

**Vidya Vikas Mandal's
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**विद्या विकास मंडळाचे,
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विज्ञान आणि वाणिज्य महाविद्यालय,
साक्री ता. साक्री जि. धुळे ४२४ ३०४**

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3.3.2.1 Research Paper Published in UGC Care Listed Journals

**Investigative Report on Disease Sickle Cell Anemia from Karanja Tehsil of
Washim District (M.S.), India**

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Abstract

Sickle cell Disease (SCD) is a group of genetic disease commonly seen in United States and Third world countries. The term disease is applied to this condition because the inherited abnormality causes a pathological condition in which red blood cells becomes sickle shaped. In Maharashtra, the sickle gene is widespread in all the eastern districts, also known as the Vidarbha region, in the Satpura ranges in the north and in some parts of Marathwada. The prevalence of sickle cell carriers in different tribes varies from 0 to 35 percent. The tribal groups with a high prevalence of HbS (20-35 %) include the Bhils, Madias, Pawaras, Pardhans and Otkars. It has also been estimated that Gadchiroli, Chandrapur, Nagpur, Bhandara, Yoetmal and Nandurbar districts would have more than 5000cases of sickle cell anaemia. In present study from Karanja tehsil of washim district there are 269 carrier persons and 65 sufferer patients observed in the year 2015

Keywords: Sickle cell, Pathological, Washim, Vidarbha, Anemia.

Introduction

Sickle cell Disease (SCD) is a group of genetic disease commonly seen in United States and Third world countries. The term *disease* is applied to this condition because the inherited abnormality causes a pathological condition in which red blood cells becomes sickle shaped.

Then there oxygen carrying capacity reduces that can lead to death and severe complications. Sickle cell has a profound impact, not just on the patient, but on the whole family dynamic.

According to a survey there are as many as 150,000 babies born with the disease each year in Nigeria, alone. Closer to home, there are an estimated 72,000 to 100,000 people living with the disease in the United States, with over 1,000 of them living in the state of Indiana. Nearly 5% people from all over world are suffered from a disease sickle cell anemia due to inheritance of a mutant gene. This gene can be transmitting from both parents.

In Maharashtra, the sickle gene is widespread in all the eastern districts, also known as the Vidarbha region, in the Satpura ranges in the north and in some parts of Marathwada. The prevalence of sickle cell carriers in different tribes varies from 0 to 35 percent. The tribal groups with a high prevalence of HbS (20-35 %) include the *Bhils*, *Madias*, *Pawaras*, *Pardhans* and *Otkars*. It has also been estimated that Gadchiroli, Chandrapur, Nagpur, Bhandara, Yoetmal and Nandurbar districts would have more than 5000 cases of sickle cell anaemia (Colah *et al*, 2014).

Three principal current therapeutics modalities available for childhood SCD are blood transfusion, Hydroxy urea and bone marrow transplantation. Genetic counseling, continued medical education for health professionals about sickle cell disease, its complications and management is necessary. World health organization has actively promoted several national screening programs with dual goals of informing reproductive choice and thereby reducing the number of severely affected children (Kaur 2013).

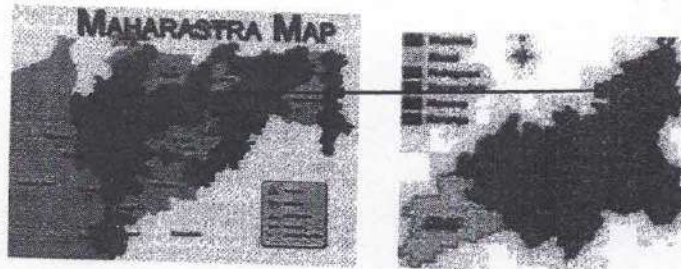
Sickle Cell Disease (SCD), an inherited disorder of the red blood cells, is a major public health problem. India, with a population of 1.2 billion individuals, is estimated to be home to over 50% of the world's patients with SCD. While SCD is common among all ethnic groups in India, high prevalence has been reported in three socio-economically disadvantaged ethnic categories: the Scheduled Castes (SC), the Scheduled Tribes (ST), and Other Backward Class (OBC) groups (Aishwarya Arjunan 2013).

In present study from Karanja tehsil of washim district there are 269 carrier persons and 65 sufferer patients observed in the year 2015.

