

Health, Nutrition, and Hygiene Practices among Street Children at Raipur Railway Station: A Sociological Analysis of Vulnerabilities and Interventions

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Abstract: Street children living in and around Raipur railway station face significant challenges in accessing basic health, nutrition, and hygiene resources, which contribute to persistent vulnerabilities. This paper is based on the study, conducted with a sample of 75 street children, explores their eating patterns, hygiene practices, and health outcomes, revealing critical insights into their lived realities. The analysis identifies a high prevalence of malnutrition, irregular and inadequate dietary habits, and poor personal hygiene, which collectively exacerbate their susceptibility to frequent illnesses and chronic health issues. Drawing on both quantitative data and qualitative narratives, the study highlights systemic barriers, such as lack of access to clean water, sanitation facilities, and nutritious food, as well as the absence of targeted health interventions. The findings underscore the urgent need for comprehensive policy frameworks and community-driven strategies to mitigate these challenges. Recommendations include implementing accessible feeding programs, providing mobile health services, and establishing hygiene awareness campaigns in collaboration with local stakeholders. By addressing the interconnected issues of health, nutrition, and hygiene, this research advocates for sustainable interventions that can significantly improve the well-being of street children and contribute to their long-term development.

Keywords: Street Children, Health issues, Nutrition, Hygiene Practices, Malnutrition, Railway Stations, Policy Interventions, Raipur

1. Introduction

Street children are among the most vulnerable and marginalized populations in urban settings, representing a stark indicator of socio-economic inequities and systemic neglect. In the context of developing nations like India, where rapid urbanization and widening income disparities coexist, the phenomenon of street children has grown alarmingly. Defined by their lack of stable shelter and dependence on informal means of survival, these children face a host of adversities that compromise their well-being and future prospects (Kacker, Varadan, & Kumar, 2007). Among the urban spaces where these children are most visible, railway stations hold a unique significance. They serve as transient hubs offering temporary shelter, opportunities for livelihood, and access to leftover food, yet they also expose children to heightened risks of exploitation, abuse, and neglect (Ray et al., 2011). The presence of street children in railway stations highlights the urgent need for comprehensive interventions that address their vulnerabilities and provide them with necessary support and protection. Efforts to combat this issue should involve collaboration between government agencies, non-profit organizations, and local communities to ensure the well-being of these marginalized children.

Health, nutrition, and hygiene are critical determinants of well-being and development, yet street children are often deprived of even the minimum standards in these domains. Malnutrition is a pressing concern, with studies revealing that street children frequently suffer from undernourishment, anemia, and growth retardation due to irregular and insufficient food intake (Patel et al., 2019). Compounding these nutritional deficits are unhygienic living conditions characterized by limited access to clean water and sanitation facilities, resulting in a high prevalence of communicable diseases such as diarrhea and skin infections (Bapat & Agarwal, 2018). These issues are not isolated but interact dynamically with the socio-economic marginalization of street children, perpetuating cycles of vulnerability and exclusion. Addressing the complex interplay of nutritional deficiencies, poor living conditions, and social marginalization is crucial in developing effective interventions to improve the health and well-being of street children. Comprehensive approaches that integrate access to nutritious food, clean water, sanitation facilities, and social support services are needed to break the cycle of vulnerability and exclusion for this marginalized population.

In Raipur, the capital city of Chhattisgarh, the railway station serves as a microcosm of these broader issues. While much of the existing literature focuses on street children in large metropolitan areas such as Mumbai, Delhi, and Kolkata (Dasgupta et al., 2020), there remains a significant gap in understanding the lived realities of children in smaller, yet rapidly urbanizing, cities like Raipur. This study seeks to bridge this gap by providing a detailed examination of the health, eating patterns, and hygiene practices of street children in and around Raipur railway station. Unlike previous studies that primarily adopt either a public health or sociological perspective, this research employs an interdisciplinary approach to explore the interconnected nature of these issues. By examining the intersection of health, nutrition, and hygiene within the context of street children in Raipur, this study aims to provide a comprehensive understanding of their daily challenges and needs. Through this interdisciplinary approach, we hope to inform policy and interventions that can better support the well-being of vulnerable children in rapidly urbanizing areas.

The objectives of this study are threefold: first, to document the dietary habits and nutritional status of street children in Raipur; second, to assess their hygiene practices and the availability of sanitation resources; and third, to evaluate the health outcomes associated with these practices. Through a mixed-methods approach combining quantitative surveys and qualitative interviews, the study not only quantifies the challenges faced by these children but also captures their subjective experiences and coping mechanisms.

