



COMMUNITY BASED STUDY OF SCRUB TYPHUS AWARENESS AMONG RESIDENTS OF URBAN FIELD PRACTICE AREA IN CENTRAL INDIA

Community Medicine

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ABSTRACT

Background: Scrub typhus is a re-emerging disease in India prevalent in rural and urban India, which is causing life-threatening illnesses.

Methodology: Descriptive cross-sectional study was conducted in the urban field practice area of tertiary health care centre of central India. Study subjects were the adult residents of the adopted families present in the house during the time of survey. Pre tested questionnaire was used to obtain data from total 419 study participants. Data was analysed to obtain percentages

Results: 66.34% study participants had heard about scrub typhus. 61.81% had awareness that it is caused due to an infection.

Conclusion: Study participants were aware about scrub typhus but detailed awareness of transmission and prevention was not present.

KEYWORDS

Community, awareness, urban, scrub typhus

INTRODUCTION:

Scrub typhus is not a new but a re-emerging disease in India. [1,2] It is a single most prevalent, under-recognised, neglected and severe but easily treatable disease in the world. [3,4] It is also known as bush typhus, and is caused by bacteria called *Orientia tsutsugamushi*, which spreads to people through bites of infected chiggers (larval mites). [5,6] Most cases of scrub typhus occur in rural areas of Southeast Asia, Indonesia, China, Japan, India, and northern Australia. This disease poses a significant threat to public health worldwide, and is also significant as any undue delay in diagnosis and initiation in appropriate therapy can often result in severe complications such as acute respiratory distress syndrome, septic shock and multisystem organ failure often culminating in death in morbid patients. Acute kidney failure associated with scrub typhus has also been reported in the tropics. In India, the presence of scrub typhus has been known for several years. The disease is widely spread all over the country, and was reported in several states - Haryana, Jammu, and Kashmir, Himachal Pradesh, Uttaranchal, West Bengal, Assam, Maharashtra, Kerala and Tamilnadu. [2,7,8] As the season for scrub typhus approaches, we need to recognise it as a disease prevalent in rural and urban India, which is causing life-threatening illnesses. [9-12] Doctors should keep this possibility in mind, examine carefully for the presence of eschar in all patients with acute febrile illness, pneumonia, altered consciousness and initiate therapy early in case clinical features are compatible and other diseases have been excluded. Measures to prevent bites are feasible and should be known to people at risk, especially to those who live in rural areas and urban slums. For the prompt diagnosis and timely treatment, all level of health workers need to be aware about clinical features and prevention of the scrub typhus. [13,14] There is dearth of literature on studies related to scrub typhus from the general public in urban areas specifically, and hence present study was undertaken with the aim and objective to assess the awareness about scrub typhus among the residents of urban field practice area.

MATERIAL AND METHODS:

It was a descriptive cross-sectional study, conducted in the urban field practice area of tertiary health care centre of central India. A total of 500 families have been adopted as a part of family survey for undergraduate and postgraduate training in the urban health training centre of the teaching institute. Study subjects were the adult residents of these adopted families present in the house during the time of survey. The study was carried out over a period of two months from October 2019 to November 2019. Ethical clearance was obtained from Institutional ethics committee of the tertiary health care centre of central India.

A total of 419 subjects participated in the study. After explaining the purpose of study, written informed consent was obtained from the

subjects. A predesigned, pretested questionnaire which included questions about cause, symptoms, prevention of scrub typhus was used as a study tool. Each subject was asked questions on a one-to-one basis by the investigator. After filling up the questionnaire, the subjects were given proper information about the spread of disease and its prevention.

Statistical analysis: The obtained data was entered in Microsoft Excel 2007 spreadsheet and analyzed using Open EPI - Info statistical software.

RESULTS:

The study was conducted in the urban field practice area of a tertiary health care centre. Of the total 419 study participants, 184 (43.91%) were male and 235 (56.08%) were female. The mean age of the study participants was 38 ± 3.24 years. The number of study participants who had heard about scrub typhus was 278 (66.34%). The awareness about transmission and circulation of scrub typhus in the community is shown in table 1 ahead.

