

RESEARCH ARTICLE

Statue of Malaria in Motala Taluka of Buldana District (M.S.)

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Manuscript details:	ABSTRACT
<p>Date of publication 18.10.2014</p> <p>Available online on http://www.ijlsci.in</p> <p>ISSN: 2320-964X (Online) ISSN: 2320-7817 (Print)</p> <p>Editor: Dr. Arvind Chavhan</p> <p>Cite this article as: Kakde Vandana R, Thakur Abhay C, Dipke Vaishali G (2014) Statue of Malaria in Motala Taluka of Buldana District (M.S.)<i>Int. J. of Life Sciences, Special Issue, A2:</i> 207-210.</p>	<p>Malaria, a major tropical disease, is also vector transmitted; in this case the vector is mosquito (Female Anopheles). In this paper, present status of Malaria in Motala Taluka of Buldana District (M.S.) is going to report based on survey conducted by Government agencies like Municipal Committee, Z.P. & Malaria Era diction Department. In Buldana District <i>Plasmodium vivox</i> and <i>Plasmodium falciparum</i> are found abundantly. There is complete absence of <i>Plasmodium oval</i> ⁷ and <i>Plasmodium malariae</i> in the vicinity of Buldana. During 2013-14 about 4, 71, 925 samples are examined out of them positive samples are 180 (06 samples are of <i>Plasmodium falciparum</i>).Need of health education and penetration of hygiene sense are preventive measures against such vector borne diseases.</p> <p>Keywords: Population, Vector, transmitted, parasites, Era diction, flora and fauna.</p>
<p>Copyright: © Author(s), This is an open access article under the terms of the Creative Commons Attribution-Non-Commercial - No Derives License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.</p>	<p>INTRODUCTION</p> <p>A number of important human diseases caused by organism ranging from virus to worm are transmitted by blood. Feeding arthropods, these vectors insect the organisms into humans as they take a blood meal [AB4] Arthropod, transmitted infections are common in warmer countries, but occur worldwide. Malaria, a major tropical disease, is also vector transmitted; in this case the vector is mosquito (Female Anopheles). Vector Borne disease are the main causes of illness & death and have emerged as major public health problems. These diseases are transmitted through mosquitoes, sand fly and other vectors. A large number of protozoan's are parasites to human beings and animals. There is about 2,000 species of mosquitoes ranging from tropics to Arctic circles [AB9] Malaria, a major tropical disease, is also vector transmitted; in this case the vector is mosquito (Female Anopheles)[AB1].</p> <p>Origin of Research Problem: In the year 1953, National malaria control program me was established. In a momentous decision the World Health Assembly in 1955 urged member states to abandon malaria control and take up malaria eradication as an international objective. Most malaria us countries mounted eradication campaigns during 1957-1960 within the framework of WHO global campaign of malaria eradication. In 1973-1978 there was marked global resurgence of malaria.</p> <p>Review of Research and Development in the Subject: The main credit goes to Ronald Ross, who, while working in Sicunderabad (Andra Pradesh, India)</p>

discovered the transmission of Malaria by Anopheline mosquito (Female Anopheles mosquito) in 1897. Ross found malaria parasites growing as cysts (oozooids) on the stomach wall of an Anopheline mosquito (*Anopheles Stephens*) which had previously fed on malaria patient.

DDT which was synthesized as long ago as 1874, remained obscure until 1939, when Paul Muller in Switzerland discovered its insecticidal properties an observation which he received a Nobel prize. This opened a new chapter in Malaria control. In 1948 the concept of malaria eradication was first presented by Pampana. By 1951 WHO was actively involved in malaria control projects, mainly in Asia. The initial results of malaria control were extremely encouraging. In the year 1953, National malaria control program was established. In a momentous decision the World Health Assembly in 1955 urged member states to abandon malaria control and take up malaria eradication as an international objective. Most malaria countries mounted eradication campaigns during 1957-1960 within the framework of WHO global campaign of malaria eradication. In 1973-1978 there was marked global resurgence of malaria. Recognizing the growing menace of malaria, the pendulum has again swung back to the concept of eradication.

Natural history: Malaria is one of the oldest recorded diseases in the world in the 18th century Italy, people associated malaria with “bad air” - malaria- from

which the name malaria is derived in 1880 Laveran a French Army Surgeon discovered the malaria parasite in Algiers, North Africa. Throughout the ages, suspicion fell on the part played by insects, and the mosquito was incriminated in folklore in Africa, Asia and Europe [AB2].

