STATEMENT OF THE PROBLEM

Intestinal parasitism being rife is of cardinal importance as a public health hazard in developing countries including Indian sub-continent. Parasitic infestations top the list of various intestinal disorders. There is scanty information about this ubiquitous entity more so in rural India, whose inhabitants are constantly exposed to this peril due to the poor environmental sanitation and hygienic conditions. In addition, they are a constant and perpetual source of further spread. Considering the magnitude of public health problem posed by the intestinal parasitism and resulting morbidity, any endeavour in a search of effective control of the mellady, and to find out the social and environmental condition that play major role in its spreading, is the need of the day. For implementing effective control measures, one should know about the prevalence and pattern of parasitic infestation in particular community. In view of this perspective the present study was carried out. As society and environment act as an agents in the transmission of diseases, an attempt was made to find out the role of social, environmental and cultural factors in prevalence of parasitic infestation. Thus the present study concentrate on to finding out the association between intestinal helminthic infections with all possible environmental sanitation, personal habit and socio-economic factors.
AREA OF STUDY

It is a comparative study of social conditions that help to spread intestinal parasites in rural and urban settings. As such it is proposed to comparatively analyse the socio-environmental conditions that encourage the prevalence of intestinal parasitic infestation.

It is conducted at Urban Health and Training Centre (UHTC) Zohrabagh (Dodhpur) Aligarh under Department of Community Health, J.N. Medical College, AMU, Aligarh for Urban Community and at Rural Health and Training Centre, Jawan, under the same department for rural Community.

DESCRIPTION OF THE FIELD

Urban Health and Training Centre, Zohrabagh is situated at a distance of about 1 Km from J.N. Medical College, AMU, Aligarh. The jurisdiction of the centre spreads over two nearby Mohalla's Zohrabagh and Jeevangarh, Zohrabagh is mainly inhabited by upper class people. The majority of the residents in this locality is of University employees and drawing handsome salaries. Housing and environmental conditions are generally satisfactory. In contrast to it the families residing in Jeevangarh is by and large, comprising poor people. As such the social and environmental conditions of the locality are not satisfactory. Most of the people belong to low social and economic structure.
Almost all the registered families residing in the above mentioned areas are provided comprehensive health care by the centre which conducts the health survey and provides all possible facilities to its registered families. Besides total Immunization, and other necessary health programmes are also provided to them. Health status alongwith other vital informations are recorded in the family folders of the registered families. An index card is issued to the head of the families, which indicates the number and names of the family members. The centre has registered about 1000 families belonging to both the localities: Zohrabagh and Jeevangarh. Centre has the facility of laboratory examination of stool, urine and blood. There is a team of doctors, laboratory technician, pharmacist, social workers and health workers.

Rural Health and Training Centre (RHTC), Jawan is situated in Jawan Block, in Tahsil Koil of Aligarh. The Centre is attached to the Department of Community Health, J.N.Medical College, AMU, Aligarh, and is situated at Jawan Village infront of primary health centre adjacent to the Community Development Block, which is about 15 km from Aligarh City and lies on the main highway connection Aligarh to Bulandshahar. The field under investigations is easily approachable by all weather pucca road. The nearest railway station is Hardwaganj which lies on Aligarh Bareilly route of Northern Railway. The village Jawan has about 5,000 population. The social and environmental condition of the village is
generally not satisfactory. Most of the people belong to low income group. As such the socio-economic condition of the people is not adequate. The people are not aware of hygienic condition. RHTC has registered 600 families of the village. The centre provides all the facilities to all the card holders. Like UHTC this centre also recorded health status along with the vital information like, housing condition, food and dietary habit, drinking water, drainage system, occupation, income, literary and marital status in the family card of the registered families. An index card is given to the head of the families bearing the names and numbers of family members. The centre has well-equipped laboratory for different types of medical examination. A team of doctors social health workers also visit the area to educate the people to improve their health condition. Peoples are generally cooperative to some extent. Researcher faced not much difficulty to establish report with the people and further to collect relevant information for the purpose of the present study. In the beginning they hesitate to reply certain questions, but after persuasion they come out of their responses and express their reaction.

