

Research article



Exploring the multifaceted vulnerabilities of female street child labor in the capital city of Bangladesh

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ABSTRACT

Numerous children experience vulnerability due to their families' profound economic and socio-economic hardships. Among this demographic, females face heightened susceptibility, particularly those engaged in child labor. Dhaka, the capital city of Bangladesh, hosts a substantial population of female child laborers, compounding their precarious circumstances. Hence this study utilizes a qualitative phenomenological approach to investigate the vulnerabilities affecting these female child laborers thoroughly. A total of 25 in-depth interviews were conducted with female child laborers in Dhaka city, following a semi-structured format. NVivo 14 software was instrumental in the systematic coding and analysis of the extensive text data, enhancing the reliability and validity of the findings. This study, therefore, explores various vulnerabilities faced by female child laborers in Dhaka city, including risky health behavior, abusive behavior, sexual harassment, school dropout, unhygienic dietary habits, hazardous work conditions, and sub-standard living environments. Their socio-economic conditions make them susceptible to physical and mental setbacks, exploitation, and loss of dignity. The study emphasizes the necessity for comprehensive support and breaking the cycle through educational, health, and social initiatives. It offers a detailed portrayal of the living conditions of female child laborers in Dhaka city, providing valuable insights and evidence-based policy prescriptions for policymakers and Non-Government Organizations to formulate effective policies and measures to safeguard this vulnerable community.

1. Introduction

Millions of street children are acknowledged as one of the most vulnerable populations, exposed to various forms of violence, risks, and uncertainties [1]. These individuals perceive the streets as their residence and means of sustenance, enduring hardships, and

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injustices as they strive to survive. The classification of these individuals by UNICEF includes the designations of “children of the street,” “children on the street,” and “children from street families”. It is estimated that there are 150 million street children worldwide, and that number is expected to increase [2]. However, estimating the exact number of child laborers living in different world cities is a challenge. The precise figure of street children and youth worldwide remain to be determined due to several factors such as contextual, sociological, regional, and economic influences [3,4].

Population increases, migratory patterns, and urbanization, especially in emerging nations, also contribute to street child numbers. As a result of the aforementioned circumstances, street children have emerged, frequently regarded as marginalized and disadvantaged [5,6]. It is also recognized that these children either live and work on the streets with their families or have left their families and now dwell on the streets. While they contribute to their family’s income and often assume the role of breadwinners, they are largely devoid of adequate protection [7]. Numerous children are compelled to engage in hazardous labor due to various factors, including poverty, limited access to education, gender inequality, and inadequate legal safeguards [8]. These circumstances not only place them at increased risk of physical harm, health hazard, exploitation and abuse, educational deprivation, and psychological distress but also diminish their prospects by constraining their opportunities.

Likewise, it is estimated that there were 249,200 street children in Dhaka (of which 55 % were girls), 55,856 in Chittagong, 20,426 in Rajshahi, 41,474 in Khulna, 9771 in Barisal, and 13,165 in the Sylhet division, according to the survey, which included six major divisions [9,10]. Approximately 9,79,728 children in Bangladesh have ties to street life, which is projected to reach 16,15,330 by 2024 [11]. [9,10] Over thirty percent of Dhaka’s street children live and sleep in public or open spaces, making the issue of street children there particularly complex and diverse [12]. According to the Bangladesh Bureau of Statistics (BBS) survey 2022, most street children, including 83 % of the total, were identified as boys, while girls constituted a significantly smaller proportion (18 %). On average, the age of female street children is 10.5 years. The survey also highlights that Dhaka exhibits the highest proportion of street children, account for 41 % of the total population [13]. In Bangladesh, despite legal prohibitions against child labor, inadequate enforcement allows many children to engage in hazardous work. Street children, despite being highly visible, often face neglect and a lack of effective policies or services to assist them [14]. While governments, NGOs, and service providers may initially express eagerness to tackle the issue, they often introduce initiatives that are inadequately designed and underfunded, thus failing to reach street children or meet their multifaceted needs [15]. Likewise, the magnitude of this problem remains substantial, necessitating ongoing and sustained efforts to eliminate child labor in all its manifestations. In certain instances, street children are labeled as “social problems,” leading to misguided regulations focused on shielding society from perceived anti-social behavior rather than protecting the children. The situation of street children in Bangladesh remains a poignant example of neglect and vulnerability, despite the global emphasis on respecting children’s rights [13].

They lack even the most fundamental amenities, including a proper sleeping arrangement, a secure and comfortable shelter, and access to sanitary facilities [9]. Given that many families in Bangladesh live below the poverty line, they cannot to support themselves financially and rely on their children’s labor to make ends meet. Indeed, various factors, including poverty, limited educational prospects, and societal and cultural norms that restrict girls’ mobility and hinder their access to resources, compel them to engage in street labor in Bangladesh. According to research by Refs. [9,16,17] female street children in Dhaka are more vulnerable to trafficking and sexual exploitation. Another research has demonstrated that the female street children of Dhaka are abused and taken advantage of. Mistreatment can take many forms, including child labor, drug misuse, sexual assault, and harassment. Regrettably, the study discovered that many young women are coerced into prostitution or sexually exploited by friends, family, or the workplace [10]. The prevalence of female child labor in Dhaka city is further compounded by the absence of effective enforcement of child labor laws [18].