Materials and methods

The present study was performed in a year 2015 includes the screening of target populations in all age groups (newborns, school age children, young adults, and pregnant mothers) as well as screening in government hospital as well as camps arranged in villages, colonies in school and colleges for individuals considered to be at high risk of carrying the β s gene. Informed consent was obtained from all adults and parents of children once the individuals were educated on the reasoning behind screening. The screening teams were comprised of a clinician, multiple lab technicians and counselors, and volunteers from the villages surrounding the screening camp.

Study area



Result and Discussion

Sr. No.	Month & Year	Carrier	Sufferer
1	January 2015	32	10
2	February 2015	49	16
3	March 2015	69	16
4	April 2015	00	00
5	May 2015	00	00
6	June 2015	03	00
7	July 2015	00	00
8	August 2015	14	04
9	September 2015	21	04
10	October 2015	23	05
11	November 2015	24	05
12	December 2015	35	05
Total		269	65

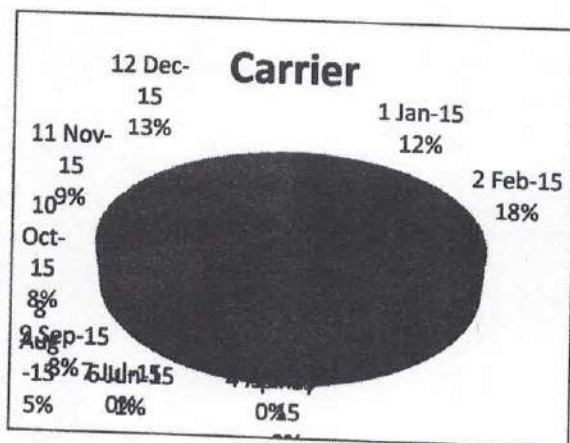


Fig. Carrier persons in 2015

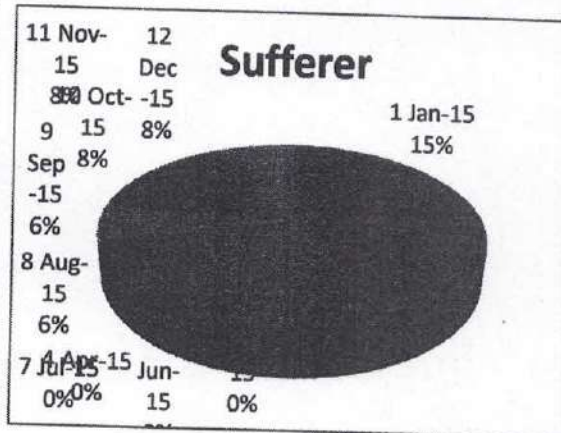


Fig. Sufferer patients in 2015

Bolwar (2015) studied total number of patients of sickle cell from Washim district consisting tehsil Washim, Risod, Karanja, Manora, Malegaon and Mangrulpir was counting during 2011-2014. This study reveals the total number of carrier (AS) was found to be 759 peoples while sufferer (SS) was found to be only 43 peoples. In order to find out prevalence for sickle cell disorder we screened major communities from the state and found high prevalence amongst SC, ST and OBC. The overall prevalence amongst SC, ST and OBC is 10%. Severe joint pains and milder type of jaundice are peculiar symptoms amongst sicklers from the state of Maharashtra (S. L. Kate and D. P. Lingojwar 2002).

Conclusion

While studying about genetic disease like sickle cell it is observed that a recessive trait of sickle cell gene is widely spread in India as well as in endemic region rest of Maharashtra and in the region of Vidarbha. In present study from Karanja Tehsil of Washim district there are 269 carrier persons and 65 sufferer patients found in 2015. It is essential to counsel and literate the people about genetic disease like sickle cell.

Acknowledgement

Authors are thankful to the Research Laboratory of Department of Zoology, S. G. Patil College, Sakri Dist. Dhule for providing research facilities. We also thankful to all respected staff

members of Government Hospital and team of sickle cell diagnosis for providing authentic data for analysis of disease.

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3.3.2.1 Research Paper Published in UGC Approved Journals

Periodic Diversity of Some Tapeworms of Marine Fishes from West Coast of Maharashtra, India.

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Abstract

The present communication deals with the seasonal diversity of some cestode parasites in *Trygon zugei* from Ratnagiri district.