OBJECTIVE OF THE STUDY

The study aims at achieving the following objectives:

1. To study the socio-demographic traits of rural and urban patients suffering from the intestinal parasitic diseases.
2. To study the social and environmental conditions in terms of:
   (A) Housing and locality
   (B) Water supply and drainage
   (C) Food and dietary habit,
   (D) Personal hygiene

where the patients of intestinal diseases live, and to comparatively analyse them in rural and urban settings.

3. To find out the relations, if any, of the social and environmental conditions with the intestinal diseases and compare them in two different settings: rural and urban.

4. To study the cultural constraints that help to spread the intestinal diseases and comparatively analyse them in rural and urban communities.

5. To study the perception of rural and urban patients of the aforesaid diseases and their outlook towards social conditions and to find out their relation if any, with the disease.
It is proposed to test the following sets of a hypothesis:

1. The social condition in which patients of intestinal parasitic diseases reside is generally unhygenic.
   or
   Poor and unhygienic social condition generally helps to spread intestinal parasitic diseases.

2. The social condition in rural area is more unhygienic than in urban area.
   or
   The group of rural population significantly differs from the group of urban population in terms of social conditions.

3.1 The place of residence and locality where the patients of intestinal parasitic diseases reside is, by large, unhygienic and unhealthy.

3.2 The housing condition and locality in rural is more unhygienic and unhealthy than in urban area.
   or
   Rural and urban groups of population significantly differ from each other in terms of housing and locality.

4.1 The water supply and drainage system of the areas where the intestinal parasitic infected persons reside is, by and large inadequate.
4.2 The water supply and drainage system in rural area is more inadequate than that of urban area.

or

Rural and urban areas significantly differ from each other in terms of water supply and drainage system.

5.1 Generally the patients of intestinal parasitic diseases have bad and unhygienic food and dietary habit.

5.2 The food and dietary habit of the patients under study in rural area is more unhygienic than that of urban area.

or

The patients of intestinal parasitic diseases in rural area significantly differ from those of urban area in terms of food and dietary habit.

6.1 The patients of intestinal parasitic disease are, by and large, do not take care of their personal hygiene.

6.2 The patients of intestinal parasitic diseases in rural area are more careless than those of urban area.

or

The rural and urban patients under study significantly differ from each other in terms of personal hygiene.
7.1 The patients of intestinal parasitic diseases have generally great extent of cultural constraints.

7.2 The patients of intestinal parasitic diseases in rural area have more cultural constraints than those of urban area.

or

The rural and urban patients under study significantly differ from each other in terms of cultural constraints.

8.1 The patients of intestinal parasitic diseases have traditional perception towards such diseases and their treatment.

8.2 The patients of intestinal parasitic infection in rural area have traditional perception towards such diseases and their treatment while their counterpart in urban area have modern perception.

or

The rural and urban patients under study significantly differ from each other in terms of their perception towards intestinal parasitic diseases and their treatment.
VARIABLES

In the present study both dependent and independent variables were taken into account. First of all the information was collected about independent variables like age, sex, marital status, family status, nuclear-joint, religion, occupation and income to expose the important features of the population under study. A part from this a series of dependent variables like, structure of house, source of water supply, drainage system exreta disposal, personal hygiene, and cultural traits were also analysed to find out the extent to which they help to spread of intestinal parasitic infestation.

THE UNIVERSE

The universe of the present study is the registered families of UHTC Zohra bagh and RHTC, Jawan of the Department of Community Health, J.N.Medical College, Aligarh Muslim University, Aligarh.

METHOD

The major tool of data collection is preencoded interview sheduled. The reason is that it may be administered to all segment of population. Both the communities: rural and urban have illerate people. The sample is taken from both the areas and contains illerate people. In the sample of rural area 46.44 per cent and in the sample of urban
area 31.33 per cent are illiterate. In order to maintain similar pattern and to assure free and frank response it is decided to use these tools for data collection.