While there exists a considerable body of literature and prior studies on the issue of street child labor in Bangladesh, including specific mentions of female street children in Dhaka, there is a critical need to delve deeper into the multifaceted vulnerabilities faced by this demographic. Despite the acknowledgment of their plight, a comprehensive understanding of the unique challenges and systemic factors contributing to the vulnerability of female street child laborers in Dhaka remains lacking. This study aims to fill this gap by providing a nuanced analysis that goes beyond surface-level observations.

Furthermore, while existing studies may have touched upon certain aspects of the issue, there is a dearth of research that synthesizes the findings from various sources, including academic literature, reports from organizations such as UNICEF and the Bangladesh Bureau of Statistics, as well as anecdotal evidence from newspapers and other media outlets. By consolidating and critically analyzing this wealth of information, this study seeks to provide a comprehensive overview of the state of female street child labor in Dhaka, highlighting both the challenges and potential avenues for intervention.

Moreover, situating this study within the broader context of national priorities and international development agendas is crucial. Bangladesh, like many other developing countries, grapples with the complex interplay of poverty, urbanization, gender inequality, and inadequate social safety nets, all of which contribute to the phenomenon of street child labor. By shedding light on the specific vulnerabilities faced by female street children in Dhaka, this study aims to contribute to a more nuanced understanding of these broader development challenges and inform targeted policy interventions aimed at addressing the root causes of vulnerability and exploitation.

2. Theoretical framework

This paper employs an intersectional framework to analyze the vulnerability of female child laborers in Dhaka city. It examines how these children face increased vulnerability due to their marginalized and socially isolated status. The concept of intersectionality as a theoretical framework was initially introduced by Crenshaw (1989) [19]. Over time, this concept has evolved to encompass the complex experiences of individuals who face multiple forms of oppression across various social positions [20,21]. Similarly,

intersectionality was employed to investigate how discrimination affects these children [22]. At the individual level, categories like gender, age, sexual orientation, and socioeconomic status are interconnected and mutually influencing. These personal intersections are shaped by broader social structures [23,24]. At the societal level, power systems and oppression can overlap and intensify over time [25].

Stewart and McDermott (2004) identified three key intersectionality principles relevant to our discussion of child vulnerability [26]. Firstly, they emphasize that social and cultural groups are diverse, rejecting essentialist notions that all group members are identical and underscoring intragroup variation [27,28]. The second principle emphasizes that individuals are situated within broader social structures encompassing social inequalities and power dynamics. Access to power is often overlooked despite its significant impact on social dynamics. Thirdly, individuals may identify with multiple social groups, and this intersection of identities has a distinct, non-additive influence. For example, an individual may possess shared identifying attributes with another person, such as gender and ethnicity. However, it is possible that they do not have similar social situations. Contextual distinctions can lead to diverse encounters, viewpoints, and cognitive processes for navigating the environment [26,29].

Likewise, in our study, we observed, using intersectionality theory, that child laborers are predominantly marginalized and socially isolated individuals residing in slum areas or alongside roads. Many of them lack family support or live far from their families. Additionally, some child laborers may have families, but their socio-economic circumstances are so dire that they are compelled to engage in hazardous work. As our study focuses explicitly on female child labor, gender-related issues come to the forefront. These children are highly susceptible to sexual harassment, abusive treatment, and engaging in risky health-related behaviors. Furthermore, their intersectional identities expose them to physical abuse, consumption of unhygienic food, and drug usage. They endure life in an uninhabitable environment for most, and their impoverished socio-economic conditions often lead to school dropouts. Navigating this challenging world poses significant difficulties for these female child laborers in Dhaka city.

3. Methods and materials

3.1. Research approach

The study employed Interpretative Phenomenological Approach (IPA) to explore the multifaceted vulnerabilities of female street child labor in the capital city of Bangladesh. The selection of this approach was based on its capacity to delve into qualitative studies' proficiency in providing in-depth and comprehensive explanations of the topics of interest [30,31]. Besides, this approach (IPA) helps to attain a deeper understanding of how participants perceive and interpret their own experiences [32]. Moreover, it is a method which is especially valuable methodology when dealing with complex, uncertain, and emotionally charged subject matter [33].

3.2. Sampling technique and size

Purposive sampling, a non-probability approach employed in this study, involves selecting a small sample of individuals with expertise and standardized knowledge relevant to the research topic [34]. Sandelowski (1995) proposed that, in qualitative research, a sample size of 10 would be suitable for investigations focusing on a homogeneous population [35]. Similarly, researchers aim to establish personal connections with fewer than twenty participants to facilitate candid and meaningful dialogues [36]. Previous research suggests that a range of 2–10 participants [37], and 9 to 17 [38] interviews are typically sufficient to attain 'redundancy or saturation' in qualitative research. Hence, we conducted a total of 25 in-depth interviews with female child laborers in Dhaka city. Our selection criteria focused on respondents who were actively involved in female child labor and fell within the age range of 7–17.

