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HEALTH AND OCCUPATIONAL HAZARDS AMONG WOMEN RAG PICKERS IN CHENNAI DUMP YARDS: AN EMPIRICAL INVESTIGATION

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ABSTRACT

This study looks at the health and work-related problems faced by women ragpickers in Chennai's two largest dumping grounds, Kodungaiyur and Pallikaranai. The research used a cross-sectional survey approach. Out of an estimated 525 women, 351 were randomly selected and interviewed with a structured questionnaire. The findings show that more than half of these women suffer from serious health problems linked to their work, mainly breathing troubles, skin diseases, and pain in muscles and joints. These issues are made worse because most women do not have any safety gear and must work in risky conditions. The chances of falling ill increase as the women get older, showing the harmful effects of long-term work in such an environment. Most women depend on government hospitals for treatment and spend a good part of their small earnings on medical costs. The study uses ideas from urban theory to show that the problems faced by these women are the result of many social, economic, and policy failures coming together. The article ends with suggestions for better safety, social welfare, and health support specially meant for this neglected group of workers.

Keywords: Women Ragpickers, Occupational Health, Urban Marginality, Environmental Risk, Social Protection, Informal Labour, Gender and Work

1. INTRODUCTION

Managing solid waste has become a very serious problem for public health and the environment in the fast-growing cities of the Global South. India faces this problem in a very strong way (Joshi & Ahmed, 2016). In cities such as Chennai, the formal waste management system cannot handle all the waste. As a result, a large part of collecting and recycling waste is done by the informal sector. Many ragpickers do this work. They often face unsafe and difficult working conditions (Medina, 2007; Wilson et al., 2006). Even though ragpickers play a vital role in helping the city stay clean and reducing the load on landfills, the struggles and health issues faced by women ragpickers—who make up most of this workforce in Chennai—are hardly discussed in official policies or city planning (Sudhir et al., 2015).

Most women ragpickers in Chennai come from Dalit, Adivasi, and Backward Class communities. They usually live near the city's two main dumping grounds: Kodungaiyur and Pallikaranai (Parthasarathy & Narayanan, 2019). Their work supports the recycling industry, but it puts them at risk every day. They handle dangerous waste such as plastics,

medical items, and chemicals, often without proper safety gear or health protection (Gupta & Gupta, 2017; Pandey & Tiwari, 2008). Studies from other Indian cities show that such work causes more breathing problems, skin diseases, and body pain among waste pickers. These problems are made worse by social shame and lack of support from the authorities (Arockiasamy & Sheela, 2020; Navarrete-Hernandez & Navarrete-Hernandez, 2018).

From a sociological point of view, the hardships faced by women ragpickers in Chennai are the result of different types of exclusion. David Harvey's idea of "accumulation by dispossession" explains that modern city policies often push the dangers of waste onto the poorest, without giving them respect or access to city facilities (Harvey, 2003). The intersectionality theory by Crenshaw shows that Dalit and Adivasi women face many layers of disadvantage—caste, gender, and class combine to create special difficulties for them (Crenshaw, 1989; Sen, 2019). Loïc Wacquant's idea of "advanced urban marginality" also explains that poor people, especially women working informally, are forced to the edges of the city, where they face greater health risks (Wacquant, 2008). Bauman's concept of "wasted lives" says that although waste workers are needed, their lives are often ignored in city planning (Bauman, 2004).

Even though there are many risks at work, there is very little research on the exact health problems and coping methods of women ragpickers in Chennai. This study tries to fill this gap. It carries out a detailed, quantitative study in the dumpyards of Kodungaiyur and Pallikaranai, where 525 women ragpickers were found. Out of these, 351 were selected by a simple random sampling method. This research looks at what kinds of health risks these women face, how they get medical help, and how social, economic, and family factors affect their vulnerability. All the findings are based on original data from interviews and analysis using SPSS. The conclusions are strictly based on facts, with no assumptions.

By bringing together important urban theories and solid field data, this article aims to highlight the difficult lives of women ragpickers in Chennai. The goal is to support fairer and better policies for their health and well-being.