Population of cestode parasites found in this host is divided into two genera i.e. *Uncibilocularis* and *Tylocephalum*. It shows that the cestode parasites are *Uncibilocularis trygonis* (south well) 1925, *U. Indica* (subhaprabha) 1955, *U. aurangabadensis* (Deshmukh and Shinde) 1975, *U. ratnagiriensis* (Shinde and Chincholikar) 1975, *U. Southwelli* (Shinde and Chincholikar) 1975, *U. thapari* (Deshmukh and Shinde) 1978, *U. Shindei* (Deshmukh and Shinde) 1978, *U. Somnathi* (Deshmukh and Shinde) 1978, *U. veravalensis* (Jadhav and Shinde) 1981, *U. bombayensis* (Jadhav etal) 1989, *U. Shashtri* (Jadhav etal) 1989, *U. ranui* (L.B.Pawar and B.V.Jadhav) 2000.

Tylocephalum Pingue (Linton) 1890, *Tylocephalum artiobatidis* (Shibley et Hornell) 1905, *Tylocephalum.dierma* (Shibley et Hornell) 1906, *T. marsupium* (Linton) 1916, *T. Squantinae* (Yamaguti) 1934, *T. yorkei* (southwell) 1925, *T. elongatum* (subhaprabha) 1955, *T. minimum* (subhaprabha) 1955, *T. madhukari* (chincholikar) 1976, *T. singhi* (Jadhav and Shinde) 1981, *T. bombayensis* (Jadhav) 1983, *T. aurangabadensis* (Jadhav etal) 1987, *T. gajancani* (Wankhede and Jadhav) 2003, *T. babulalae* (L.B. Pawar and B.V.Jadhav) 2000, *T. Shindei* (L.B.Pawar and B.V.Jadhav) 2005.

The peak period of cestode parasites in marine fishes are found in summer season as compare to the winter and rainy season.

Introduction

The present study includes application of statistical method to understand the distribution of cestode parasites both minimum and maximum population level for three seasons i.e. summer, rainy and winter, during 2001-2003.

The seasonal variation study of cestode parasites were completed at west coast of India i.e. at Ratnagiri district of Maharashtra state.

Material And Methods

The present study of seasonal diversity shows the following cestode parasitic species under two main genera viz. *Uncibilocularis* and *Tylocephalum*. It shows that the cestode parasites are *Uncibilocularis trygonis* (southwell) 1925, *U. Indica* (subhaprabha) 1955, *U. aurangabadensis* (Deshmukh and Shinde) 1975, *U. ratnagiriensis* (Shinde and Chincholikar) 1975, *U. Southwelli* (Shinde and Chincholikar) 1975, *U. thapari* (Deshmukh and Shinde) 1978, *U. Shindei* (Deshmukh and Shinde) 1978, *U. Somnathi* (Deshmukh and Shinde) 1978, *U. veravalensis* (Jadhav and Shinde) 1981, *U. bombayensis* (Jadhav etal) 1989, *U. Shashtri* (Jadhav etal) 1989, *U. ranui* (L.B.Pawar and B.V.Jadhav) 2000.

Tylocephalum Pingue (Linton) 1890, *Tylocephalum artiobatidis* (Shibley et Hornell) 1905, *Tylo. Dierma* (Shibley et Hornell) 1906, *T. marsupium* (Linton) 1916, *T. Squantinae* (Yamaguti) 1934, *T.yorkei* (southwell) 1925, *T.elongatum* (subhprabha) 1955, *T.mirimum* (subhprabha) 1955, *T.madhukari* (chincholikar) 1976, *T.singhi* (Jadhav and shinde) 1981, *T.bombayensis* (Jadhav) 1983, *T. aurangabadensis* (Jadhav et al) 1987, *T.gajanan* (Wankhede and Jadhav) 2003, *T.babulalae* (L.B. Pawar and B.V.Jadhav) 2000, *T.Shindei* (L.B.Pawar and B.V. Jadhav) 2005.

Table I and table II reveals the incidence of infection, intensity of infection and density of these parasites.

Formulae:

$$\text{Incidence of Infection} = \frac{B \times 100}{A}$$

$$\text{Intensity of Infection} = \frac{C}{B}$$

$$\text{Density} = \frac{C}{A}$$

Where - A = Number of hosts examined,
B = Number of hosts infected,
C = Number of Parasites collected

Results And Discussion

Table - I. A) Seasonwise distribution of cestode parasites of the genera *Uncibilocularis* collected from various localities.