3.3. Data collection and instruments

Our data was collected using a semi-structured interview approach, ideal for exploring specific details and obtaining in-depth information relevant to the research questions [39]. Data was collected from May 10, 2023 to August 25, 2023. However, before the main interviews, we conducted five pilot interviews at the field level to refine the questionnaire and align the interview questions with the study's unique context. All participants who took part in the consent process were made aware that it was entirely optional and that the information they provided would be kept private. Interview results would not disclose their identities, although we employed pseudonyms, and all participants provided oral consent. In interviews lasting 27–45 min, researchers utilized two mobile devices for recording and took written notes when necessary. Non-verbal cues and work environments were closely observed. Recorded interviews were later transcribed meticulously, with a separate team conducting a comprehensive review to ensure accuracy.

3.4. Quality assurance, Validity and reliability

The present study utilized NVivo 14, a qualitative research software, for data administration and analysis. The software has proven highly valuable in analyzing extensive text data, facilitating a more in-depth and efficient data analysis process [40]. Using this software, transcripts were methodically coded, categorized, and organized, effectively handling a sizable amount of data to support the validity of the study findings [41,42]. Upon returning from the field, much care was taken to meticulously organize and transcribe the interview. A comprehensive data compilation was conducted, involving triangulation to ensure the highest level of validity, precision, and dependability based on the type, nature, and attributes of the data and information [43].

3.5. Data analysis procedure

The authors utilized a thematic approach for coding the data and performed data analysis through a hybrid of integrated data-driven inductive approach [44] and deductive approach [45]. For concurrent processing and coding, the Granheim model [46] was employed in the data analysis process. Thematic analysis approach is illustrated in Table 1.

4. Major findings

Table 2 presents a summary of the demographic characteristics of the participants who took part in this research study. The study includes 25 females categorized by age range from 7 to 17. Educational backgrounds include individuals with varying levels of literacy, ranging from illiterate to primary school attendees and one high school graduate. Participants' marital status encompasses individuals who are unmarried (18), married (5), and divorced (2). They reside in four distinct areas of Dhaka and are involved in various informal occupations.

This paper describes the existing possible risk factors of female street child labor and the patterns of the working environment in Dhaka city, Bangladesh. The notable challenges/risk factors are categorized into seven overarching groups, as depicted in Fig. 1. However, the subsequent sections will address the issues mentioned in the specified headings.

a. HIV risk behavior or Sexually Transmitted Infections (STIs)

Street children face a serious risk of AIDS. To survive on the streets, female state children prioritize getting food, clothing, and shelter rather than their health or safe sexual behavior [47]. Our study identified HIV and STI risk behaviors among female street child laborers. According to the respondents, the acts engaged in by female street child laborers include both vaginal and non-vaginal intercourse, posing a risk of contracting HIV or STIs. As reported by our respondent, Arpita stated this.

“Some of my male peers advise me to suck their Penis, my boyfriend also told me the same topic. Even my boyfriend told me that if I don’t take to his Penis to my mouth, he will break up with me. Sometimes, he said to me to take his Penis to my Pasa (ass). I refused him, but he forced me to do that. Occasionally, he beat me, and continue anal or oral sex.” (IDI #2)

Furthermore, street children practice survival skills by engaging in prostitution [47,48]. Our Study revealed that homeless female street child labors are more likely to engage in behaviors that enhance their risk of contracting HIV or sexually transmitted Infections disease because of their homelessness. As per our respondent comment

“My mother died seven years ago. My father again married to another woman. My stepmother always misbehaves (tortures) me. That’s why I left home and have been living with my friend (Yasmin) in Korail (Dhaka slum). My friend is not a good girl also. In the beginning I am selling coffee in the street. But, 2 months later my friend (Yasmin) bound me to do bad work (prostitution) at night for more economic gains. The clients use (anal/oral sex) me as they wish without using protection (start crying) (IDI # 5)

b. Abuse, physical torture, and injury

Street children are experiencing frequent verbal and physical abuse and exploitation at work and suffering frequent injuries that hamper their physical and psychological development (Reza & Henly, 2018; Norpoth et al., 2014). Our study identified that abuse, physical torture, and injury are risk factors that female child labors are facing in Dhaka city. Many street children are coerced into performing dangerous jobs like survival sex with cash. Sadia (Age 12) is a cloth (towels) seller. Many times, she faces rude behavior from his customers. Also, she was a victim of physical torture and injury. Most of the time she faced an abusive situation in the street. According to our respondent

“Some devil person bargaining with me & they usually offer below prices than my buying price. Somebody used unacceptable words and acted in an unexpectedly nasty manner while I was selling these clothes in the street. (IDI # 7)