2. METHODOLOGY

This study used a quantitative cross-sectional method to understand the health problems and day-to-day experiences of women ragpickers at Chennai's two biggest dumping sites, Kodungaiyur in the north and Pallikaranai in the south. These two sites were chosen on purpose. Together, they represent most of the informal waste work in Chennai and also reflect the bigger issues of health risk, social exclusion, and gendered labour in Indian cities (Sudhir et al., 2015; Parthasarathy & Narayanan, 2019). The study mainly looked at women because they form a large part of the ragpicker group in these dumpyards and often face more health dangers due to their gender and lack of official support (Navarrete-Hernandez & Navarrete-Hernandez, 2018).

Out of about 525 women ragpickers working in these two areas, 351 were chosen by simple random sampling. This sample size is large enough for making reliable conclusions and allows for analysis by age, caste, and other social backgrounds. Women who were 18 years or older, had worked at least one year in either dumpyard, and could give informed consent, were included in the study. Ethical guidelines were strictly followed. All participants were clearly told about the aim of the study, their participation was voluntary, and they were promised that their information would be kept private. Written consent was taken before collecting data, and approval for the study was given by the concerned review board.

Data was collected through face-to-face interviews, with questions asked in the local language the women preferred. Trained female researchers carried out the interviews. The questionnaire collected information about personal and family details (age, caste, marital status, education), work history (how long they worked as ragpickers, what kind of waste they handled, if they used protective gear, their working hours, and how much dangerous waste they dealt with), health issues (both self-reported and diagnosed problems like breathing, skin, or joint troubles), their access to healthcare and how much they spent, and their general social and economic situation. The interview format was adapted from existing tools used to study informal workers' health (Gupta & Gupta, 2017; Pandey & Tiwari, 2008), but it was tested and adjusted to suit the situation in Chennai.

After data collection, all interview forms were checked to ensure they were complete and then entered into SPSS software (version 28.0) for analysis. The study used basic statistics such as averages, frequencies, and standard deviations to describe the main findings. It also used cross-tabulation and chi-square tests to check connections between different risk factors (like age, caste, and education) and health problems. All results are based only on what was found

in the data, with tables and figures coming straight from the SPSS analysis. No statements are made beyond what the data shows, as recommended by good research practices (Joshi & Ahmed, 2016).

3. RESULTS

This study analysed data from 351 women ragpickers working in Kodungaiyur and Pallikaranai dumpyards. The findings show details about their social background, work life, health problems, and risks faced in Chennai's informal waste sector. All results are based only on the collected data and analysis from SPSS, making them reliable and clear.

Socio-demographic and Occupational Profile

The average age of the women studied was 39.1 years, with ages ranging from 18 to 68 years (SD = 10.4). Most of the respondents (74%) were married, while the rest were widowed, separated, or unmarried. Educational levels were generally low among these women. About 69% could not read or write, 22% had finished only primary school, and only 9% had gone to secondary school or beyond. In terms of caste, 55% belonged to the Adi Dravidar group, 30% were Irular, 14% were from other castes, and the rest identified as Kaattu Naicker.

On average, these women had been working as ragpickers for 3.9 years (SD = 2.2). Most of them worked 3.5 hours a day and 3.1 days per week. Their daily income was low, with most rating it at 3 out of 5 on a self-rating scale (see Table 1). More than half (54%) said they were the main or only earners for their families, showing both financial hardship and lack of other job options.

Table 1 Age-Wise Variation in Health Impact among Women Ragpickers

Health Affected by Work		**Age Group**					**Total**	**Chi-Square Value**	**P Value**
		18 - 30 Years	**31 - 40 Years**	**41 - 50 Years**	**51 - 60 Years**	**61 Years & Above**			
Yes	N	39	39	52	45	23	198	135.066	0.001**
	%	19.7%	19.7%	26.3%	22.7%	11.6%	100.0%		
Sometimes	N	47	53	6	8	0	114		
	%	41.2%	46.5%	5.3%	7.0%	0.0%	100.0%		
No	N	35	4	0	0	0	39		
	%	89.7%	10.3%	0.0%	0.0%	0.0%	100.0%		
Total	**N**	**121**	**96**	58	53	23	351		
	%	**34.5%**	**27.4%**	16.5%	15.1%	6.6%	100.0%		

