

## The Morbidity Pattern Among Rag Pickers in an Urban Central City of Uttar Pradesh, India : A Cross-Sectional Study



### Medical Science

**KEYWORDS :** Rag pickers, Morbidity, Environment.

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### ABSTRACT

*Background: The most dangerous, demeaning and destructive of self worth for children is, perhaps, the job of scrap collector or rag pickers. The nature of their work and work environment is most unhygienic.*

*Objective: To understand the pattern of morbidity among the rag pickers in a central city of Uttar Pradesh, India.*

*Methods: This was a cross-sectional study conducted in urban area of Lucknow district. Both male and female subjects were included in the study. The district was divided in four areas-north, east, west and south. From each area, two mohallas were selected for the study.*

*Results: About one third (36.6%) of the subjects were in the age group 10-20 years and female (57.4%) subjects were higher than males (42.6%) and majority were illiterates (67.5%). Majority of the subjects had habit of smoking, tobacco and alcohol. Out of 265 subjects, 123(46.4%) suffered from any one of the morbidity. The percentage of subjects suffering from any one of the disease was higher among older subjects compared with younger subjects and this was statistically significant ( $p=0.001$ ). Males (56.6%) suffered more compared with females (38.8%) with statistical significance difference ( $p=0.001$ ).*

*Conclusion: Besides that rag picking is one of the most dangerous and in-human activity where the rag pickers are exposed to harsh weather conditions surrounded by stray animals and infectious solid waste that may induce them with many diseases.*

### INTRODUCTION

India's booming urbanization brings the problem of waste management. The amount of waste is increasing at a high pace and waste management is likely to become a critical issue in the coming years. Rag pickers play an important, but usually unrecognized role in the waste management system of Indian cities. They collect garbage in search of recyclable items that can be sold to scrap merchant (Paper, Plastic, tin etc). This activity requires no skills and is a source of income for a growing number of urban poor. There are two types of scrap- collectors: the rag pickers , mostly women , who collect garbage on dumping grounds, in residential areas or in street bins, and the itinerant buyers who purchase scrap directly from households, offices and shops. Most of the itinerant buyers are male and they typically require a certain amount of capital to purchase scrap.

India's booming urbanization brings along with it, the problem of waste management. As more and more people are migrating towards the cities, the amount of waste is increasing at a high pace. Thus, waste management is likely to become a critical issue in the coming years. Ragpickers play an important but usually unrecognized role in the waste management system of Indian cities. They collect garbage in search of recyclable items that can be sold to scrap merchants (paper, plastic, tin etc). This activity requires no skills. However it is a source of income for a growing number of urban poor 1 .

Rag picking is one of the inferior economic activities in the urban informal sector, largely undertaken by children belonging to weaker sections of the society for their survival and for supplementing their family income and is the profession mostly dominated by children aging 6 to 15 year who do not have any other skill and thus by way of refuse collection contribute to household income or own survival. These are children of slum dwellers and poor people. Some of them are abandoned or runaway children. The continuous exposure to the common garbage and the hospital waste has led to various diseases. Many of them smoke beedi and cigarettes and some are also addicted to drugs and indulge in prostitution and homosexuality , robbery and gambling.

All this has affected their lives in several ways and shortened their life spans considerably<sup>2</sup>.

The present study was conducted to understand the pattern of morbidity among the rag pickers in a central city of Uttar Pradesh, India.

### MATERIAL AND METHODS

This was a cross-sectional study conducted in urban area of Lucknow District after ethical approval of the institutional ethical committee mostly residing in slums. The purpose of the study was explained to each subject and the consent was also taken from each subject before interviewing them. Both male and female subjects were included in the study. The District was divided in four areas- North, East, West and South . From each area, two mohallas were selected for the study. On the basis of 5% level of significance and 80% power, the sample size required was carried out by using SPSS 16.0 version (Chicago, Inc.USA).

### RESULTS

About one third (36.6%) of the subject were in the age group 10-20 years and 25.3% were below 10 years . However 17.4% were between 21-30 years. The percentage of older subjects was less than 10% female (57.4%) subjects were higher than males (42.6%) and majority were illiterates (67.5%). Among more than one third of the subject, the no of persons in the family was 3-5. Majority of the subjects had habit of smoking tobacco and alcohol (Table -1).

