJ k;mj d;tshrrpi aj i | bratJ k;MFK/

? gpi ukhFapd; khj j pi ufi s fhggiz pfSfFk; xU taJ fFk;  
Fi wthf css FHej j fSfFk;bfhLfff;Tl hJ /

FnshnuhFapd;khj j pi uapd;gfft pi stfs;:

1/ Fkl | y;kwWk;thej p

2/ tapwW typ

3/ mhgg[

4/ k' fpa ghhi t/

5/ tapW cghi j /

- ✍ FnshnuhFapd; khj j pi uapd; gfft pi stfs; khj j pi u  
clbfhsti j eWj j pat[d;ki weJ tPLk/
- ✍ FnshnuhFapi d btWk; tapwpy; vLj ; J fbfhz lhy;, J FI y;  
tapW cghi j fi s mj pfkhfFk;

3/ Mj uthd Ki wfs;:

- ✍ nehahspf i sj dpi kggLj j paxat[mspf fntz Lk/
- ✍ fharry; mj pfkhFk; bghGJ Fsphej ehy; xj j lk;  
bfhLj j y;ntz Lk/
- ✍ FspRuk; kwWk; eLffj j pdnghJ fkgspahy; nghhj j  
ntz Lk/
- ✍ bkyj hd. bkdi kahd. cli y cWj j hj Mi lfi s  
knyhpah nehahspf S fF mz ptpff ntz Lk/
- ✍ cli y; taphfFk; bghGJ cli y Ji ljj Rjj khd  
cyhej Mi lfi s mz ptpff ntz Lk/ nkYk; cli y  
nghhj tbfhz L nghhj j ntz Lk/
- ✍ nehahspf S fF fi sgi g nghfFtj wfhf , dgg[  
ghd' fs;(gHrrhWfs) Foffj untz Lk/
- ✍ knyhpah tpdhy; \$bz rfj p Fi waK/ vdnt  
nehahspf S fF j pt cz tfs; (f" rp gHrrhWfs)  
j untz Lk/
- ✍ cli y; eh;, Hgi gj tpggj wfhf mj pf mst [(3000 kpy)  
eh;bfhLff ntz Lk/
- ✍ Fkl j y; kwWk; thej pi a fl LggLj j thej p j Lgg[  
khj j pi ufs; j untz Lk/

**knyhpah kWtut [vdwhy;vdd >**

Kj y;knyhpah j hfFj YfFggpwF kZ Lk;knyhpah (30 Kj y;180  
ehl fS fFs) neha;tUj y/

**knyhph kwtutwfhd fhuz ' fs;**

- 1/ bfhRffo/
- 2/ kUe;J fi s KGi kahf vLj ;J fbfhsshky;, UggJ /
- 3/ knyhph xl Lz z pfs;fyylypy;, UggJ /

**knyhph Kdj Lgg[kwWk;fi Lgghl L el tofi f :**

- 1/ Ra ghJ fhgg[(bfhR) kdj d;bj hl hi g J z o j j y/
- 2/ bfhRffspd;cwgj j pi aj Lj j y/
- 3/ bfhRggGffi s mHj j y/
- 4/ tshrrpai lej bfhRffi s fl LggLj ;J j y/

**1/ Ra ghJ fhgg[Ki wfs;**

- ✍ bfhRffs; bghJ thf fhi y kwWk; khi y nti sfsy;  
tll oDs;Ei Ha[k/vdnt fhi y-khi y nti sfsy;fj t[  
kwWk;\$ddyfi s mi l j j y/
- ✍ \$ddyfi s bfhRffs;gfhky;ti yfbfhz L mi l ff  
ntz Lk/
- ✍ bfhRffs; gfyly; J z pkz pfsy; , i l apUe;J  
, utheuk;btspte;J fofFk;vdgj hy;Mi l fspd;
- ✍ bfhR tml ofs; kwWk; j ut bfhR mHphdfi s  
gadgLj ;J j y/