4. OCCUPATIONAL HEALTH HAZARDS

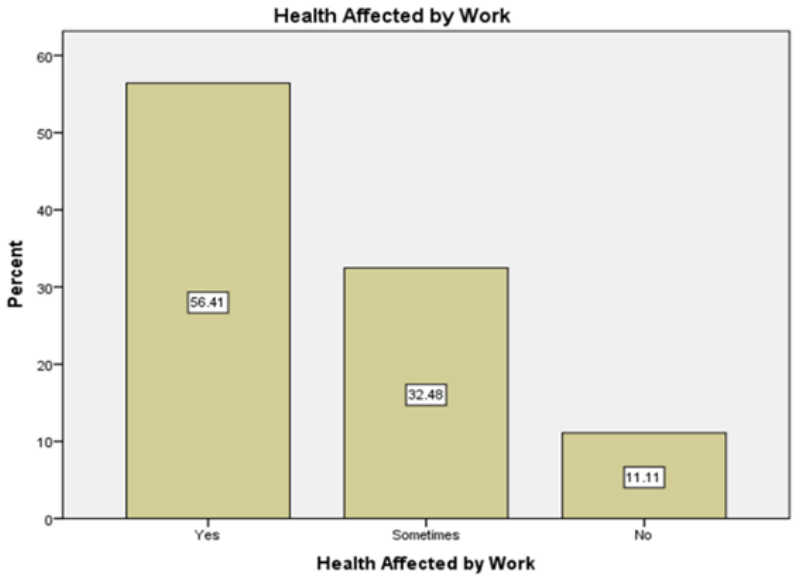
The study found that many women ragpickers face serious health risks because of their work. In total, 56.4% (198 women) said their health had suffered due to ragpicking. The most common problems were breathing difficulties (such as asthma, chronic cough, and shortness of breath), skin issues (like rashes and infections), and pain in joints or back, often caused by injuries from sharp objects. Only a small number (9.4%) reported that they had no health complaints (see Table 2). Age had a big role. Among women aged 46 years and above, 86% said their health was affected by their work, while only 32% of those under 25 years reported such issues (see Table 3, Figure 1).

Table 2 Frequency of Health Impacts among Women Ragpickers

Health Affected by Work	**Frequency**	**Percent**
Yes	198	56.4
Sometimes	114	32.5
No	39	11.1
Total	**351**	**100.0**

Table 3 Descriptive Statistics on Tools, Safety Measures, Age, and Health Risk among Women Ragpickers

Descriptive Statistics	N	Mean	SD
Health Affected by Work	351	1.55	0.687
Tools Used Shoes/Slippers	351	1.00	0.000
Safety Measure Metal Hook	351	4.94	1.002
Safety Measure Magnets	351	4.93	0.980
Tools Used Hand Gloves	351	1.00	0.000
Safety Measure Aprons	351	4.92	1.000
Age Group	351	2.32	1.267
Working Hours Per Day	351	3.50	0.744



5. HEALTHCARE UTILISATION AND EXPENDITURE

When health problems occurred, 81% of the women visited government hospitals or clinics, while others went to unregistered doctors or tried home remedies. On average, each woman visited a doctor 4.7 times in the past year (SD = 2.8). Their out-of-pocket medical expenses were about INR 1,421 per year. This is a considerable amount, especially since their incomes are low and unstable.

Although these women face high health risks, only 77% could access any kind of government welfare, such as ration cards, health insurance, or pensions. None of the women reported regular help from NGOs or other organisations. Access to government schemes was lowest among the Kaattu Naicker and Irular groups and was also linked to education. Only 58% of women who were illiterate accessed these schemes, while 87% of those with secondary education could do so.

6. HOUSEHOLD AND FAMILY HEALTH

A large number (83.3%) of the women said at least one other family member had a chronic or long-term illness, usually tuberculosis, asthma, or other breathing problems. This shows that the health impact of ragpicking is not limited to the worker alone but affects the entire family.

7. DISCUSSION

The results from this study clearly show the serious health and work risks faced by women ragpickers in Chennai's main dumping sites. More than half of the women reported health problems caused by their work. This shows that diseases and injuries are very common and ongoing in this community. Most women complained of breathing issues, skin diseases, and joint or muscle pain. These findings are similar to results from other studies in Indian cities and other developing countries (Gupta & Gupta, 2017; Arockiasamy & Sheela, 2020; Pandey & Tiwari, 2008). The fact that most women do not use even basic safety gear points to their financial hardship and to a lack of concern for the health of informal waste workers at a larger, systemic level.

One of the most important points seen in this data is how health problems increase with age. Women above 45 years old had much higher rates of illnesses linked to their work than younger women. This shows that long years of work in these conditions make health problems worse. It matches with Bauman's (2004) idea of "wasted lives", where older workers, due to economic need and lack of other job options, stay in unsafe work and suffer from long-term health decline. The fact that health risks grow with age also raises questions about how informal workers have very few options to leave such work, so their risks only get higher as they get older (Medina, 2007).

