

Child Waste Workers' Health Sufferings in South Asia

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Child labor remains a health hazard, affecting the mental, physical, and emotional well-being of children. Children engage in waste management through various channels while constantly working to create a healthier and cleaner environment and exposing themselves to numerous health risks.

Keywords: child labor ; waste worker ; occupational health ; health ; injury ; waste ; child ; bangladesh ; india ; suffering

1. Introduction

Child labor is a widespread and persistent global concern as adverse childhood experience obstructs a child's physical, mental & emotional wellbeing, which may persist throughout life ^[1]. Despite various initiatives over the last two decades concerning the detrimental impacts of child labor, it continues to be a major challenge. Still, 160 million children are in the labor force, 21.8 million from southern Asia, despite the fact that the International Labor Organization's (ILO) Minimum Age Convention 138 in 1973 stated that the minimum age for employment "may not be set lower than the age of completion of compulsory schooling and, in any event, not less than 15 years". Globally, a notable proportion of children engaged in hazardous jobs suffer from acute physical injuries and illnesses ^[2]. According to the ILO and United Nations Children's Fund (2021), almost 79 million children are engaged in hazardous work ^[3]. The ILO also estimates that in 1 year, 106.4 million children aged 5–17 experience a work-related injury; even more suffer illnesses or psychological pain. Hazardous child labor can be observed over a wide range of occupational sectors, including agriculture, construction, mining, manufacturing, domestic service, and waste management ^[4].

Given that waste management is still poorly managed and often remains unregulated, the disadvantaged in many developing countries, and poor children, find this to be an easy access to livelihood opportunities. Many waste pickers are children and women in their countries, and they collect waste from households and dispose of this in waste bins and open waste heaps. Thus, they contribute financially to their families' survival ^[5]. It is known that waste collectors are exposed to various accidental risks, such as traffic accidents involving waste vehicles, being caught in and between the trash compactor, being cut/punctured by sharp waste materials, slipping, or falling ^{[6][7]}. Being a child adds to their difficulties because they are often not fully mature enough to avoid the health risks associated with such work.

Work-related injuries and illnesses are multifaceted public health concerns that have a significant human and financial impact in both developed and developing countries ^{[8][9][10]}. Occupational injury refers to any physical injury sustained by a worker in connection with his or her work performance. Since injury is a leading cause of death and disability among children worldwide, preventing child injury is closely connected to other issues related to children's health. Tackling child injury must be a central part of all initiatives to improve the situation of their health and well-being ^[11], but hazardous child labor practice has deep and complex roots, so short-term approaches have little influence on bringing any major impact. This cries out for immediate action, yet it is an under-researched area that lacks reliable official data to effectively address the nature and extent of such labor practices. Most importantly, the evidence of adverse health consequences of child labor in the context of Asian countries is limited. Inadequate data is a major issue for children working in hazardous sectors. Insight into the factual situation is necessary to develop a complete and effective policy and framework to eliminate child labor from its roots and to improve children's overall well-being.

2. Occupational Injuries

According to ILO, an occupational injury is defined as any personal injury, disease, or death resulting from an accident during work; it is therefore distinct from an occupational disease, which is contracted as a result of an exposure over a period of time to risk factors arising from work activity ^[12]. Occupational injuries included cuts (from sharp objects like metals and glass), scratches (from sharp or edgeless objects), burns (from burning wastes), bites (dog bites and snake bites during work, insect bites), muscle and ligament sprains (while carrying waste loads), accidents (road accidents during collection or transportation of wastes or work accidents during handling of garbage), wounds, bruises, contact with

poisonous weeds, exposure to chemical fumes, and airborne dust. Researchers also highlights the importance of using protective gear/equipment in the workplace.

According to these studies, the frequency of being injured was higher among child waste workers, from a minimum of 59.4% in one study ^[13] to a maximum of 93.3% in another study ^[14]. This wide range of frequency was observed for multiple reasons. There was a 7 year gap between the two studies that showed the greatest differences ^{[13][14]}. They were also from two different countries. In the later study, which was primarily concerned with MPD and only used injury as an indicator to compare with MPD, the definition of injury was ambiguous ^[14]. It did not mention the period for which prevalence was considered. The earlier study in Dhaka used purposive sampling, and the period considered for prevalence rates was 6 months, which might have had an effect on the comparatively lower injury prevalence rates ^[13]. The injury rate among rag pickers was 59.4% to 80.3% in Bangladesh, 62.8% in Pakistan, and 70.0% to 93.3% in India. This shows that the overall injury rate was very high in the South Asian region. Six of the studies reported cuts, which ranged up to 84.0%, the highest being in India ^{[13][15][16][17][18][19]}. Dog bites and insect bites were also frequent. One article reported that 92.0% of respondents suffered from animal and insect bites ^[18] and another mentioned that 68.8% of respondents always had to face feces and stray animals ^[16]. Chemical fumes and airborne dust cause various types of health threats, some of which begin in the place where these are inhaled. One article reported on these, and the prevalence of being affected by chemical fumes and airborne dust was 11.2% and 28.0%, respectively ^[16].

3. Physical/Health Suffering

Children engaging in waste management correspond to various physical sufferings and diseases. Almost 10 studies explored different types of physical health problems.