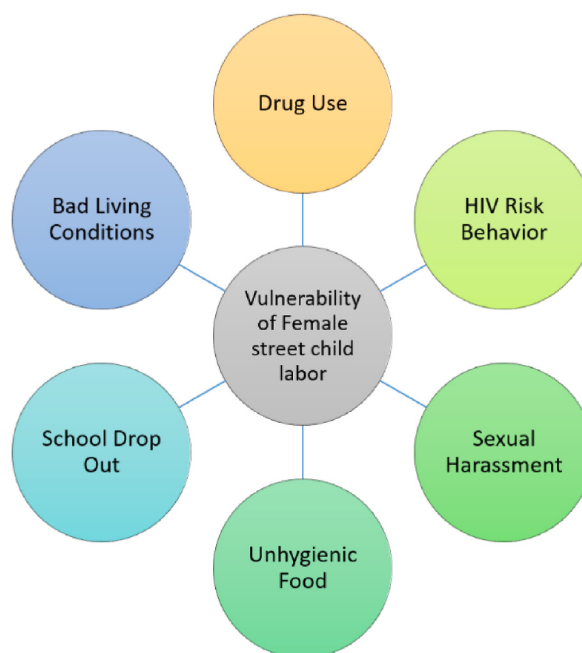
Table 1
Qualitative data analysis using granheim approach.

Steps	Description
1. Interview transcription	The interviews were recorded and reviewed multiple times to facilitate comprehension of their contents.
2. Unit for the formation of meaning analysis	Every interview was examined as one single unit. Primary codes are created by abstracting meaning units.
3. Comprehensive sorting of similar codes	The process of categorizing related core codes into broader and more inclusive groupings.
4. Comparison of codes and establishment of subcategories	All codes and data, however, revealed both parallels and discrepancies. Categories and subcategories were created because of this procedure.
5. Comparing subcategories and establishing primary categories	The preliminary interviews resulted in the identification of a series of codes, categories, and subcategories. The emerging codes were considered the study outcomes following the content analysis approach. Two researchers who were not affiliated with each other analyzed categorical data.

Table 2The distribution of interviewee demographic profiles.⁴

Category	Variable	N	Percentage
Gender	Female	25	100
Age	7–10	8	32
	11–14	13	52
	15 – <18	4	16
Education	Illiterate	11	44
	Primary School	13	52
	High School	1	4
Marital Status	Unmarried	18	72
	Married	5	20
	Divorced	2	8
Current Residence in Dhaka	Zatrabari	5	20
	Sadarghat	8	32
	Savar	5	20
	Mirpur	7	28
Occupation	Selling flowers	5	20
	Logistics Supplying	5	20
	Selling tea	5	20
	Selling Chocolate and toys	5	20
	Selling Street food	5	20

Note: Source: Field Survey.

**Fig. 1.** Female Child labor vulnerability in Dhaka City.

The health of children is intricately linked to their future economic prospects and adult well-being. Children engaged in hazardous work often experience acute physical injuries and diseases [49]. From Rakhi's point of view, female child labor in Dhaka City has extremely banal lifestyle. They are facing numerous antisocial behaviors like physical harassment.

“On the street, I encountered unwelcome touches while hawking. Occasionally, bus drivers attempted to touch my private parts of the body, but I firmly resisted. I actively protested against such actions and remained focused on my selling activities.” (IDI # 6)

c. Sexual harassment and bullying

Our study postulated that sexual harassment and bullying are big risk factors that female child faced for their day-to-day work in

the street. Rukaiya (Age 14) is a coffee seller in the Dhaka university area. Frequently, she encounters misbehavior and bullying from customers, experiencing abusive incidents on the street. According to Rukaiya's statement, she once received inappropriate offers, which she promptly declined.

"I vend coffee in the Dhaka University area. One day, a man approached me and requested a cup of coffee. After receiving the coffee, the man unexpectedly gifted me 500 takas. Initially, I perceived him as wealthy. However, sometime later, he made an inappropriate proposition. He suggested going to a room with him, offering me 10,000 takas." (IDI # 15)

Additionally, street children suffer from physical harm, aggression, verbal abuse, and financial exploitation of adults, clients (Reza & Henly, 2018). Our study also identified sexual harassment and abuse are so common that is happening to the female street child labors when they were working in the street. Our respondent proposed the abusive statement.

Rumi: Did you face bad intentions from your clients?

Meghla: Yes, twice actually.

Rumi: Really? Who are they?

Meghla: One of them works at Karwan Bazar, he is 16. He irritates me every time he sees me. I complained to my elder sister. Ever since then I haven't been there. This happened about a week ago.

Rumi: What do they actually want?

Meghla: They disturb me especially when I go out to work. There is another guy right here in Panthapath area. He is a driver in this area, every time he sees me, he comes to disturb and annoy me and offer taka (currency) to go special room with him. (IDI # 25)

d. Unhygienic food behavior

Our study provided the summary of the female child labor's health and nutritional conditions in Dhaka city. Most of the female child labor came from underprivileged, illiterate families. They were forced to enter the workforce as children since their family's income was very low. The study found that nutritional status was below acceptable, as shown by the numbers of the respondents.