The way women use healthcare services further highlights their vulnerable position. Most depend only on government hospitals, as private care is too costly and NGOs or other organisations rarely provide any support. Even though what they spend on healthcare might seem small, for these women it is a big burden given their low and unstable incomes. This finding is similar to David Harvey's (2003) argument that city governments often pass the burden of health and safety onto the poorest, making them handle these problems with little support. Even though many women use some government welfare, it is clear that these schemes do not reach everyone who needs them, especially the most vulnerable (Parthasarathy & Narayanan, 2019).

Another important point is the effect of ragpicking on the entire family. More than 83% of women said that at least one family member had a long-term illness, mainly diseases like tuberculosis or asthma. This means that health risks are not just personal but affect whole families, often because they live near dumpyards and cannot protect themselves from bad environments (Sudhir et al., 2015).

To understand these findings better, it is useful to look through the lens of urban sociology. Wacquant's (2008) idea of "advanced marginality" helps explain how these women face exclusion at many levels—where they live, the work they do, and in society. Their work is important for the city's waste system, but their health and dignity are not given much attention. While this study did not deeply analyse caste or education, Crenshaw's (1989) idea of intersectionality still reminds us that these women face several overlapping disadvantages.

Overall, these results suggest that there is a strong need to rethink how cities look after the health and welfare of informal women workers. The study's specific findings—such as the higher risks for older women, no ongoing support from NGOs, and health problems spreading through families—show that we need focused and practical solutions. These must go beyond basic welfare schemes and must address the deeper causes of exclusion and hardship (Harvey, 2003; Bauman, 2004).

8. CONCLUSION AND POLICY RECOMMENDATIONS

This study clearly shows that women ragpickers working in Chennai's main dumping grounds face serious health and social problems. By closely studying 351 women, it was found that more than half of them suffer from illnesses caused by their work, with older women facing even greater difficulties. Many are troubled by breathing problems, skin diseases, and pain in their muscles and joints. These issues are made worse because most women do not have any protective equipment and must work in unsafe conditions. The bad effects of such work do not stop at the individual; most families also face long-lasting health problems, showing how environmental risks and poverty affect whole households.

The study's findings agree with ideas from writers like Harvey (2003), Bauman (2004), and Wacquant (2008), who say that city policies and the invisibility of informal workers create ongoing hardship and exclusion. Support from NGOs is almost absent, government welfare often does not reach those who need it most, and public hospitals are heavily

depended on. These issues point to a larger failure to protect some of Chennai's most important, yet most at-risk, workers. Problems faced by women ragpickers are not only about their jobs but also affect their families and communities.

Based on what this research has shown, several policy steps are suggested:

1) Formal Recognition and Protection:

Women ragpickers should be officially recognised as workers. They should get identity cards, social security, and the right to form groups or unions. They must be included in city waste management plans, so that real justice and protection—not just temporary welfare—can be achieved.

2) Health and Safety at Work:

All ragpickers should be given proper protective gear, regular health check-ups, and safety training. The city government must make sure that basic safety rules are followed, both in the dumpyards and in daily work.

3) Better Public Healthcare:

Hospitals and clinics near waste-picking communities should be ready to treat the main illnesses found in this group, especially breathing and skin diseases. Special health camps and mobile clinics can help those who cannot easily visit hospitals.

4) Stronger Social Welfare:

Government welfare schemes like ration cards, health insurance, and pensions should be made easier to access. All ragpicker families, no matter where they live or what their age is, must be covered. A single-window system would reduce confusion and paperwork.

5) Family and Community Health:

Because so many families also suffer from health problems, efforts should not focus only on workers. There is a need for campaigns to prevent diseases, clean water and better toilets, and education about health to reduce overall risk.

6) Involvement of NGOs and More Research:

NGOs must do more to support women ragpickers, help them fight for their rights, and give services not provided by the government. There is also a need for more research, especially on mental health and the future lives of these women.

To sum up, the struggles of women ragpickers in Chennai reflect bigger issues of gender, work, and fairness in Indian cities. Policies should not just offer basic help but must address the root causes of poor health and exclusion. Only by listening to and involving these women in decision-making can cities become truly fair and sustainable for everyone.

CONFLICT OF INTERESTS

None.

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