Sr. No.	Month and Year	No. of hosts examined	No. of hosts infected	No. of parasites collected	Locality
1	Jan. 2001,02,03	4 + 5 + 7 = 16	1 + Nil + 1 = 2	1 + Nil + 1 = 2	Bhagwati, Harne, Mirya
2	Feb. 2001,02,03	3 + 2 + 11 = 16	02 + 1 + 2 = 05	03 + 1 + 5 = 09	Bhatye, Mirkarwada, Bhatye
3	Mar. 2001,02,03	11 + 9 + 3 = 23	02 + 5 + 1 = 08	04 + 6 + 1 = 11	Bhatye, Mirkarwada, Mirkar
4	April. 2001,02,03	14 + 11 + 9 = 34	03 + 2 + 3 = 08	07 + 3 + 4 = 14	Bhatye, Bhatye, Bhatye
5	May. 2001,02,03	19 + 9 + 11 = 39	01 + 2 + 3 = 06	01 + 5 + 3 = 09	Bhagwati, Bhatye, Bhagwati
6	Jun. 2001,02,03	2 + 1 + Nil = 3	1 + 1 Nil = 2	1 + 1 + Nil = 02	Bhagwati, Bhatye, Nil

7	July. 2001,02,03	Nil+Nil+Nil=Nil	Nil +Nil+Nil=Nil	Nil+Nil+ Nil = Nil	Nil + Nil + Nil = Nil
8	Aug. 2001,02,03	Nil+Nil+Nil = Nil	Nil + Nil + Nil = Nil	Nil + Nil + Nil = Nil	Nil + Nil + Nil = Nil
9	Sept. 2001,02,03	Nil+Nil+3 = 3	Nil+Ni +1=1	Nil + Nil + 02 = 02	Nil + Nil , Harne
10	Oct. 2001,02,03	04 + 02 + 04 = 10	01 + Nil + 3 = 05	1 + Nil + 1 = 02	Bhagwati, Harne, Bhatye
11	N.2001,02,03	02 + 1 + 7 = 10	Nil + 1 + 1 = 02	Nil + 1 + 1 = 02	Harne, Bhagwati, Harne
12	De.2001,2,03	3 +2+ 3 = 08	1+2+1 = 04	1 + 3 + 3 = 07	Harne, Bhagwati, Bhatye

Table I (B) Seasonwise distribution of cestode parasites of the genera *Tylocephalum* collected from various localities.

Sr. No.	Months and Years	No. of hosts examined	No. of hosts infected	No. of parasites collected	Locality		
					2001	2002	2003
1	Jan. 2001,02,03	N + 15 + 5 = 20	N + N + 1 =01	N + N + 1 = 01	Nil	Harne	Bhagwati
2	Feb. 2001,02,03	01 + 4 + 3 = 18	N + 1 + 1 = 02	N + 1 + 1 = 02	Bhatye	Bankot	Bhagwati
3	Mar. 2001,02,03	2 + 16 + 9 = 27	1 + 3 + 8 = 12	1 + 4 + 11 = 16	Bhatye	Bhatye	Bhatye
4	April. 2001,02,03	7 + 10 + 24 = 41	3 + 2 + 3 = 08	3 + 2 + 9 = 14	Bhagwati	Bhatye	Mirya
5	May. 2001,02,03	9 + 37 + 29 = 75	7 + 9 + 3 = 19	8 + 11 + 5 = 24	Mirya	Bhatye	Mirya
6	Jun. 2001,02,03	N + 3 + 1 = 04	N + 1 + 1 = 02	N + 1 + 1 = 02	Nil	Bhagwati	Bhatye
7	July. 2001,02,03	N + N + N = Nil	N + N + N = Nil	N + N + N = Nil	Nil	Nil	Nil
8	Aug. 2001,02,03	N + N + N = Nil	N + N + N = Nil	N + N + N = Nil	Nil	Nil	Nil
9	Sept. 2001,02,03	N + N + N = Nil	N + N + N = Nil	N + N + N = Nil	Nil	Nil	Nil
10	Oct. 2001,02,03	3 + 01 + N = 04	1 + N + N = 1	1 + N + N = 01	Bhatye	Harne	Nil
11	Nov. 2001,02,03	11 + 4 + 14 = 29	3 + 1 + 1 = 05	5 + 1 + 1 = 07	Bhagwati	Mirya	Bhagwati
12	Dec.2001,02,03	10 + 3 + 10 = 23	2 + N + N = 02	2 + N + N = 02	Bhatye	Mirya	Bhatye

Sr. No.	Name of cestode parasite	Incidence of intensity (%)	Intensity of Infection (%)	Density (%)
1	<i>Uncibilocularis</i>	23.62 %	1.39 %	0.32 %
2	<i>Tylocephalum</i>	21.57 %	1.32 %	0.28 %

Table No. II: - Parasitic cestode genera observed for Incidence of infection, intensity of infection and density.