A significant contribution of this research lies in its focus on systemic barriers that perpetuate the vulnerabilities of street children. These include the lack of institutional frameworks to address their needs, the absence of targeted health and nutrition programs, and the limited engagement of local stakeholders in developing sustainable solutions. By situating the lived experiences of street children within the broader socio-economic and policy landscape, this study underscores the urgent need for evidence-based interventions. It also sheds light on the importance of community involvement and advocacy in advocating for the rights and well-

being of street children. Ultimately, this research emphasizes the need for a holistic approach that addresses both individual coping strategies and systemic challenges to effectively support this vulnerable population.

Moreover, the findings from this research are intended to inform policymakers, non-governmental organizations (NGOs), and other stakeholders about effective strategies for addressing the interrelated challenges of health, nutrition, and hygiene among street children. Recommendations include the establishment of feeding programs, mobile health units, and community-based hygiene education initiatives tailored to the needs of street children in Raipur and similar urban settings.

In sum, this paper aims to contribute to the growing body of knowledge on street children by shedding light on their health and hygiene-related challenges in the specific context of a Tier-2 city. By emphasizing the interplay of individual vulnerabilities and systemic factors, it seeks to advocate for comprehensive and sustainable approaches to improve the lives of these children.

2. Literature Review

2.1. Health, Nutrition, and Hygiene Challenges Among Street Children

Street children in India face significant health, nutrition, and hygiene challenges, exacerbated by their marginalized living conditions. Studies reveal that street children are at high risk of malnutrition and health complications due to limited access to nutritious food and healthcare services. For instance, Das and Ghosh (2016) noted that street children in urban India often experience under nutrition and stunted growth, primarily due to irregular eating patterns and inadequate food availability. Similarly, Ray et al. (2011) highlighted that living on the streets increases children's exposure to unhygienic conditions, further contributing to poor health outcomes. These challenges are further compounded by the lack of access to proper sanitation facilities and clean water sources. Additionally, the constant exposure to environmental pollutants and hazardous substances on the streets also poses significant health risks for these vulnerable children.

2.2. Nutritional Status and Dietary Practices

The nutritional status of street children is often compromised, leading to both immediate and long-term health consequences. Patel et al. (2019) conducted a study in urban India that showed a high prevalence of malnutrition among street children, with nearly 40% categorized as underweight and 30% showing signs of stunting. Their dietary practices are often limited to inexpensive, calorie-dense, and nutrient-poor foods, as documented by Saini and Gupta (2021), who observed that street children in Delhi relied heavily on street food, which, although affordable, lacked essential micronutrients. These poor dietary habits contribute to deficiencies in essential vitamins and minerals, further exacerbating their malnutrition. Without proper intervention and access to nutritious foods, the health outcomes for street children are likely to worsen over time.

2.3. Hygiene Practices and Their Impact on Health

Poor hygiene practices are a significant concern among street children. According to Bapat and Agarwal (2018), inadequate access to clean water and sanitation facilities is a major contributor to the spread of communicable diseases such as diarrhea, respiratory infections, and skin ailments. Another study by Tripathi and Singh (2020) emphasized that street children's limited awareness of personal hygiene practices, coupled with systemic neglect, perpetuates their vulnerability to health risks. It is crucial for interventions to focus on improving hygiene practices among street children to prevent the worsening of their health conditions. Providing education on proper hygiene and ensuring access to clean water and sanitation facilities can help mitigate the impact of poor hygiene on their health.

2.4. Government and Policy Interventions

Various government programs aim to address the challenges faced by street children, yet their impact remains inconsistent. The Ministry of Women and Child Development (2016) outlined the National Plan of Action for Children, focusing on health, nutrition, and education. However, as Sharma et al. (2021) pointed out, implementation gaps often hinder these initiatives, leaving many street children without adequate support. Additionally, programs like the Integrated Child Development Services (ICDS) have had limited success in reaching street children due to their transient lifestyles and lack of documentation (Rajagopal et al., 2020). This highlights the need for more innovative and targeted approaches to reach and support this vulnerable population. Collaborations between government agencies, NGOs, and community stakeholders may be necessary to address the complex needs of street children effectively.

2.5. Global Comparisons

Comparative studies from other countries provide insights into addressing similar issues. For example, a study by Mugisha et al. (2019) on street children in Uganda highlighted the effectiveness of community-based interventions, such as mobile health clinics and nutrition programs, in improving health outcomes. These findings underscore the potential of adopting similar models in the Indian context, particularly in smaller urban centers like Raipur. Partnerships with local authorities and government agencies can also play a crucial role in providing sustainable solutions for street children. By collaborating with a diverse range of stakeholders, comprehensive support systems can be developed to address the multifaceted challenges faced by this vulnerable population.