The interview schedule constains the question relating to the following areas:

1. Socio-demographic traits: age, sex, marital status, religion family structure, occupation and income.

2. Social and environmental condition: which includes housing condition, water supply, food habit and personal hygiene.

3. Cultural constraints that helps to spread the disease.

4. Patient perception towards disease.

**STATISTICAL ANALYSIS**

In the interview schedule certain questions were framed to elicit information on the objective of the study. Some questions were in affirmative and some were in negative. A priori scoring of 0, 1, 2, were given to each respondent keeping the objective of the study and concerned hypothesis in view. The respondent were analysed statistically and further categorise into lower, medium and high on the calculated value of Q1, Q2, Q3.
\( X^2 \) test has also been used to assess the significance among different variables under study. It has further been used to find out the differences between rural and urban population for comparative analysis. To find out the statistical relation if any among independent variables like age, education, occupation, and income, coefficient correlation has been used.

**SELECTION OF THE SAMPLE**

In the Urban Health and Training Centre Zohrabagh 1000 families are registered. Against it 600 families are registered in Rural Health and Training Centre Jawan only from Jawan village, otherwise about 1,400 families are registered in centre comprising five villages. So only Jawan was selected for the purpose of present study for rural community.

The doctor, after medical check-up advised 245 cases for stool examination in the year 1986. Consequently the staff collected the stool samples and send them to laboratory for examination. The stool samples were examined by saline method in the laboratory within two hours of collection. It was found that out of the 245 cases advised for the stool examination in Rural Health and Training Centre, Jawan, 150 cases were positive and 95 were negative. It shows that the percentage of intestinal infestation is 61.0 per cent in rural community Jawan.
In the Urban Health and Training Centre 1000 families were registered, out of which 610 cases were advised for stool examination in the year 1986, by the doctors of the centre. The stool was examined by the same method by the staff of the centre in the laboratory. After examination it was revealed that 350 cases are positive and 260 are negative. Thus the percentage of prevalence of intestinal parasites is 57.81 per cent. The data about number of families registered, number of the cases investigated, number and percentage of positive and negative cases are shown in Table No.1.

### Table No.1

<table>
<thead>
<tr>
<th>Health Centres</th>
<th>Families Registered</th>
<th>Investigated</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Preve.</td>
<td>Perc.</td>
</tr>
<tr>
<td>RHTC</td>
<td>600</td>
<td>245</td>
<td>150</td>
<td>61%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UHTC</td>
<td>1000</td>
<td>610</td>
<td>350</td>
<td>57.37%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In RHTC Jawan 150 cases of intestinal parasitic infection are detected, in the year 1986 by the doctors through stool examination, and some times on the basis patients report and symptoms. All the 150 cases were selected for the present study.

In Urban Health and Training Centre Zohrabagh 350 cases were found infected by intestinal parasites. As the
The investigator wanted to select only 300 cases due to time and money limit. It created a problem because the number of affected cases in Urban centre was quite high. The investigator already selected 150 cases from rural centre Jawan so he had to select 150 cases from UHTC.

The investigator prepared a list of 350 cases from the record of UHTC Zohrabagh and sampled out 150 cases by selecting every alternate cases from the list. Thus the total number of cases selected for the present study is 300: 150 were from RHTC Jawan and 150 from UHTC Zohrabagh. Overall 1600 families were registered in both the centres UHTC Zohrabagh and RHTC Jawan, attached to the Department of Community Health J.N. Medical College, Aligarh Muslim University, Aligarh. Out of these registered families 500 cases were (350 from UHTC Zohrabagh and 150 from RHTC Jawan) were found infected by intestinal parasites. Out of the 500 cases, 300 (150 from UHTC and 150 RHTC) were selected for the administration of research tools. The data relating to the number of cases found infected by parasites and number of cases selected from both the centres are given in Table No.2.