**bfhR tml ofs; ? bfhRffi s tml Ltj wfhf gadgLj j ggLk;  
rhj d' fs/**

**, awj fahd bfhR tml ofs;**

- 1/ rpl nuhbdyyh vz bz a/
- 2/ bykdfuh! ;vz bz a/
- 3/ntgbgz bz a;nghdwtwi w cl ypy; j l tpfbfhst;j d;Kyk;  
bfhoffoapyUe;J j ggyhk/

**, urhaz bfhRtϖl of s;:**

1/ bfhRthj j ϖ;RU sfs;(khh) od

2/ Xnl hkh! ;

bghbkj hpd; DEET (N,N i l < i j y;? M? bl hYmi kl;)vdw

g(r r p f b f h y y p f s; , i t f s p y; gadg Lj j gg L f p d w J / DEET 4-

100% m s t p y; c g n a h f g g L j j g g L f p w J /

DEET bj s g g h d h f t k; nyhrd h f t k; j μ t k h f t k;

f p i l f f p d w J /

**bfhRthj j ϖ;RU sfs;:**

t l l o d; c s n s a k; k w W k; b t s n a a k; g a d g L f p d w J /

x U b f h R t h j j ϖ; R U s; , u t [ K G i k a k; g a d g L f p d w J /

**bfhR tϖl of s; cgnahfgg Lj j k; Ki w:**

✎ bfhR f o f F k; f h i y. k h i y n t i s f s p y; g a d g L j j n t z L k /

✎ nyhrd f s; f z; K f F. t h a; c j t f s p y; g L k h W  
g a d g L j j f; T l h J /

✎ K f j j μ F n e u h f m o f f f; T l h J / (b j s g g h d f s)

✎ nyhrd f i s M i l f S f F b t s n a b j h p a k; c l y; g h f' f s p Y k;  
k w W k; M i l f s p Y k; j l t n t z L k /

✎ x n u n t i s a p y; m j p f k h f j l t f; T l h J /

✎ X n l h k h! ; c g n a h f j j g g p d; i f f i s f G t n t z L k /

✎ 3?4 k z p n e u j j μ F x U K i w c g n a h f g g L j j n t z L k /

**j μ t n t g i u! h f s;:**

1/ v y f l u h d p f; n k l ; ( F l j e l ) ? k p d r h u j j h y; N l h f f g g l l  
g y i f f s p y; n k l f i s i t f f n t z L k /

2/ j μ t n t g i u! h; ( M y; m t [ ] , J j μ t e p i y a p y; , U f F k;  
b f h R t ϖ l o f s; M F k /

**ghJ fhgghd Mi l fs;mz gj y;:**

? ml hj j pahd J z papi d Mi l fs/

? ebfj f i tj j i frlj l fs; kwWk; eBkh d fhy;  
rlj l fs/

? fhYi wfs/

**bfhR ti yfs;cgnahfj j y;:**

1/ rhj huz bfhR ti yfs/

2/ g(rrrpfbfhyypnj haf fgg l bfhRti yfs/

⌘ bfhRti y kdj d;bfhR , i l na xU j Lggdhf  
cssJ/

⌘ bfhRti yfi s cgnahf pFk; Kdg[ mtwwpy;  
fHpy;cssj hvdW ghprhj gj ; J tpl L cgnahf pF  
ntz Lk/

⌘ bfhRti yfi s bkj j fF moapy; edwhf  
koj ; J tpl ntz Lk/ FHej j fSffhd  
bfhRti yfSk;fpi l ffpdwJ/

⌘ kUenj wgg l bfhRti yfi s (ITN) 6?12  
khj ' fSfF cgnahfggLj j yhk/

⌘ i ghj hpd; g(rrrpfbfhyyp ITN ?y;  
cgnahfggLj j ggLf pdwJ/

2/ bfhRffspd;cwgg j pi a fl LggLj ;J j y;:

