

# PREVALENCE OF COMMUNICABLE DISEASE AMONG RESTAURANT WORKERS ALONG A HIGHWAY IN ASSAM, INDIA

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**Abstract.** 105 workers of 29 roadside restaurants along a highway in Assam were interviewed for their habits, educational status and were examined for their hygienic status and presence of communicable diseases (STDs, TB etc). Most of them were young, males with 40% literacy; more than half were unmarried. About 30% of them were alcoholic and smokers and 2.9% were addicted to cannabis. The hygienic conditions of the workers were poor. More than one third had sexual contact with multiple sex partners or commercial sex workers and 2% were engaged in homosexual activity. Most of them did not use condom. 25.7% of them had genital lesions suggestive of sexually transmitted disease, 11.8% showed Gram negative diplococci in urethral smears and 5.1% were VDRL reactive. Skin infections followed by gastrointestinal disorders and respiratory tract infections were other prevalent problems. 70.6% were positive for intestinal parasites and 22.2% were sputum positive for acid fast bacilli. However all the collected blood samples were negative for HIV.

## INTRODUCTION

Roadside restaurants are commonly known as sites where feeding, resting and vehicle parking facilities are available along the highways. Most of them are made with thatched or tin roofing with minimal or no surrounding walls. Food items are prepared instantly on a brick oven in front to be served to their customers. A few rope-netted beds are placed in open spaces for resting purposes. The long route truck drivers and their helpers, or passengers travelling in buses are their main customers. Most of the workers are young, migratory and rarely stay a year or so at one place. They are unskilled or semiskilled, come from poor socio-economic backgrounds, are separated from family or are victims of natural calamities.

The high risk mobile population like truck drivers, their helpers (Sachar *et al*, 1997; Hazarika *et al*, 1995; Banerjee and Dutta, 1997; The Assam Tribune, 1995), frequently come in contact with these workers. The numbers of seropositives for HIV infection have been growing in the northeast of India, especially in Manipur, Nagaland and Mizoram (Hazarika *et al*, 1995). HIV/AIDS and sexually transmitted diseases (STDs) are associated with the same risk behavior. STDs also facilitate the acquisition and transmission of HIV infection (Sharma and

Chaubey, 1996). Moreover, it was reported that the injecting drug user (IDUs) population congregated around the National highways compared to remote villages and showed 50% HIV prevalence among IDUs may be due to easy transportation of injectable heroin along these highways (Sarkar *et al*, 1997). Therefore this group of the population are at high risk of communicable diseases and usually escapes attention from the health care system. Further, as food handlers, these workers can transmit communicable diseases to those who take food in these restaurants. Therefore, it is important to take up extensive study in this group.

## MATERIALS AND METHODS

Twenty-nine roadside restaurants located along a national highway of Assam were surveyed. All the 105 workers of these restaurants were interviewed regarding sexual behavior, drug use habits and hygienic condition. All those who consented were included in the study; 10 workers either could not be contacted or did not co-operate. Every individual was examined clinically and specimens of sputum, stool, urethral discharge and blood were collected during examination.

Stool samples were collected in 10% formalin and processed by the formol ether concentration method. Sputum samples were concentrated with NaOH and stained by Ziehl Neelsen's method (Cruikshank *et al*, 1975) for acid fast bacilli. Ure-

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thral smears were stained with Gram stain (Thawani *et al*, 1993) and examined for presence of pathogens. Serum samples were tested for VDRL reactivity and by ELISA for HIV antibody (Anonymous, 1988-90).

## RESULTS

Of 105, restaurant workers, 56.2% were between 19-37 years of age and most of them were males. 32.2% were unmarried, 45.7% were educated to primary level only and 5% of them had studied up to graduation.

Fifty percent of the workers had poor personal hygiene (Table 1). 30% were addicted to alcohol and to tobacco smoking and 10.5% were addicted to alcohol alone (Table 2). 30.5% had multiple sexual partners or were exposed to commercial sex workers. Homosexual activity was recorded in 2% of individuals. Twenty-five percent of the sexually experienced workers with multiple sex partners had one or more clinical findings suggestive of sexually transmitted disease (Edwards *et al*, 1995; Schofield, 1979; King *et al*, 1980) Most of them (84%) were not using condoms or had no knowledge about preventive measures.

Superficial skin infection was most common (36.2%), followed by gastrointestinal disorder (30.5%) (Table 3). 70.6% had various intestinal parasites. Sputum positive for AFB was recorded in 22.2%. Gram negative diplococci were seen in 11.8% of urethral smears and 5.1% samples gave a positive VDRL. All the collected blood samples were negative for HIV.

Table 1  
Hygienic status of the study subjects.

Hygienic status	Total	%
Habit of bare foot	58	55.2
Open field defecation	55	52.4
No regular or daily bath	50	47.6
Hand wash after defecation		
with plain water	55	52.4
with soil	4	3.8
with ash	3	2.9
Long and dirty nail	22	20.9
Smegma deposition around the glands penis/foul discharge	14	13.3
Use of open / kacha latrine (Temporary)	5	4.8

Table 2  
Pattern of substances abused among study subjects.

Types of addiction	Total	%
Alcohol and cigarette smoking	31	29.5
Only alcoholic	11	10.5
Betelnut and zardapan	8	7.6
Only khaini	7	6.7
Only smoking	3	2.9
Only cannabis	3	2.9
Mixed: betelnut, khaini bidi, alcohol, pan etc	22	20.9
No habit of substance abuse	20	19.0

Table 3  
Clinical findings of the study subjects.

Clinical findings	Total	%
Ringworm/scabies/fungal skin or infection between finger/toe or in the nail	38	36.2
Irregular bowel mixed with mucous/blood and or associated pain abdomen	32	30.5
Ulcer in and around genitalia/scrotal swelling/epididymorchitis/papular/nodular lesion in and around genitalia/inguinal lymph adenitis	27	25.7
Cough with sputum mixed with blood	11	10.5
Past history of jaundice	9	8.7
Burning high color urine	8	7.6
Acquired/congenital body deformity/psych disorder	4	3.8
Known cases of TB (discontinued treatment)	3	2.9

## DISCUSSION

Roadside restaurant workers were found to have poor hygienic status and many of them were suffering from tuberculosis and gastrointestinal disorders. This may be due to poor personal hygiene, open field defecation and regular close contact with various customers. As they are food handlers for a large variety of persons, they can easily transmit these

pathogens.

STD prevalence among the workers were 25.7% and heterosexual promiscuity was high. Homosexuality observed among the workers might be enhanced by sharing of the same bed by three or more young workers at night. Long distance truck drivers come in frequent contact with them and STD prevalence among these people is high; many of them are also carrying HIV (Banerjee and Dutta, 1997). This has not only made the workers vulnerable to STDs/HIV infection but also can contribute to their spread. It was surprising, however, to find that none of the restaurant workers examined was HIV positive. Unawareness and low literacy rate among the workers contributed more to the spread of these communicable disease. Considering association of the risk factors associated with road side restaurant workers, generating awareness about communicable disease and personal hygiene is of utmost importance. More detailed study and targetted interventions will help in reducing the risk among these workers as well as in the general population.

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