Rozina (14) is the flower seller in the street at Dhaka University area. She always eats unhealthy food from the street due to financial inferiority. She has been facing health issues such as fatigue and weakness. She does not get the proper food that is needed to maintain a balanced diet. Also, she has stomachache problems for which she was hospitalized for a week. There is a lack of treatment because of the limited earnings.

"I eat rice most of the time, but occasionally I'll eat some street food. When I eat outside food, I face many problems like stomachache or acidity problems. Sometimes people give us food, sometimes I don't eat anything. Sometimes, I got offered foods and money to join bad work." (IDI # 8)

Bangladeshi female street children particularly those who are very young, experience various forms of undernutrition. Young Bangladeshi child labor is also incredibly malnourished in terms of micronutrients. Female child labor nutritional condition is thought to be a significant predictor of their future health. It significantly impacts how they will grow up physically, mentally, and intellectually. Unfortunately, a significant number of female street child laborers, particularly in developing countries like Bangladesh, are experiencing various undernutrition. Our study indicated that a large number of child laborers in Dhaka city start working very young, are undernourished, and engage in risky tasks. Respondent claimed that.

"When I feel hungry a lot. I go to a local hotel and eat dal and rice. They gave me free. I want to work for it. I faced an acidity problem, so I took medicine, and it decreased. We basically buy rice for our lunch where per plate costs 60tk. Almost the same goes for breakfast & dinner." (IDI # 12)

Besides, Dhaka WASA supplied water appears to be contaminated even it seems to be crystal clear, and several laboratory tests have proven that it contains germs and bacteria, including those that cause cholera and diarrhea [50]. Our study identified that female child street labor has a risk of health due to their impure drinking water behavior. Most female street labor respondents in Dhaka city do not have access to pure drinking water. The lack of privilege regarding pure drinking water poses a significant health risk for them, as highlighted by our respondents.

I usually drink roadside WASA supplied water when I get thirsty. Someone said you should boil water before drinking WASA water. We live in slums where we are drink water without filtering or boiling. (Saying with expressing depression) (IDI # 21)

e. Drug use

According to our findings, female child laborers commonly use drugs, typically initiated through exposure to dandy (glue sniffing)

by their peers. Over time, they are also introduced to other substances such as ganja (marijuana), Bangla-mod (local wine), cakki (sleeping pills), heroin, and other injectable narcotics. The respondent noted that, in comparison to male child laborers, female child laborers tend to use fewer drugs. A female street child laborer expressed this perspective.

“One day, as we were sitting on the roadside, my friend gave me a cigarette and convinced me to begin smoking. Although it smelt bad, my friend was a fantastic inspiration to do that. I completely lost my sense of reality after doing it. Later, I discovered it was not cigarette but gaja (marijuana). That was beginning story to take drug. After that we are taking different drug in different times in different place” (IDI # 11)

Sniff glue, marijuana, inhalants, cigarettes, Bangla alcohol are among the cheap or locally available narcotics that are frequently used by street children. Recent study of the Department of Narcotics Control (DNC) said that 56 % of the street children in the country are addicted to different kinds of drug, where 21 % of them are being used as carriers of drugs [51]. Our study stated that even female street children are also involved and used following drugs since long years ago. They are mostly influenced by their peers who are also addicted. Respondent viewed that.

Rayeedah: Even after getting beaten, they continue to! Why so? When did this happen?

Rozina: A long time ago. This isn't new, they have been doing this for a long time.

Rayeedah: How did they offer you?

Rozina: We all stay at the same area, my (male friend) always persuaded me to take sniff glue. Sometimes, I forbid them and tried to ask them why they do this, they said even if they beaten until death, they cannot stop to take this drug.

Rayeedah: How do they arrange the money for this?

Rozina: They beg on the streets. And use it to buy glue. (IDI # 13)

f. Drop out of School.

Bangladesh has made remarkable improvements in education, particularly in terms of access and gender equality. Although the country is getting closer to having all children enrolled in elementary school, dropout rates are still high and learning standards are low with the explosive increase of urban slums, where child labor is increasing day by day [52]. As per our study, most of the respondents live in urban slums and they are deprived of their basic necessities and involved in child laboring. A respondent indicates that.

“I initiated my education at a primary school in my village. However, when I reached the fifth grade, my parents divorced, leading my mother to relocate to Dhaka city, where we settled in an urban slum area. Subsequently, I commenced selling flowers to contribute to my family's finances. This marked the inception of my work in Dhaka city. Initially, my earnings were modest, but over the following months, they significantly increased. Unfortunately, to sustain my family, I had to discontinue my studies.” (IDI # 22)

Children who work as laborers cannot go to school on a regular basis. They frequently drop out of school at a very young age and have limited chance of ever returning [53]. Due to their comparative lack of knowledge and abilities, street children who drop out of school early have less probability to find future jobs as well [54]. The current study hypothesized that child labor hinders children's ability to attend school, compels them to discontinue their education prematurely, or necessitates them to juggle school attendance alongside demanding and prolonged employment commitments. Subsequently, the respondent provided insightful observations.