1/ gi Ha l ahfs; nj ' fha;xLfs; fhypghl oyfs; odfs;  
kwWk; ci lej ghj j μ' fs; kwWk; j z z ll u nj ffp  
i tffk; gpw bghUsfi sak; tll odUfpy; , UeJ  
mggfvggLj j ntz Lk/



2/ tllod; Tiufsy; nj' fpaßs j z z l u  
mgglvggLj j ntz Lk/ fl ol fl Lkhd gFj pfi sr;Rwyp  
eh;nj' khky;ghhj ;J fbfhss ntz Lk/

3/ fHptēh; FHhafi s mi lgg[ kwWk; Xl j l , yyhky;  
i tj j pUff ntz Lk/

4/ fHptēh;tHpfspy;gŷ; ngggh;ghyŷ j l d;i gfs;kwWk;gpw  
nj i tapyyhj bghUl fi sj p pfff;Tl hJ/

5/ nkyepi yj bj hl o kwWk;fpz WfSfF Ko nghl L Kl  
ntz Lk/

6/ tllod; mUnf css FHp kwWk; gss' fi s epgg[ y;  
ntz Lk/

3/ bfhRggGfffi s mHj j y;

✎ bfhR cwgg j p MFk; , l' fi s mgglvggLj ;J tj d;  
KyKk; g(rppfbfhyyp kUe;J fi s cgnahfpgg d;  
KyKk;bfhRgGfffi s fl LggLj j yhk/

✎ Jaj kahd RwWgglvKk; bfhR cwgg j pi a  
fl LggLj ;J k/

**bfhRggG mHphdfi s cgnahfj j y;**

bfhRggGfffi s mJ cUthFk; , l j j pyna mHpf f  
cj t f pdwJ/

- 1/ mngl ;
- 2/ khyj j pahd;
- 3/ i ghj uk/
- 4/ ghhl ;fphl/

✎ mngl ;50 EC (bj kngl! ) eh;epi yfspy;gadgLj j ggLf pdwJ/

✎ khyj j pahd;25# eh;epi yfspy;gadgLj j ggLf pdwJ/

☞ gG mHggghdfi s , uz L khj j j pWF xUKi w cgnahf pff  
ntz Lk/

**cahpd' fi s bfhz LbfhRgGffi s flLggLj Jj y;:**

☞ fkg(rpah kbdfi s ehpi yfsy; tPLkngH. mi t  
bfhRggGffi s cz thf vLj J fbfhz L mtwi w  
mHffpdwJ/

☞ , ej ti fahd kbdfs; Kdprgy; mYtyfj j pYk;  
efuhl rpmYtyfj j pYk;fi l fFK/

**4/ tshrrpai lej bfhRffi s flLggLj Jk;Ki wfs;:**

☞ ghJ fhgghd Mi l fi s mz pantz Lk/

☞ bfhR tpu ofS;cgnahf pff ntz Lk/

☞ bfhR ti yfi s gadgLj j ntz Lk/

**g(rppf rbfhyypbj spgghdfs;**

, i t tll od; csglvk; kwWk; btspgglv' fsy; g(rppf rbfhyyp  
kUeJ fi s gl fahf fhwwpy;gutr;brafpdwJ/

? tll od; cl glvk; kwWk; Rthfsy; i fj bj spgghdfs; Kyk;  
g(rppf rbfhyypmoff ntz Lk/

? i ghj uk;2# kwWk;khyj j pahd;25# cgnahfggLj j gLfpdwJ/

? bj spgghdfi s cgnahfj j gpWF fj t[ \$ddyfi s 5?10  
epkl' fSfFKoi tjj pUff ntz Lk/

? xtbthU 6 khj j j pWF xUKi w tll oDs; bj spgghdfs;  
cgnahf pff ntz Lk/

? tll od; btspna css bfhRffi s mHggj wfhf 95#  
khyj j pahd;cgnahfggLj j gLfpdwJ/