The seasonal variation studies of cestode parasitic genera namely *Uncibilocularis* and *Tylocephalum* of marine fishes reveals that the population was potentially dynamic with more or less durability, regularity and cyclic periodically in the hosts under investigation.

Each annual cycle comprises of -

Rainy Season - (Jun to Sept)

Winter Season - (Oct. to Jan.)

Summer Season - (Feb. to May)

Conclusion

During annual season the influence of population of cestode parasites of marine fishes was worked out on the basis of incidence of infection, intensity of infection and density. It was observed that, incidence of infection by cestode parasites increased during post summer season and is observed less during rainy season.

It was also concluded that the incidence of infection by cestode parasites increased with host's age, the infection is less in young fishes while it is remarkable in adult fishes.

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3.3.2.1 Research Paper Published in Peer Reviewed and Referred Journals



Comparative Analysis of Lipid Metabolism in Some Cestode Parasites of Vertebrate Host from North Maharashtra India

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Abstract:

The present communication deals with lipid metabolism in cestode parasite of vertebrates. Cestodes are incapable of de novo synthesis of nonvolatile saturated and unsaturated fatty acids, and have shown to rely on their hosts to supply fatty acids for lipid biosynthesis. Thus the fatty acids of these worms reflect to varying degrees of host intestinal contents. Lipids are heterogeneous group of compounds with similar physical properties, being relatively insoluble in water but soluble in organic solvents. The total lipid content of helminth parasites is in variable, but lipids have a variety of functions from species to species. In the degree of lipid content, variation is also seen in the segments and region of the worms being experimented. In older proglottids the higher content of lipid has led to the view that much of this lipid largely represents waste products of metabolism.

Keywords: Helminth, Parasite, host, lipid, fatty acids.

I. INTRODUCTION

Tapeworms when live in the intestine of hosts, they utilize food from the gastrointestinal tract. The metabolism of these cestodes depends on the feeding habits and the rich nourishment available in the gut of the host. These worms use these nutritional substances for their normal development and growth. In tapeworms the synthesis of lipids is only studied in *H. diminuta*. Lipids are generally divided into simple lipids, comprising the fats (triglycerol esters of fatty acids) waxes (esters of fatty acids with complex monohydric alcohols) and compound lipids comprising the phospholipids and glycolipids, steroids are also included in it. There is considerable variation in lipids from species to species and the degree of lipid content. Variation is also seen in the segments and regions of the worms being experimented thus total lipid to be somewhat meaningless, less the degree of maturity is known.

The lipid content of some species grown in different hosts may vary substantially, *H. diminuta* (Ginger and Fairbrin, 1966 b) from Hammarsten contained 9.5% lipid (dry weight) and those from long evans rate 16.5% (dry weight) warren and Daughtery, 1957). In *H. diminuta* the lipids tend to be more abundant in the most posterior proglottids (Fairbrin wetherin hharpur and Schiller, 1961).

Figures for total lipids thus tend to somewhat meaningless unless the degree of maturity in known. The higher content of lipid in older proglottids had led to the view that much of this lipid largely represents waste products, of metabolism (Brand T. Von, 1952). Harrington G.W. (1965) worked on the lipid content of *Hymenol epis diminuta* of *H. citelli*, Shinde G.B. and Mitra K.B. (1979) worked on the lipid percentage variations according to the seasons of *R. (R.) tetragona* (Molin, 1858) after South well, 1930.

II. MATERIAL AND METHODS

The intestine dissected and were found to be heavily infected with cestode parasites, these cestodes of various hosts were kept separately and their intestines were also kept separately in previously weighed watch glass.

This material was taken on a blotting paper to remove excess of water and then it was weighed on sensitive balance to obtain in the wet weight of the tissue. Lipids are roughly divided into simple and conjugate lipids, which serve primarily as store of oxidisable substance and those, which are part of structural element of the cell. Lipids are soluble in organic solvent and hence we shall use solvent like methanol, chloroform and ether for their estimation, Berner, H. and I. By block stock method, 1973. Reagents –

- 1) Chloroform methanol
- 2) Vaniline (2 gms of vaniline dissolved in 200 ml of D.W. and add to it 800 ml of orthophosphoric acid kept in for one month).
- 3) Stock – 50 mg of Cholesterol in 10 ml. Chloroform methanol 1 ml. Stock dry two days. Add 2ml conc. H_2SO_4 , boil it for 10 minutes and cool it for 30 minutes.