Table no. 1 Awareness about causation and transmission of scrub typhus (N = 419)

Sr. no.	Statement	Number	Percentage
1	Scrub typhus is caused due to an infection	259	61.81
2	Scrub typhus transmission from animals and humans is possible	74	17.66
3	Mode of spread of scrub typhus is by insect bite	191	45.58
4	Scrub typhus is not transmitted by mosquitoes	76	18.14
5	Scrub typhus is curable	68	16.22

The common clinical manifestations of scrub typhus in the form of symptoms and signs are fever, headache and also lymphadenopathy, cough, dyspnea, rash or eschar, altered sensorium, jaundice with or without hepatomegaly or splenomegaly, and oliguria. [14] Awareness about various clinical features of scrub typhus in the study participants is shown in table 2

Table 2. Awareness about clinical features of scrub typhus among the residents (N = 419)

Sr. No.	Clinical feature	Number*	Percentage
1	Fever	136	32.45
2	Headache	105	25.05
3	Rash	74	17.66
4	Vomiting	49	11.69

5	Blood Loss	43	10.26
6	Bodyache	43	10.26
7	Haemorrhage	18	4.29
8	Chills	13	3.10

*Indicates multiple response

There are many ways by which scrub typhus can be prevented like avoiding human to animal contact. Study participants were asked to mention preventive measures against scrub typhus.

The responses regarding prevention of scrub typhus are shown in Table 3

Table 3. Prevention of scrub typhus (N=419)

Sr. No.	Preventive measure for Scrub typhus according to the study participants	Number	Percentage
1	Personal hygiene	81	19.33
2	Protective Clothes	37	8.83
3	Use Of Rat Killer	18	4.29
4	Early Treatment	12	2.86
5	Use Of Pesticides	6	1

Study participants had misconceptions about prevention from scrub typhus. Use of mosquito repellent as a preventive measure against scrub typhus was told by 12 (2.86%) of the study participants. Twelve (2.86%) of the study participants also mentioned that one has to stay away from stray animals to avoid scrub typhus infection. According to 25(5.96%) study participants, vaccine is available for scrub typhus. According to study participants, scrub typhus can result in various complications such as coma as mentioned by 68(16.22%), acute renal failure mentioned by 31 (7.39%), acute respiratory distress syndrome mentioned by 31 (7.39%) and gastroenteritis as mentioned by 43 (10.26%) study participants.

In response to the question that is scrub typhus a fatal disease, 105(25.05%) study participants agreed.

DISCUSSION:

Given that scrub typhus is a mite borne disease, no man-to-man transmission occurs, but no licensed vaccine is available and no systematic vector control efforts are in place. Thus, avoiding exposure to the vector probably offers the best means of preventing and controlling the disease. Study done in South Korea by Dong Seob Kim [10] shows that 61.4% cases and 79.8% of the control group had heard about scrub typhus which is nearly equal to findings of this study (66.34%). The study done in nurses at Bharatpur, Chitwan, Nepal [7] revealed that 75.7% of the respondents had knowledge on causative agent of scrub typhus, and 62.6% of respondents had knowledge on mode of transmission of scrub typhus. Such high level of awareness was not found in the present study.

Contact with the mite larvae can be prevented by not sitting or lying directly on the ground, or walking barefoot. Changing the clothes after the day's work and a thorough wash also helps. Insect repellent creams may also be protective. Making our homes and surroundings less hospitable to rodents is advisable. The correct awareness regarding prevention from scrub typhus was present in less than half of the study participants. The reason could be due to the inadequate knowledge about the disease and its transmission.

Overall it can be stated that study participants of the present study had a fair knowledge about scrub typhus as a public health problem. However the exact awareness regarding the correct mode of transmission, etiology and prevention from scrub typhus was not noted.

CONCLUSIONS:

All though most of the people heard about scrub typhus, the awareness regarding exact cause, mode of spread, clinical features, complications, preventive measures was less. The clinical picture is characterized by sudden onset fever with chills, headache, backache and myalgia, profuse sweating, vomiting and enlarged lymph nodes. In some patients, an eschar may develop at the site of chigger feeding, usually at sites where the skin surfaces meet, such as axilla, groin and inguinal areas. The knowledge regarding all these was found to be very less in present study. Community needs to be educated about any such emerging or re emerging diseases like scrub typhus so that they can take proper care and limit the spread of such diseases, if they occur.

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