? thuk;xUKi w tll od; btspglvk;g(rppf rbfhyypfi s bj spff  
ntz Lk/

### **knyhpah fl LgghL el tofi ffs;**

- ? Kddnu knyhpah fz LgpoffggL rpfri r th' Fj y;  
ntz Lk/
- ? knyhpah nehahsphi s j dpi kggLj :j y; kwWk; fz ogghd  
RwWggw Rfhj huj i j nkkgLj :j y/

### **knyhahtpd;gff ti stfs;**

- ? Ki s ghj pgg[? knyhpah xl Lz z pfs; Ki sapi d ghj gj :j  
tygg[ epi dtHj j y; gffthj k; nghdwi tfi s  
VwgLj :j fplwJ /
- ? fyyby; ghj pgg[? knyhpah xl Lz z pfs; fyybi y ghj gj :j  
fyyby;tffj i j VwgLj :j fpwJ /
- ? , ujj nrhi f? knyhpah xl Lz z pfs; , ujj rptggq ffs;  
nrj ggLj j p , ujj nrhi f kwWk; rpwel f ghj pgg[ d  
cUthfFfplwJ /

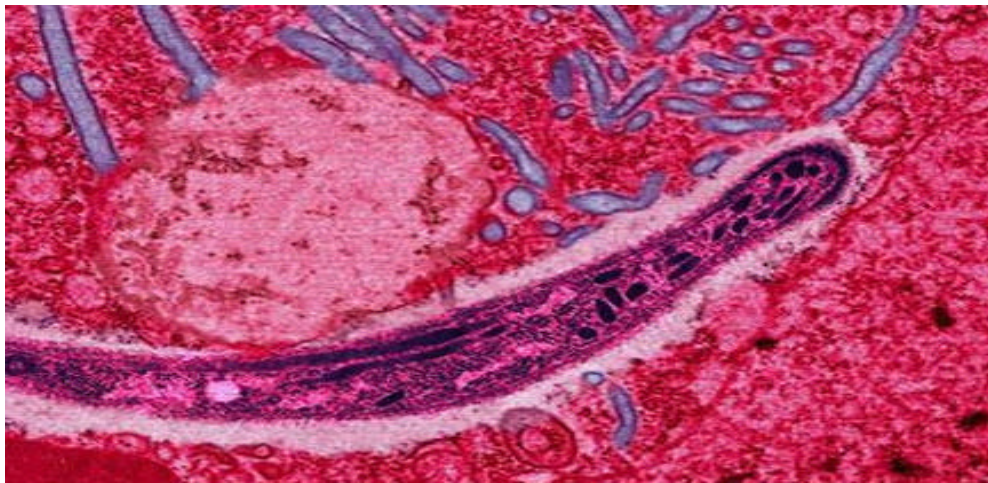
### **epi dty;i tj :j fbfhss ntz pai t**

- ▶ knyhpah vdgJ xG' fhd Ki wahd rpfri rapdhy;  
KGi kahf Fz ggLj j f;Toa neha;MFK/
- ▶ khj j pi ufi s Fwggpl l fhy' fspy; j twhky;  
vLj :j fbfhss ntz Lk; , yi ybadwhy; knyhpah  
kz Lk;j hffk/
- ▶ tpl Ltpl L fharry;kwWk;FspRuk;, Uej hy;knyhahth  
vdW ghnrhj gj :j fbfhss ntz Lk/
- ▶ knyhahtpwfhd ghnrhj i d kwWk; rpfri r Ki wfs;  
mi dj :j Mukg Rfhj hu epi ya' fs; kwWk; muR  
kUj :j tki dfsy;fll z kpyhky;braaggLfpwJ /

knyhpa hi t gugglk; bfhR



knyhpa hi t cUt hfFk; xl Lz z p



knyhph tUtj w;F rhj fkhd fhuz pfs;  
tllod; mUfpy; eh; nj ' fpaUj j y;



mj pfkhd ki HgbghHpt[



bj hl p kwWk; ghj j pu' fspy; eZ j ehl fS;  
eH u nrkj J i tj j y;