Homogenate 100mg. of sample by adding 100 ml. Chloroform methanol (2:1). Take 1ml. of supernatant solution; keep it for dry at $37^\circ C$. temp. add 1-ml. of conc. H_2SO_4 , boil it on water bath, cool it for 30 minutes, take 0.2 ml. solution, 5 ml. of vaniline reagent, wait for 30 minutes, read O.D. on colorimeter at 530 mu filter. Lipid content in cestode parasites and their related hosts are shown in table.

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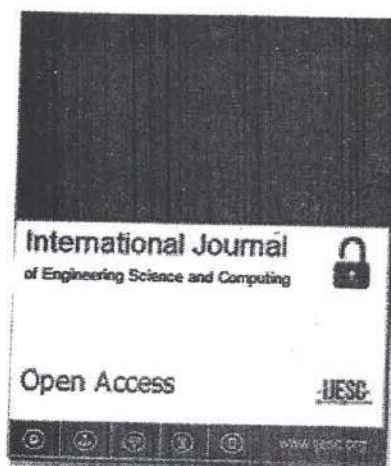
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CALL FOR PAPERS

Human Rights and Pranayama

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Abstract

Health is a basic human right of human being but we are not aware of this fact. So, one of the key element of health is Yoga, which plays an important role to maintain the complete health. Blood Pressure and Obesity are the major common problems in a large group of population worldwide, which is a major risk factor for heart failure, chronic kidney disease, CVD and premature death. Yoga is a science and its practice harmonizes the body and mind. It is a best option of treatment for the benefit of body, mind and inner spirit. Yoga therapy has shown to be useful to subjects with hypertension and obesity. The objective of our study is to study the effect of Yoga and Pranayama on blood pressure and BMI.

Key words: Blood pressure, BMI, Yoga, Pranayama

Introduction

Yoga is an ancient system of self-development which offers a holistic approach to man through its ideology and techniques. Yoga is science and its practice harmonizes the body and mind (1). Yoga is an ancient Indian system of exercise and therapy, is an art of living system for the benefit of the body, mind and inner spirit. Regular practice of Yoga can help to decrease the stress and anxiety. Asana like Paschimottanasana help to increase blood flow to the brain, reduce stress, have calming effect on the nervous system, and greatly help in reducing hypertension (2). Hypertension is a major chronic lifestyle disease and an important public health problem worldwide. Yoga is a mind-body therapy and an alternative to medication, also contribute to an increased feeling of empowerment for patients in preventing and treating hypertension (3).

Obesity is the greatest health problem in the developed world. Adults obesity rates become four times as great over the last 25 years, at least two to three stone overweight and putting their health at serious risk. Most of people eat more food than they require, and much of it is higher in calories that the human body was originally designed to cope with. Fast food, high calories snacks, cold drink and large portion of meals given more energy than required. So, obesity is generated in the body and it also makes a person far more likely to develop a range of health related problems or psycho-somatic diseases like Heart Disease, Arthritis, Hypertension, Diabetes mellitus, Spondylitis,

Infertility, Depression etc. (4).

Yoga provides one of the best means of self-improvement and gaining full potential of one's body, mind and soul. It has been proved beyond doubt that pranayama and certain asanas are a very important means for preventing and curing many ailments. Since 10 years research studies have shown that the practice of yoga improves strength and flexibility and may help in control parameters as blood pressure, respiration, heart rate and metabolic rates (7). So in this study we observed beneficial effects of 3 month Yogic exercise on parameters of hypertension (systolic and diastolic BP), obesity (Body weight, BMI) in subjects on hypertension and obesity.

Objective of the Study

1. To study the effect of Yoga and Pranayama program on the blood pressure level in the hypertensive and on weight in obese subjects.
2. To find the effect of a specific yoga and pranayama for weight reduction in obese subjects.

Materials and Method

Inclusion criteria: Adult patients suffering from Blood Pressure and BMI either singly or in-combination, single or two in one have been included in this study.