Transmission of disease by vectors: Disease transmission by insect has major implication for host, the vector and the parasite. To consider the parasite first it requires the organism to be present in right place (in the blood) and the right time. Blood is an inhospitable environment, and this may require quite subtle evasion mechanisms for parasite survival, means for the disease may be controlled by controlling the vector. Malaria is initiated by the bite of an infected female anopheline mosquito. Malaria is restricted to areas where these mosquitoes can breed i.e. the tropics between 60°N and 40°S. It is of major importance in Africa and India, the Far East and South America. Because of drug and insecticide resistance malaria is now on the increase globally. About 35% of world's population is estimated to be infected and with some 10 million new cases annually and perhaps 2 million deaths. Malaria can also be transmitted by blood transfusion, needle and accidents or very rarely from mother to fetus.

Human Malaria Parasites²

	<i>Plasmodium falciparum</i>	<i>P. Vivox</i>	<i>P. Malarie</i>	<i>P. Ovale</i>
	West, East, Central Africa	India North	Tropical	Tropical
Major distribution	Middle, East, South America	East Africa, South America far East	Africa, India, far East	Africa
Common Name	Malignant tertian	Benign tertian	Quartan	Ovale tertian
Incubation period	6-14 days	12-17 days	13-40 days	9-18 days
Asexual blood cycle (fever cycle)	48 hours	48 hours	72 hours	50 hours
Major complication	Cerebral malaria anemia, hypoglycemia jaundice, pulmonary edema, shock	--	Necrotic Syndrome	---

MATERIAL AND METHOD

Study of this topic “Present status of Malaria in Motala Taluka of Buldana District (M.S.)” investigation is done on the basis of survey conducted by Government

agencies like Municipal Committee, Z.P. & Malaria Eradication Department. Investigation and search for the said topic is essential. Data will be collected after survey of different agencies. Analysis will be done. After due discussion, conclusion will be made.

RESULT AND DISCUSSION

National Vector Borne Disease Control Programme
Unit Motala Dist. Buldana Month wise positive

Month	Year 2013-14	
	Total	PF
April	13	01
May	11	00
June	22	00
July	21	01
Aug.	24	00
Sep.	18	01
Oct.	10	01
Nov.	11	01
Dec.	09	00
Jan.	06	00
Feb.	11	00
Mar.	15	01
Total	180	06

**National Vector Borne Disease Control Programme
Unit Motala Dist. Buldana Month wise Surveillance
Wise Blood Smear Collection Data**

Month	Year 2013-14			
	ACT	PASS	MCM	Total
Aril	18070	11313	22	30311
May	11833	10186	33	28549
June	21213	11206	17	32436
July	27557	20785	63	48405
Aug.	23449	25670	87	55206
Sep	25265	20607	54	45926
Oct.	32785	22535	76	55456
Nov.	20929	15742	145	36816
Dec.	21514	14748	22	36284
Jan.	20965	14556	03	35524
Feb.	18804	12983	16	31802
Mar	18860	16279	71	35210
Total	274041	197275	609	471925

**National Vector Borne Disease Control Program me Unit Motala Dist. Buldana Month wise Surveillance
Wise Blood Smear Collection Data**

Year	Population	D/S Call & Exam				Positive				API	ADER	SPR	SFR	%
		ACT	PASS	MCN	Total	PV	PF	Mix	Total					
2012	2511581	245464	150418	1086	406988	200	10	00	210	0.08	15.58	0.05	0.062	4.76%
2013	2625622	272875	185363	563	462355	159	05	01	175	0.07	17.28	0.04	0.001	3.43%

**National insect borne disease eradication programme, Improved Malaria treatment chart
w.e.f. 01/05/2007**

Age Group	Control treatment			P.V. Eradication treatment							P.F. Eradication			
	I st day	II nd day	III rd day	I st day		II nd day		III rd day		IV to XIV	I st day		II nd day	III rd day
	Chloro m.g.	Chloro m.g.	Chloro m.g.	Chlo m.g.	Prima m.g.	Chlo	Prima	Chlo	Prima	Prima	Chlo m.g.	Prima m.g.	Chlo m.g.	Chlo m.g.
Below 1 year	75	75	37.5	75	Nil	75	Nil	37.5	Nil	Nil	7.5	Nil	75	37.5
1 to 4 years	150	150	75	150	2.5	150	2.5	75	2.5	2.5	150	7.5	150	7.5
5 to 8 years	300	300	150	300	5	300	5	150	5	5	300	15	300	150
9 to 14 years	450	450	225	450	10	450	10	225	10	10	450	30	450	225
Above 15 years	600	600	300	600	15	600	15	300	15	15	600	45	600	300

CONCLUSIONS AND TREATMENTS

Malaria, a major tropical disease, is also vector transmitted; in this case the vector is mosquito (Female Anopheles). Malaria has an immunosuppressive effect. Malaria is diagnosed by finding parasitized red cells in a blood cell.

Treatment:-

A) Chemical

(1) Quinine (2) Chloro quinine (3) Mosquito repellent
(4) Malaria vaccine

B) Physical – Nets, Bed net

C) Biological

Birds, Fishes like Guppy in water bodies, insectivorous plants. Distraction of mosquito breeding centers.

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