Rfhj hu Fi wghL

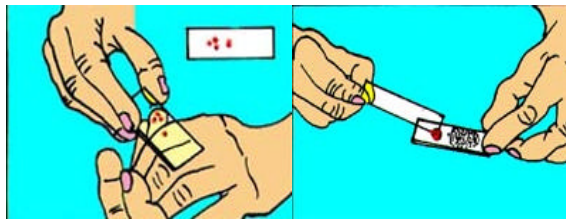


knyhꞑah neha; gutk; tꞑj k;

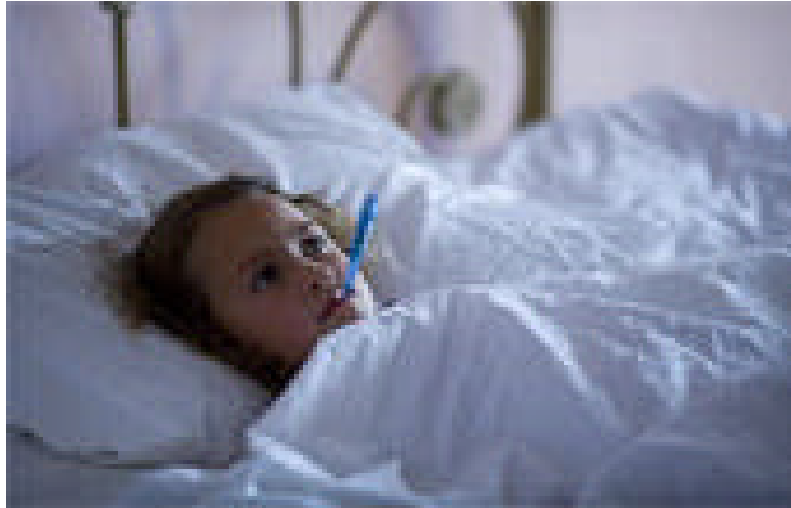
bfhRf,fo



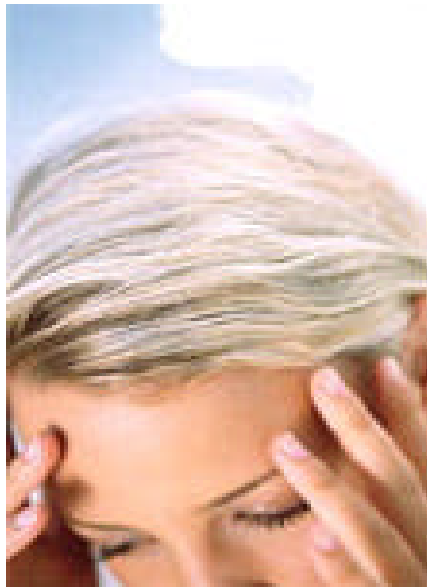
kNyꞑahi t fz ;wꞑAk; ghꞑnrhj i dfs;



kNyhpaht pd; Mukg mwpF wpf s;  
F spUI d; \$ ba fharry; t pl ;L t pl ;L t Uj y;



fharrri y nj hl he;J t pahj j y; kwWk; j i y ty p



j Pt u kNyhpaht pd ; mwpF wpf s ;  
mj pfkhd fharry;



t hej p

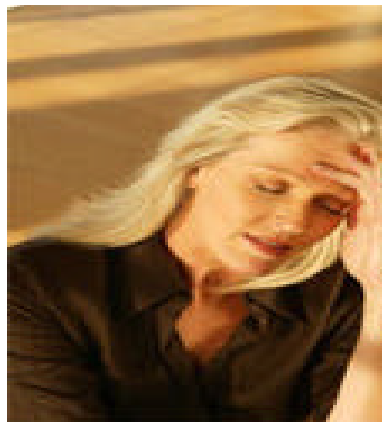




fLi kahd eh, , ogG



, uj j Nrhi f



Foggk;