Interviewer: Why did you leave school?

Respondent: *I left school because my family faced poverty. I was a young child when my father passed away. I have 2 brothers and one sister also. My family has no financial stability to bear my education expenses. I support my family by daily laboring. If I go to school regularly my family will remain starving. (IDI # 17)*

Child labor has a positive and substantial correlation with children dropping out of school since working [55]. This demonstrated the continued poverty experienced by the majority of the households of child laborers. Due to inadequate finances, parents must force their children into the workforce due to their severe financial situation [56]. Our current study claimed that Bangladesh has a high proportion of children moving from basic to secondary education, yet the country also has significant dropout rates. Most of the female children who don't go to primary school are from urban slums area. Rumi stated that.

“I don't go to school. I closed my study in the very beginning. In my family, I am the oldest child. My family is surviving through my earnings. My mother is sick who is unable to work. My youngest sister also works with me for family livelihood.” (IDI # 7)

g. Risky/Unhealthy living and working conditions.

Child laborers are trapped in a cycle of inadequate or insufficient food, bad nutrition, dirty water and air, a lack of education, poor

sanitation, and general living conditions that could be described as an atmosphere that fosters mistrust and aggression. Children who live in slums have worse conditions [57]. Raisa stated that.

Soshi: When you're working in the hot weather or rain, don't you get sick? Can you seek medical help when you are sick?

Raisa: Yes. Sometimes we are infected with fever and joint pain, headache, muscle pain (Chikungunya symptoms). Occasionally my mother gives us Napa (paracetamol). But when she sees we are too sick she (mother) takes us to the doctor very often. (IDI # 9)

Moreover, Dhaka has experienced severe industrial effluents, untreated sewage, wastewater [58]. Furthermore, noise produced by industries and indiscriminate use of loudspeakers every day. Vibrations caused by traffic are observed to propagate through the buildings' walls alongside the road. This phenomenon is further intensified due to the deteriorated state of the road infrastructure. Traffic congestion is a prevalent occurrence that has become a customary phenomenon in Bangladesh, particularly in the city of Dhaka. Individuals are compelled to endure the adverse effects of physical and mental stress and the burden of economic losses resulting from reduced productivity during working days. Our respondent view that

Silve: As you sell your merchandise on the streets, how are the working conditions? Like how are the streets, as you are working on the open street? Do you face any difficulties because of it?

Kulsum: The working conditions are not so good; we do face many problems like air, water and noise pollution. Sometimes it is too hot and there is too much dust and fumes on the roadsides. Sometimes it rains very heavily, then we have to stop selling and go back home, which is bad for business. Besides traffic jam and road accident are the common issue in Dhaka city. (IDI # 8)

Moreover, children are highly susceptible to road accidents, which are prevalent in terms of overall accident statistics. The city exhibits the highest vulnerability to accidental risks. Female street children express a sense of insecurity while working on roads due to reckless road accidents. According to the respondents, they have come close to being hit by vehicles.

Sayeedah: As you work on the streets, do you face any danger? **Rozina:** Yes, sometimes. Like my younger sister had an accident twice.

Sayeedah: How did that happen?

Rozina: Once a car went over her feet. Her bone moved from its place.

Sayeedah: No one stopped them?

Rozina: Yes, but they gave money to the police and went away? (IDI # 18)

5. Discussion

This study explored the vulnerabilities of female child laborers in Dhaka city, highlighting their complex challenges. Their socioeconomic conditions make them susceptible to physical and mental setbacks, exploitation, and loss of dignity. They face unhygienic dietary habits, hazardous work conditions, substandard living environments, and daily challenges.

Our study has shed light on the alarming vulnerability of female street child laborers to the risks associated with HIV/AIDS and Sexually Transmitted Diseases (STIs). We found that these individuals engage in a range of sexual activities, including prostitution, as part of their survival mechanism, often resorting to practices such as oral sex, anal sex, and unprotected intercourse. Importantly, our findings also highlight a concerning lack of knowledge among these individuals regarding the transmission of these diseases. As a result, they are disproportionately exposed to the risk of contracting STIs, thereby emphasizing the urgent need for targeted interventions to address this critical public health issue. Street children are not aware of the dangers to which they are exposed [59], and they are vulnerable to HIV and other sexually transmitted infections [60]. There is substantial evidence pointing to the engagement of street children and adolescents in various high-risk sexual behaviors [61]. Children in such circumstances prioritize securing basic necessities like food, clothing, and shelter over their personal health and practicing safe sexual behaviors. Similar results were found [62] indicating the same proposition that female street child laborers in Dhaka city engaged in risky sexual behavior that can be infected with HIV/STI.