2.6. Studies Specific to Raipur and Similar Urban Centers

Research on street children in Tier-2 cities like Raipur remains scarce. However, Verma et al. (2017) examined the living conditions of children in urban slums in Chhattisgarh, noting that poor infrastructure and lack of targeted programs exacerbate vulnerabilities. The findings align with observations by Kumar and Singh (2022), who called for tailored interventions in smaller cities where resource allocation and service delivery are often inadequate. More

research is needed to understand the unique needs and experiences of street children in Raipur and other similar urban centers. By conducting more studies, policymakers can develop effective strategies to support this vulnerable population and improve their overall well-being.

3. Methodology of the study

3.1. Research Design

This study adopted a cross-sectional design, conducted over six months from March to August 2022, to explore the health, eating patterns, and hygiene practices of street children living in and around Raipur railway station. The design was chosen to provide a snapshot of the current conditions and behaviors of this vulnerable population. Ethical considerations were rigorously followed, ensuring the research adhered to international standards. Informed consent was obtained from guardians, caretakers, or, where applicable, from institutional authorities overseeing the children. For participants who were independent minors, verbal assent was sought, and ethical clearance was obtained from a recognized institutional review board.

3.2. Study Area

The study was conducted at Raipur railway station and its surrounding areas, identified as hotspots for street children engaged in informal labor. These locations were selected due to their high visibility of children dependent on transient urban spaces for survival, offering a representative context for understanding the interplay of health, nutrition, and hygiene challenges in such environments. The study area was chosen specifically for its high concentration of street children engaged in informal labor, providing a unique opportunity to examine the health and hygiene challenges faced by this vulnerable population. The visibility of children dependent on transient urban spaces for survival **made it an ideal setting to explore these issues in depth.**

3.3. Participants

The study recruited 75 street children aged 5–18 years. The inclusion criteria required participants to spend a minimum of three hours daily on the streets, engaged in work or activities aimed at subsistence. This criterion ensured the focus remained on children experiencing significant street exposure rather than those with occasional presence. Exclusion criteria included children engaged primarily in begging or domestic labor, to maintain a focus on those occupationally active in informal urban sectors. Participants were identified through purposive sampling, utilizing community networks, NGO partnerships, and direct outreach at the railway station. In-depth interviews and observations were conducted to gather qualitative data on the daily lives and challenges faced by these children. The research aimed to provide insights into the complexities of their experiences and inform targeted interventions for support and advocacy.

3.4. Data Collection

Data collection involved a mixed-methods approach to capture quantitative and qualitative dimensions of the participants' lives:

3.4.1. Structured Questionnaires: A validated questionnaire was developed to collect data on demographic details, eating patterns, hygiene practices, and health history. The questionnaire was pretested on a small subset of participants to ensure clarity and reliability. To ensure comprehension and accuracy, trained field investigators conducted interviews in Hindi or the local dialect.

3.4.2. Anthropometric Measurements: Standardized tools, including calibrated digital weighing scales and stadiometers, were used to record weight and height. These measurements were employed to calculate Body Mass Index (BMI) and assess the nutritional status of participants. Measurements were taken in accordance with WHO protocols to ensure consistency and accuracy.

3.4.3. Health Assessments: Brief health screenings were conducted to document visible signs of malnutrition, hygiene-related conditions (e.g., skin infections), and self-reported illnesses.

3.5. Data Analysis

Collected data were systematically coded and analyzed using SPSS software. Descriptive statistics, including means, standard deviations, and frequencies, were calculated to summarize demographic, behavioral, and health-related data. Inferential statistics were used to examine associations and predictors of health outcomes. The findings were triangulated with qualitative insights to provide a comprehensive understanding of the participants' lived realities.

3.6. Limitations

While the study provides valuable insights, it is limited by its cross-sectional design, which does not allow for causal inferences. Additionally, reliance on self-reported data may introduce recall bias, and the sample size, while representative of the study area, may not capture the full diversity of street children's experiences in other settings.

This methodology, rooted in rigorous and ethical research practices, ensures a robust analysis of the health, nutrition, and hygiene challenges faced by street children in Raipur, contributing to the broader discourse on urban marginalization and child welfare.

4. Results

The study findings provide critical insights into the sociodemographic characteristics, health and dietary patterns, and hygiene practices of the 75 street children sampled in and around Raipur railway station. These results elucidate the multifaceted vulnerabilities faced by this marginalized population.