Table -2 describes the morbidity pattern of rag pickers in last 1 month preceding the study. More than half (67.2%) of the subject were suffered from tuberculosis and 80.4% suffered from bronchitis. However, asthma was found among 75.1% of the subjects and pneumonia was observed among 79.6% of the subjects. The percentage of other morbidities was also more 50%.

Table-3 presents the frequency distribution of rag pickers suffering from any one the morbidity in last one month preceding the study according to demographic profile . The percentage of subjects suffering from any one of the disease was higher among older subjects compared with younger subjects and this was statistically significant ( $p=0.001$ ). Males (56.6%) were more suffered compared (38.8%) with statistically significant difference ( $p=0.001$ ). The pattern of morbidity was higher among illiterates among those having higher number of persons in the family. The morbidity was also higher among the smokers,tobacco chewers and alcoholics.

### DISCUSSION

In most of the cases, there is a chance of health hazards to rag pickers. In a survey<sup>3</sup> , it was indicated that 82% had wounds or injuries; 6% had body pains ; 5% had skin or lung diseases and 7% said that they were not faced any health problems . Lack of precautionary safety measures and lack of awareness regarding

health were the main causes of health diseases. Rag pickers did not take care of their health because of ignorance and poverty.

At Itaoca , Brazil, the age groups of scavengers and their percentage were in the order of 14 to 17 years (11%) 18 to 30 years (25%), 31 to 45 years (35%) and 46 to 65 years (27%). It was also reported that 54% of them were men. However, metropolitan Landfill in Rio -de - janerio, Brazil, the majority of the scavengers (43%) belonged to the age group 18-30 years and 77% of them were men<sup>4</sup> In Delhi,35% were found to be female workers and 65% males In GHMC corporation,74% of the rag pickers were males. Kumar et al<sup>5</sup> reported that there were 3,965 children engaged in rag picking in the various urban settlements of Nepal , with the highest concentration being in Katmandu Valley. The present investigation showed that young, middle and old aged people were engaged in rag picking. Female(57.4%) Subjects were higher than males (42.6%) and majority were illiterates (67.5%) . Among more than one third of the subjects, the no of persons in the family was 3-5 Majority of the subjects had habit of smoking , tobacco and alcohol.

In Delhi , most of the waste pickers were migrants from neighboring states. That is ,33% from West Bengal, 22% from Uttar Pradesh and 13% from Bihar. In Jammu city also most of the rag pickers (81%) hailed from Bihar State 6.

A perusal of literature showed that a few studies on health problems of waste collectors (rag pickers) have been carried out within and outside country, recollecting situations similar to those of Lucknow district. It is true that in developing countries , solid waste workers and waste pickers routinely touch the waste they collected and stepped on waste because they typically wore only sandals . Therefore, they are easily susceptible to various infectious diseases. A study on waste pickers working at Calcutta's Dhaka dump site showed that they had respiratory diseases , diarrhea, protozoa and helminthes infestation . Rag pickers in Kathmandu, Nepal had very poor health due to the consumption of unhygienic food and working in polluted environment and suffered from diarrhea, cold and scabies. They were highly exposed to tetanus and other infections caused from cuts by sharp metal pieces, broken glass and other solid wastes. Waste pickers were reported to have headache to have at many dump sites like that in Kathmandu and Bangkok. In 1990, Institute of Hygiene and University of Genoa conducted clinical examination on 1396 solid waste employees of Genoa, Italy . It indicated the probability of Hepatitis B Virus infection among them Stool samples collected from solid waste pickers of India , Brazil, Bangkok and Manila have revealed widespread parasitic infection among them Tuberculosis ,Bronchitis, Asthma, Pneumonia, Dysentery , Parasitic infection and Malnutrition were the most common diseases reported among waste pickers in Bangalore and New Delhi. Infection related infant mortality studies showed that 38% women workers had lost one child , 10% had lost 3 or more, the main causes being diarrhea, tetanus, small pox , Bronchitis and Viral infection<sup>7</sup> . At Bombay's open dump sites, of 95 landfill workers surveyed , 80% had eye problems, 73% had respiratory ailments, 51% had gastro intestinal ailments,40% had skin infection or allergies and 22% had orthopedic ailments . Most workers complained of eye burning , diminished vision, redness, itching and watering. Clinical examination showed 27% having skin lesions , of which 30% were determined to be directly occupation<sup>8</sup> .