Our qualitative analysis revealed a troubling reality for female child laborers in Dhaka city. Many girls reported experiences of abuse, physical torture, and injury. The data suggests they are frequently compelled into dangerous work, including survival sex work, and face pervasive abuse on the streets. It was revealed that child labor in Jordan were exposed to health risks such chemical exposure and physical harm [63]. These children had experienced sexual, physical, and verbal abuse as well. Furthermore, child labor creates an unhealthy situation for socially backward children. Similar conclusions were investigated by Refs. [54,64,65]: approximately half of the child laborers were subjected to verbal abuse at their workplaces.

Additionally, based on our findings, the use of derogatory language and physical contact is prevalent among female child laborers on the streets. They often face discourteous customers while engaged in street vending, and bullying remains a persistent concern. Instances of abusive conduct are encountered by these children on the streets, exposing them to significant risks associated with their street life. The violence directed towards street children is frequently perpetrated by both their peers and other individuals. Being coerced into engaging in sexual activities is a prevalent and frequently mentioned issue among street children. The street children on Pakistan are on high risk as poverty forces these children into a life full of risks and dangers, a life that also limits their social role in the

future, and as a result, they face the problem of social exclusion [66]. Our findings indicate that female children on the streets face significant risks in the form of sexual harassment and bullying during their daily activities. They often experience the misconduct of customers and are targeted for bullying. Instances of violent behavior on the street are also common among them. Moreover, according to a research, the nature of street children's jobs, lifestyle choices, and other behavioral patterns they adopt ultimately cause individuals to experience a variety of health issues [67].

The study's findings underscore the pronounced vulnerability of respondents to undernourishment and digestive disorders stemming from their consumption of unhygienic food and impure water. Predominantly, their dietary preferences center around street food sourced from low-quality vendors offering discounted prices, lacking adequate nutritional value. Moreover, female street children typically earn less than their male counterparts through street labor, compounding their reliance on precarious food choices. Consequently, this not only precipitates adverse health outcomes but also jeopardizes their future well-being due to insufficient income. Specifically, female street children, particularly in low-income urban locales, confront escalated risks of undernourishment and digestive ailments due to their consumption patterns [68]. Their dependence on substandard street food further heightens this susceptibility. Complicating matters, their diminished earnings relative to male peers in street labor restrict their access to healthier dietary options, exacerbating their vulnerability [69].

The respondents from our study reveals that they often engaged in substance abuse. Initially, their peers introduced them to substances like glue sniffing or dandy, but with time, they were also exposed to other drugs such as marijuana, locally brewed alcohol, heroin, and various narcotics. As per the respondents, female child laborers had a lower prevalence of drug use compared to their male counterparts. When compared to non-street children, all street children exhibited a significantly higher probability of receiving drug education and engaging in substance use or sales within the last 30 days. Among Filipino street children, the risk of drug use is notably higher than among non-street children, particularly for those who have lost contact with their families [70,71].

Besides, the terrible finding of our study is despite Bangladesh's remarkable progress in education, female street children engage in child labor due to the extreme poverty experienced by their families. Some of them mentioned attempting to balance education with labor, although the majority of respondents indicated a lack of caretakers. Female street children face significant challenges in securing basic necessities such as food and shelter, let alone pursuing education. As a result, school dropout rates are high among female street child laborers. Other studies found that children living in slums are compelled to leave the education system and enter the workforce due to factors such as delayed enrollment, grade repetition, and inadequate quality of education [52,72].

Dhaka has experienced severe industrial effluents, untreated sewage, wastewater. Furthermore, noise produced by industries and indiscriminate use of loudspeakers every day. Vibrations caused by traffic are observed to propagate through the buildings' walls alongside the road. According to our analysis, traffic accidents are a significant risk factor for female child labor in Dhaka. The city's streets are congested with dust, blocked sewage, and garbage, and these children work late into the night, exposing them to various forms of pollution, including air, noise, and water pollution. Additionally, they are especially vulnerable to traffic accidents, which occur frequently due to careless driving. Female street children often face near-miss incidents with vehicles while working on the streets, making them feel unsafe. Many children included in our study were found to have encountered at least one manifestation of abuse, with emotional abuse and neglect emerging as the most commonly cited forms. Many participants were involved in labor activities characterized by unfavorable working conditions. It was observed that living alone or with a single parent increased the risk of child abuse.

5.1. Implications (policy, knowledge, and social)

This study holds significant implications for policymaking, knowledge enhancement, and mitigating an unaddressed social issue. Despite prohibiting child labor in Bangladesh, many children are involved in perilous occupations. Mere legislation alone is insufficient to ensure the protection of these children. Therefore, there is a critical need for the effective enforcement and reinforcement of existing laws and regulations to safeguard their rights and well-being. Legal mechanisms must be established or reinforced to protect these children from abusive behavior, exploitation, and sexual harassment in the workplace and their living environments.