<table>
<thead>
<tr>
<th>Centres</th>
<th>Families Registered</th>
<th>Infected cases</th>
<th>Selected to Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>UHTC</td>
<td>1000</td>
<td>350</td>
<td>150</td>
</tr>
<tr>
<td>RHTC</td>
<td>600</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Total</td>
<td>1600</td>
<td>500</td>
<td>300</td>
</tr>
</tbody>
</table>
Map of Jawan Block

Reference

- Primary Health Centre
- Maternity & Child Health Centre
- Population of Village
- Railway Line
- Pucca Road
- Canal
- Block Boundary

Note: Ten different sectors shown represent ten Nyay Panchayats of the block.
DESCRIPTION OF FIELD

The physiography, topography and climatic conditions are also considered of the area under study as these also affects the onset of diseases. Some diseases grow in damp climate and for some disease dry climate is more suitable to develop.

CLIMATE, SOIL AND SUB-SOIL

The climate prevalent in the western part of the U.P. where the RHTC and UHTC is situated is of tropical type, with three main seasons: Winter from November to middle of March, summer March to June and rainy season from July to October.

The soil of Aligarh is sandy, quickly drying and mixed with (Reh) salt not much favourable to agriculture.

TEMPERATURE

The Aligarh has extreme temperatures. Temperature is very high during May and June and low in December and January. The atmosphere is generally dry all the year.

The Table 1 shows the maximum and minimum temperature. Temperature chart is recorded by Department of Physics, Aligarh Muslim University, Aligarh.
Fig. 1 Average Maximum and Minimum Temperature of Year 1986.
RAINFALL

Though the onset of monsoon is schedule in the third week of June, but usually the rain starts in the beginning of July. Table II shows the average rainfall during 1986. This is also recorded by the Department of Physics, Aligarh Muslim University, Aligarh.

Table I

Average Maximum and Minimum Temperature: 1986- Jan-December

<table>
<thead>
<tr>
<th>Months</th>
<th>Max OC</th>
<th>Min. OC</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>37.3</td>
<td>24.2</td>
</tr>
<tr>
<td>August</td>
<td>34.3</td>
<td>24.0</td>
</tr>
<tr>
<td>September</td>
<td>36.8</td>
<td>20.2</td>
</tr>
<tr>
<td>October</td>
<td>35.0</td>
<td>16.2</td>
</tr>
<tr>
<td>November</td>
<td>29.0</td>
<td>11.2</td>
</tr>
<tr>
<td>December</td>
<td>24.4</td>
<td>5.2</td>
</tr>
<tr>
<td>January</td>
<td>22.5</td>
<td>4.0</td>
</tr>
<tr>
<td>February</td>
<td>29.0</td>
<td>5.1</td>
</tr>
<tr>
<td>March</td>
<td>38.1</td>
<td>8.2</td>
</tr>
<tr>
<td>April</td>
<td>39.0</td>
<td>15.5</td>
</tr>
<tr>
<td>May</td>
<td>44.2</td>
<td>23.0</td>
</tr>
<tr>
<td>June</td>
<td>44.8</td>
<td>24.2</td>
</tr>
</tbody>
</table>
Fig. 2: Average Rain Fall (in mm) of Year 1986.
Table II

Average Rainfall in Millimeter

Year 1986 Jan - December

<table>
<thead>
<tr>
<th>Months</th>
<th>Average Monthly rainfall</th>
<th>Average No. of rainy days</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>78.0</td>
<td>14</td>
</tr>
<tr>
<td>August</td>
<td>340.0</td>
<td>23</td>
</tr>
<tr>
<td>September</td>
<td>180.8</td>
<td>11</td>
</tr>
<tr>
<td>October</td>
<td>120.0</td>
<td>4</td>
</tr>
<tr>
<td>November</td>
<td>7.6</td>
<td>2</td>
</tr>
<tr>
<td>December</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>January</td>
<td>6.6</td>
<td>3</td>
</tr>
<tr>
<td>February</td>
<td>30.2</td>
<td>6</td>
</tr>
<tr>
<td>March</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>April</td>
<td>16.6</td>
<td>4</td>
</tr>
<tr>
<td>May</td>
<td>1.8</td>
<td>2</td>
</tr>
<tr>
<td>June</td>
<td>20.8</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>803.01</td>
<td>75</td>
</tr>
</tbody>
</table>