Findings of the studies indicates that 42.1% to 97.3% of these children had experienced health issues ^{[13][16][17][19][20]}. The most common issues were skin problems, respiratory problems, gastrointestinal problems, cold and cough, fever, diarrhea and dysentery, itching, jaundice, headache, and back pain.

Children suffered from a variety of skin problems as a result of their exposure to waste ^[19]. Skin problems affected 5.7% to 97.3% of those polled ^{[13][15][16][19][21]}. The main reason behind this wide range was the definition of skin problems, which varied among the studies. The highest, at 97.3%, was found in one study ^[19] because it included itching, which is common among different groups of people. About 21.0% to 72.4% of respondents reported body aches, 19.7% to 24.0% reported eczema, 11.1% to 73.3% reported itching, and 41.0% reported fungal infection.

In four studies, 9.2% to 85.3% of respondents had respiratory problems and breathlessness, with the majority suffering at a rate greater than 60.0% ^{[15][16][19][21]}. Gastrointestinal and stomach problems were identified in 15.6% to 85.3% of respondents ^{[15][16][19][21]}. One study mentioned that 10.0% of children suffered from diarrhea and 30.0% suffered from vomiting ^[15]. Waste pickers were also prone to jaundice. According to one study, 3.1% of children had jaundice ^[13].

The prevalence of fever was found to be 2.8% to 85.3% and cough to be 6.4% to 82.7% ^{[13][15][16][19][21]}. This wide variation could be attributed to the season in which the study was conducted or to variables considered in the studies. The prevalence of headache and back pain was found to be 3.6% and 6.8% in one study ^[16], compared to 93.3% and 82.7% in another study ^[19]. In this case, the variation in prevalence could be due to differences in work and workplace, among other factors. Other diseases investigated and discovered included 51.5% anemia, 14.4% to 52.0% scabies, 10.6% goiter, 6.0% to 53.3% eye problems, 16.0% dental problems, 4.0% to 8.6% worm infestation, 68.0% to 71.4% fatigue, and 88.0% burning sensation ^{[13][15][19][21]}. Working in the waste sector hampers children's physical development, as one study found growth retardation among 64.0% of child waste workers ^[15].

Many of the children are affected by some sort of physical violence, which includes beating, physical torture, and punishment. Children involved in waste management are also affected by physical acts of violence, along with sexual violence. One study reported that 100.0% of child scavengers experience violence within the home context, 92.0% in the workplace, and 84.0% in communities, whereas girls face sexual violence from their childhood, mainly in the home context, and in the community ^[22].

Compared to children not involved in waste management or related work, child waste workers suffered 20% more gastrointestinal problems, 30% more skin problems, 40% more respiratory and eye problems, and 47% more aches and pains ^[19].

Along with these, there were more severe risks studied. One study explored the cell biology of rag pickers and found that cellular changes and cell DNA damage, which cause genetic or neuro-degenerative disorders, atherosclerosis, aging, cell

death, DNA mutations, and risk of transformation to malignant cells, was more severe in children exposed to garbage [23]. These cellular changes were estimated to be the result of contamination by heavy metals [24], which are very high in waste and garbage dumping locations [24][25][26]. Studies showed that DNA damage could be the adverse effect of air pollution and smoking [27], or from being exposed to e-wastes [28].

4. Psychological Sufferings

Acknowledging psychological sufferings is one of the least practiced behaviors in South Asian countries. This results in more psychological damage and is the root cause of many situations of social unrest [29][30].

Due to the socio-economic conditions and nature of their work, waste collectors, rag pickers, and other waste related personnel are among the most badly affected psychologically in the region studied. These psychological problems and sufferings include depression, anxiety, hopelessness, and feelings of insult.

Working in the waste sector damages a children's mental health in many ways. One study in Bangladesh reported that about 68.0% of child waste workers faced developmental/mental retardation [15]. Minor Psychiatric Disorders (MPD) were also discovered among 42.7% of child waste workers in another study, although the study did not validate SRQ-20 for use with children [14]. MPD encompasses both common and minor psychiatric issues such as depression and anxiety. Girls were more affected by MPD than boys, accounting for 53.1% versus 39.8% [14]. One study reported that injured persons, lower-income groups, smokers, pan (betel leaf) consumers, and those who were not satisfied with their job were more affected by MPD [14].

Hopelessness was studied in one study, which discovered that 14.4% of those polled felt hopeless, against 10.0% in the control group [31]. Psychological health hazards were also investigated in a survey, which stated that 18.0% of respondents suffer from these [2]. In other studies, stress, anxiety, and depression were found to be common. One study looked into psychological violence and discovered that 100.0% of child scavengers were victims of psychological violence within the family context and 92.0% in the workplace [22].

5. Healthcare Seeking Behavior

Although healthcare seeking behavior was not targeted within the research design, it is directly related to health issues and thus included in the study. Five of the 12 studies discussed healthcare seeking behavior.

The practice of seeking proper treatment during illness was very poor among child waste workers. Studies found that between 24.0% and 88.0% of children sought any kind of medical treatment while they were ill [15][16][18]. Seeking treatment from medical professionals and hospitals was very low, at 24.0% to 64.2% [16][18]. Some studies did not mention professional services, but stated that children sought treatment from traditional practitioners [13]. Batol et al. also reported using ghee/oil and sand/dust as medicine by 28.4% and 13.6% of children [16]. However, seeking healthcare services from pharmacies was notable among the studies, as 40.0% to 44.4% of children used the services of local pharmacies [13][15].

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