Given the limited research on female child labor in Bangladesh, this study comprehensively examines the vulnerabilities experienced by female child laborers in Dhaka city. It offers insights into their socio-economic conditions and the specific challenges they confront. Consequently, policymakers and researchers can utilize these findings as a basis for evidence-based policy development and targeted interventions to enhance the welfare of female child laborers.

At the societal level, addressing the vulnerabilities of female child laborers holds the potential to restore their dignity and empower them to escape the cycle of exploitation and poverty.

Based on the study findings, evidence-based policy development and targeted interventions for female street child laborers vulnerable to HIV/AIDS and STIs could include:

- Implementing evidence-based sexual education programs tailored to the specific needs and circumstances of female street child laborers. These programs should not only cover basic information about HIV/AIDS and STIs but also address topics such as sexual health, consent, negotiation skills, and self-protection strategies.
- Ensuring access to affordable and youth-friendly healthcare services, including contraceptives and STI screening and treatment. This may involve establishing mobile health clinics or outreach programs specifically targeting areas where street children congregate.

- Providing opportunities for alternative income generation and skills training to empower female street child laborers economically. By offering viable alternatives to engage in more sustainable livelihoods, such as vocational training or microenterprise development, these interventions can reduce reliance on risky survival strategies like prostitution.
- Engaging trusted community members and peer educators from within the street child population to disseminate accurate information about HIV/AIDS and STIs, promote safe sexual practices, and encourage regular testing and treatment-seeking behaviors. Also, community members may teach them religious practices which may help the children to stay away from unethical sexual behavior.
- Advocating for the rights of female street child laborers, including legal protections against exploitation and abuse. Strengthening child protection laws and mechanisms to prevent and respond to cases of sexual exploitation and violence can contribute to creating a safer environment for vulnerable children.
- Facilitating multi-sectoral collaboration among government agencies, non-governmental organizations, healthcare providers, and community-based organizations to coordinate efforts and resources effectively. This may involve establishing task forces or working groups focused on addressing the intersecting challenges faced by female street child laborers, including poverty, homelessness, and lack of access to education.

6. Conclusion

Female street child laborers in Dhaka city face extensive vulnerabilities due to their challenging socio-economic circumstances. Their struggles include hindered physical and mental development, exploitation, and violations of their dignity. These challenges arise from unhygienic living conditions, hazardous work, and daily hardships. Their limited awareness, lack of educational opportunities, and poverty make them susceptible to health risks, including HIV and STIs. These children often suffer abuse and physical harm at work and endure unhealthy living conditions. Many drop out of school early, missing opportunities for a better future. Some turn to drugs as a coping mechanism, compounding their problems. Malnutrition and health issues are prevalent due to poor diets. The dangerous nature of their work exposes them to harassment and bullying. The convergence of these factors not only jeopardizes the immediate well-being of these child laborers but also obstructs their prospects for a brighter and healthier future. Addressing their vulnerabilities requires a comprehensive approach, encompassing education, health, and social support, with a central focus on breaking the cycle of child labor and providing avenues for these children to escape the perils of their current circumstances. Policymakers and aid organizations should consider this study's findings as a foundational resource for understanding and addressing female child labor in Dhaka city.

6.1. Limitations of the study

This study is subject to several limitations that warrant consideration. Firstly, the exclusive utilization of qualitative methodology restricts the depth and breadth of insights obtained, potentially overlooking quantitative aspects crucial for a comprehensive understanding of the phenomenon under investigation. Secondly, the smaller population size employed in the study introduces the possibility of sampling bias, undermining the generalizability of findings beyond the sampled group. Furthermore, the geographic focus solely on Dhaka City limits the applicability of the findings to broader contexts within Bangladesh, potentially neglecting variations present in other regions. Moreover, the study's exclusive examination of female child labor neglects the dynamics and challenges unique to male child labor situations, thus limiting the broader applicability of the findings to the entire child labor landscape in the country. Moving forward, future research endeavors could benefit from employing mixed methods or larger, more diverse samples to overcome these limitations and provide a more comprehensive understanding of child labor issues in Bangladesh.

Ethical approval

Ethical approval (Protocol No. Ethics/Sohel/11/2023) has been obtained from the Institutional Ethical Review Board affiliated with the Faculty of Humanities and Social Science at Daffodil International University, located in Dhaka-1212, Bangladesh.

Data availability statement

The data associated with this study is sensitive. Requests for access to the data can be made and will be considered on a case-by-case basis.

CRedit authorship contribution statement

Md. Salman Sohel: Validation, Supervision, Project administration, Formal analysis, Conceptualization. **Shafiqul Alam:** Writing – review & editing, Writing – original draft, Supervision, Investigation. **Md. Mizanur Rahman:** Writing – review & editing. **Md. Obaidullah:** Project administration, Data curation. **Abu Saief Mohammad Towhidul Anam:** Validation, Project administration. **Babul Hossain:** Writing – review & editing, Investigation. **Md. Alamgir Hossain:** Investigation, Formal analysis.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article.

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