knyhpahtpw;fhd rpfpr; r Ki wfs;  
 af rpfpr; r (FnshnuhFapd; 150 kp/fp)

taJ	khj j pi uapd; mst	khj j pi u vLj J fbfhs;Sk; , i lbtsp
0-1	75 kp/fp(1/2)	j pdKk; xUKi w
1-4	150 kp/fp(1)	j pdKk; xUKi w
4-8	300 kp/fp(2)	j pdKk; xUKi w
8 -14	450 kp/fp(3)	j pdKk; xUKi w
14 kwWk; mj wFnky;	600 kp/fp(4)	j pdKk; xUKi w

gluz rpfpr; r

knyhpah cWj p braaggl l gpd; j uggLk; rpfpr; r

taJ	FnshnuhFapd; (150 kp/fp)						gpi ukhFapd; (2/5 kp/fp)	
	1k; ehs;		2k; ehs;		3k; ehs;		khj j pi u mst  kp/fp	, i lbtsp
	khj j pi u mst  kp/fp	, i lbt sp	khj j pi u mst  kp/fp	, i lbtsp	khj j pi u mst  kp/fp	, i lbtsp		
0-1	75(1/2)	j pdKk; xUKi w	75(1/2)	j pdKk; xUKi w	37/5(1/4)	j pdKk; xUKi w	---	---
1-4	150(1)	j pdKk; xUKi w	150(1)	j pdKk; xUKi w	75(1/2)	j pdKk; xUKi w	2/5(1)	j pdKk; xUKi w
2-8	300(2)	j pdKk; xUKi w	300(2)	j pdKk; xUKi w	150(1)	j pdKk; xUKi w	5(2)	j pdKk; xUKi w
9-14	450(3)	j pdKk; xUKi w	450(3)	j pdKk; xUKi w	225(1 1/2)	j pdKk; xUKi w	10(4)	j pdKk; xUKi w
15 kwWk; mj wFnky;	600(4)	j pdKk; xUKi w	600(4)	j pdKk; xUKi w	300(2)	j pdKk; xuKi w	15(6)	j pdKk; xUKi w

FnshnuhFapd; khj j pi uapd; gffftpi stfS;  
Fklj y; kwWk; thej p



tapwW typ



k' fychd ghji t



RaghJ fhgg[ Ki wfs;

bfhRthj j p RUs;



i j y' fs;



nkl;



j p t bfhR t p l o f s ;



bfhR t i y



ghJ fhgghd Mi l fs ;



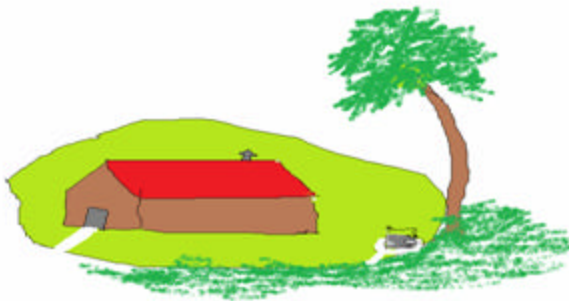
cgnahfkww eh; nj ' ;Fk; bghUs;fi s mggwggLj ;J j y;



bfhR g[fhtz z k; bj hl p kwWk; ghj j µ' ;fi s %o i tj j y;



Rfhj hukhd RwWggjwk;



Kj ρh; bfhR kwWk; bfhRgg[Gf;fi s mHj j y;  
tLfsϖy; g(rρrfbfhyϖ kUeJ mojj y;



tj ρfsϖy; g(rρrfbfhyϖ mojj y;



bfhRggG cz ;Z k; kb;fi s ehϖi yfsϖy; tshj j y/



eh; nj ' fp , UfFk; , I' fSjy; g(rpfbfhyyp mojj y/