In the present study more than half (67.2%) of the subjects were suffered from tuberculosis and 80.4% suffered from bronchitis. However, asthma was found among 75.1% of the subjects and pneumonia was observed among 79.6% of the subjects .The percentage of other morbidities were also more 50%. The percentage of subjects suffering from any one of the disease was higher among older subjects compared with younger subjects and this

was statistically significant (p=0.001). Males (56.6%) were more suffered compared with females (38.8%) with statistical significance difference (p 0.001). The pattern of morbidity was higher among illiterates among those having higher number of person in the family. The morbidity was also higher among the smokers, tobacco chewers and alcoholics.

Solid waste collectors in Denmark had a relatively high risk of occupational diseases and injuries when compared to Denmark's total work force. The highest relative risk was found from infectious diseases. Around 180waste pickers at the Calcutta's open dumps were studied to find that 40% had chronic cough and 37% had jaundice. The average quarterly incidence of Diarrhea was 85% fever was 72%. Cough and cold were 63%, besides eyes soreness or redness occurred quarterly in 15% and skin ulcers in 29%.

## CONCLUSION

Besides that rag pickers is one of the most dangerous and in - human activity where the rag pickers are exposed to harsh weather conditions surrounded by stray animals and infectious solid waste that may induce them with many diseases.

**Table-1 : Demographic profile of Rag pickers**

Demographic profile	No. (n=265)	%
Age in years		
<10	67	25.3
10-20	97	36.6
21-30	46	17.4
31-40	26	9.8
41-50	18	6.8
>50	11	4.2
Gender		
Male	113	42.6
Female	152	57.4
Education		
Illiterate	179	67.5
Just literate	62	23.4
Literate	24	9.1
No. of persons in the family		
<3	56	21.1
3-5	110	41.5
>5	99	37.4
Habit of smoking		
Yes	197	74.3
No	68	25.7
Habit of chewing tobacco (pan/pan masala)		
Yes	210	79.2
No	55	20.8
Habit of alcohol		
Yes	223	84.2
No	42	15.8

**Table-2 Morbidity pattern of rag pickers in last 1 month preceding the study**

Morbidity Pattern*	No (n=265)	%
Tuberculosis	178	67.2
Bronchitis	213	80.4
Asthma	199	75.1
Pneumonia	211	79.6
Dysentery	215	81.1
Parasitic infections	218	82.3
Malnutrition	202	76.2
Eye Problems	175	66.0
Respiratory ailments	216	81.5
Gastro intestinal ailments	219	82.6
Skin infections / allergies	201	75.8
Orthopedic ailments	168	63.4

Diminished vision	145	54.7
Redness	189	71.3
Itching and watering	179	67.5

\* Multiple response

**Table -3: Frequency distribution of rag pickers suffering from any one the morbidity in last one month preceding the study according to demographic profile**

Demographic profile	No. of subjects	Morbidity		P-value
		No.	%	
<b>Age in years</b>				
<10	67	24	35.8	0.001*
10-20	97	30	30.9	
21-30	46	29	63.0	
31-40	26	18	69.2	
41-50	18	14	77.8	
>50	11	8	72.7	
<b>Gender</b>				
Male	113	64	56.6	0.001*
Female	152	59	38.8	
<b>Education</b>				
Illiterate	179	105	58.7	0.001*
Just literate	62	13	21.0	
Literate	24	5	20.8	
<b>No. of persons in the family</b>				
<3	56	14	25.0	0.001*
3-5	110	46	41.8	
>5	99	63	63.6	
<b>Habit of smoking</b>				
Yes	197	110	55.8	0.001*
No	68	13	19.1	
<b>Habit of chewing tobacco (pan/pan masala)</b>				
Yes	210	119	56.7	0.001*
No	55	4	7.3	
<b>Habit of alcohol</b>				
Yes	223	112	50.2	0.001*
No	42	11	26.2	

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