



PREVALENCE OF SCRUB TYPHUS IN A TERTIARY CARE CENTRE IN HIMACHAL PRADESH.

Dr. Aditya Rana*

JR, Department of Microbiology, DRPGMC Kangra at Tanda(H.P). *Corresponding Author

Dr. Subhash Chand Jaryal

Professor and Head of the Department, Department of Microbiology, DRPGMC Kangra at Tanda (H.P).

ABSTRACT **Background:** Scrub typhus is an infectious disease caused by the rickettsial bacteria *Orientia tsutsugamushi*. It is a serious public health problem in the Asia-Pacific region. The primary aim of this study was to identify the prevalence of scrub typhus and increased risk of developing scrub typhus in this region. **Materials And Methods:** A total of 732 serum samples with suspected scrub typhus were received to the Department of Microbiology, DRPGMC Kangra at Tanda for period of 1 years from August 2020 to July 2021. Scrub typhus was tested by IgM ELISA (Inbios International, USA). **Results:** Scrub typhus was diagnosed in 17.4% of patients and the majority of them were observed in the month of August to September. Serum positive females were in predominance to males with a ratio of 1.6 : 1. Majority of the samples were from district Kangra 85(66.4%) followed by 15(11.7%) from district Chamba. **Conclusion:** With a growing number of cases of Scrub typhus disease in north India it is a matter of great concern. Health education campaigns focusing on the awareness of disease, quick diagnosis and prompt management is required to minimize morbidity and mortality from this disease.

KEYWORDS : Scrub typhus, North India, Prevalence, Enzyme linked immunosorbent assay.

INTRODUCTION:

Scrub typhus is a rickettsial disease caused by the rickettsial bacterium *Orientia tsutsugamushi*. [1] Scrub typhus is a serious threat to public health in the Asia-Pacific causing illness in one million people each year. [2] The disease has become a crucial occupational hazard in rural workers, adults involved in agriculture, forest occupation, soldiers in temporary camps, and in those living close to bushes and wood piles. [3]

There have been outbreaks in areas located in the sub-Himalayan belt, from Jammu to Nagaland. There were reports of scrub typhus outbreaks in Himachal Pradesh, Sikkim and Darjeeling (West Bengal) during 2003-2004 and 2007. Re-emergence of scrub typhus has become the major cause of PUO in many parts of India, mainly during the monsoon and post monsoon seasons. In India 23 states have reported the presence of scrub typhus. [4-7]. The present study was focused to estimate the prevalence of scrub typhus in this region.

MATERIAL AND METHOD:

A retrospective study was conducted in the Department of Microbiology, DRPGMC Kangra at Tanda for a period of one years from August 2020 to July 2021. All samples were tested for detection of IgM scrub by enzyme linked immunosorbent assay (Inbios International, USA).

RESULT:

732 serum samples with suspected scrub typhus were received to the Department of Microbiology DRPGMC Kangra at Tanda for a period of 1 years from August 2020 to July 2021. 345(47.1%) were male and 387(52.8%) were female. Majority of the samples were from District Kangra 549(75%), 75(10.2%) from District Chamba followed by 49(6.6%) from district Hamirpur.

Table 1: Distribution Of Samples On The Basis Of Districts

District	Number	Percentage(%)
Kangra	549	75
Chamba	75	10.2
Hamirpur	49	6.6
Mandi	37	5
Una	18	2.4
Bilaspur	4	0.5

Out of 732 serum samples 128(17.4%) were reactive for IgM scrub. 49(38.2%) were males and 79(61.7%) were female. Male to female ratio was 1:1.6. Maximum samples were from the age group 20-40(68.4%). Majority of the samples came positive during August and September.

Majority of the positive samples were from district Kangra 85(66.4%), Chamba 15(11.7%) followed by Hamirpur 12(9.3%) least were from

district bilaspur 1(0.7%).

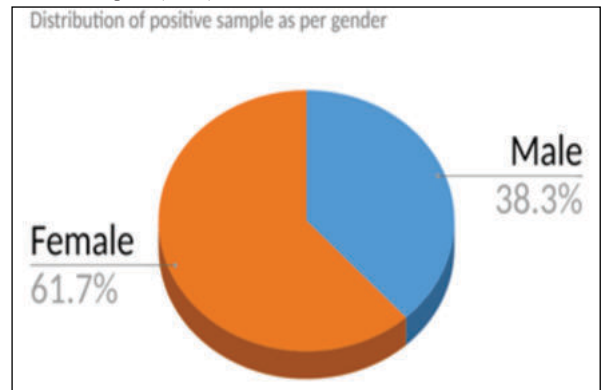


Figure 1: Distribution Of Positive Sample As Per Gender

Table 2: Distribution Of Positive Samples As Per Districts

District	Number	Percentage(%)
Kangra	85	66.4 %
Chamba	15	11.7 %
Hamirpur	12	9.3 %
Una	8	6.2 %
Mandi	7	5.4 %
Bilaspur	1	0.7 %
Total	128	100

DISCUSSION:

High prevalence of infective vectors, increased contact between humans and vectors, temperature, humidity, prolonged rains, rich growth of vegetation favour disease transmission in our region. Prevalence of scrub typhus in our study was 17.4%. In comparison to our study various studies in India showed prevalence which range from 13 to 63% [8-10]

Most of the cases were seen from the age group 20-40 years. This could be justifiable as this age group is dedicated for outdoor activity for earning and living. Similar results were shown in study by Lakshmi et al with predominance in age group between 20 -50 years. Female predominance was seen in our study. Similarly in study by Trowbridge et al also showed female predominance. Female predominance could be legitimate as outdoor activities like agriculture are done by females more as compared to males in this region.

High prevalence of scrub typhus was seen in district Kangra with 85(66.4%) followed by adjoining district Chamba 15(11.7%) and least were from district Bilaspur 1(0.7%). High prevalence of this disease in district Kangra might be due to easy availability of diagnostic facilities

in our hospital.

CONCLUSION:

In conclusion, this study provides beneficial, regional data about scrub typhus, which can inform clinical and public health guidelines at a local level. Our study has limitations as clinical presentation of the positive subjects was not included as it would have enhanced the outcome of the study. Thus, in north India, Health education campaigns focusing on the awareness of disease, quick diagnosis and prompt management is required to minimize morbidity and mortality from this disease.

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