Exclusion criteria: Patients suffering from other disorders like liver disease, pulmonary disease, malabsorption, thyrotoxicosis, alcoholism and non-cooperative patients were excluded from the study.

Selection of patients and duration of study: We have selected subjects from Town Pimpalner, District Dhule, Maharashtra, India. The study was undertaken at S. G. Patil Thakursih Dnyanpeeth Highschool, Pimpalner, District Dhule, Maharashtra. In this study 30 patients were included after screening by inclusion and exclusion criteria for blood pressure and BMI (>26-30 Kg/M² overweight and >31-39 Kg/m² Obese range). These patients were randomly segregated into two groups, each group had 15 patients. Group I is the study group for evaluation of the effect of Yoga asanas and Pranayama in addition to the dietary and other lifestyle modifications. Group II was given instruction on dietary and lifestyle modification but not to do Yoga, Asanas and Pranayama.

The study protocol was ethically approved by Institutional Ethical Committee. An informed consent

Occurrence of Pesticide Quinolphos In The Soil Samples of Sakri Taluka of Dhule District of Maharashtra, India

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Abstract:

Survey of marketing shops was carried out which sold 27512 kg. of organochlorine 12610 kg. of organophosphorus, 5848 kg. of carbonet and 15994 kg of synthetic pyrethroids. These pesticides are used by farmers in very small areas of land for cultivation of Grapes, Pomegranates, and vegetables.

Introduction:

India is the third largest consumer of pesticides in the world and highest among south Asian countries (Kumari B, 2002) more than 128 pesticides are registered in India (Laxmi, 1992). Due to subtropical climatic condition proliferation of insecticide is very high, pesticides have therefore become an inevitable tool in controlling the pest of various field crops, about 10-12% of the total pesticides used on fruits and vegetable crops. Pesticides are spread through all segments of the environment (Jensen, et al., 1969) due to indiscriminate usage. Their persistent use leads to build up of toxic residues on crop produce, which may exert adverse effect on human health in addition to disturbing the ecosystem. This problem is more serious in case of vegetable, as these are often consumed either raw or without much processing or storage. Having global existence, organochlorine insecticide residue have been reported from each and every environmental commodity such as water vegetable, milk etc (Kumari et al., 2002)

In 1996 on Indo Dutch study of River Yamuna water had found pesticide like DDT, aldrine, dieldrine heptachlore and BHC in the river water being supplied to the city as drinking water (CGWB, 2000). The level of pesticides present in the water in an area depend on the amount of pesticides used per unit area for instance the level of pesticide in the water is low in Himachal Pradesh as the pesticide consumption of pesticides is low in the state compared to the consumption in Delhi, Uttar Pradesh & Haryana (Kumari et al, 1996).

Residues of extremely harmful pesticides have been found in popular brand of bottled water sold in Delhi and Mumbai (CSE, 2002). Since the practice of agriculture began, human have been struggling to reduce the adverse effects of pests on crops, forest and ecosystem. Pests such as arthropods, weeds and pathogens have been still continued to be a major constraint to agricultural production throughout the world. Man has been combating against his pest enemies from the day he learnt the art of agriculture.

Objective:

Objective of our study was to find out pesticidal contamination of soil. One sample of soil per month during 2008 was collected from field and analyzed to investigate residues in soil samples. Our studies show that Quinolphos organophosphorous pesticide were detected above limit of quantification in 05 samples. For analysis of soil samples GCMS and LCMS system were used.

CONCLUSION:

Health Effects of Pesticide in Drinking Water

Although most of us unknowingly encounter many toxic substances in our daily lives, in low enough concentrations they do not impair our health. Caffeine, for example, is regularly consumed in coffee, tea, chocolate, and soft drinks. The small amount of caffeine in these products impacts our nervous system acting as a stimulant. Excess amounts, however, can cause anxiety, high blood pressure and severe central nervous system stimulation. Although the amount of caffeine consumed in a normal diet does not cause illness, just 50 times this amount can kill a human. Similarly, oxalic acid found in rhubarb and spinach is harmless in low concentrations found in these foods, but oxalic acid will lead to kidney damage or death at higher doses. Gasoline, Carbon monoxide, chlorine, household bleach and cleaners, and alcohol are just a few of the numerous other substances we interact with each day and which can be toxic in high concentrations or due to excessive exposure. (Miller 2004).

In the agriculture industry, pesticides are one of the most commonly dealt with substances with potential for adverse effects on humans. Health effects of pesticides depend upon their chemical characteristics of many

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