4.1. Sociodemographic Characteristics

- **Gender:**

Among the 75 participants, 60% were male, and 40% were female, reflecting a slight gender disparity that aligns with the broader trend of higher visibility of male street children due to societal norms and roles

- **Age Distribution:**

The children were stratified into four age groups, showing the following distributions:

- 5–8 years: 20%
- 9–12 years: 35%
- 13–16 years: 30%
- 17–18 years: 15%

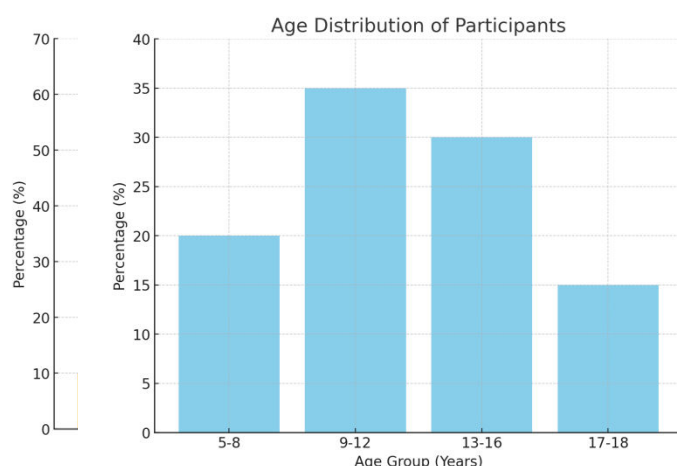
The largest cohort was aged 9–12 years, indicating that pre-adolescents constitute a significant proportion of this population, a trend often attributed to early displacement and economic pressures during this developmental stage.

- **Occupations:**

Children engaged in a variety of informal labor:

- Garbage picking (30%)
- Street vending (25%)
- Begging on the train (20%)
- Other informal jobs (25%)

The dominance of garbage picking and street vending highlights the hazardous and exploitative nature of the work environments these children navigate.



4.2. Health and Eating Patterns

- **Dietary Habits:**

- Only 15% of children reported consuming three meals a day, with breakfast frequently skipped.

- Dietary staples included rice and bread, with minimal consumption of fruits and vegetables, indicating poor dietary diversity.
- Alarmingly, 40% of participants consumed junk food daily due to its affordability and accessibility, exacerbating their nutritional deficiencies.

- **Health Indicators:**

- A majority (70%) reported frequent illnesses, primarily diarrhea and respiratory infections, conditions often linked to poor nutrition and unhygienic living conditions.
- A staggering 80% of children were underweight, with younger age groups showing particularly low BMI scores. This highlights the critical issue of malnutrition among this population.

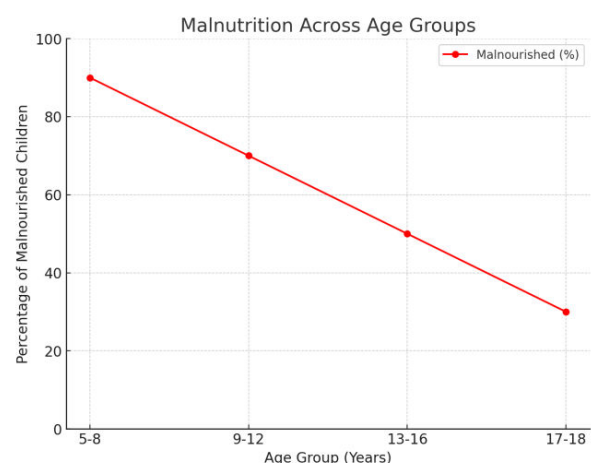
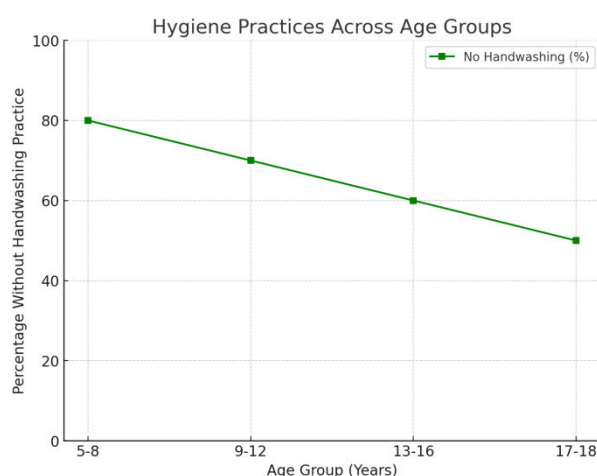
4.3. Hygiene Practices

- **Personal Hygiene:**

- 65% of children lacked access to clean drinking water, increasing their susceptibility to waterborne diseases.
- Regular handwashing was reported by only 30% of participants, contributing to a higher incidence of infectious diseases.
- Bathing was infrequent, with 50% bathing less than twice a week, largely due to inadequate facilities.

- **Environmental Hygiene:**

- The living conditions around the railway station were unsanitary, with poor waste management and open defecation observed in the vicinity. These conditions significantly contributed to adverse health outcomes among the children.



4.4. Statistical Analysis

- **Malnutrition and Hygiene Practices**

- A significant association was observed between poor hygiene practices and malnutrition ($p < 0.01$), underscoring the impact of sanitation on nutritional status.

- **Meal Skipping and Malnutrition**

- Children who regularly skipped meals were found to be 1.8 times more likely to be malnourished, highlighting the importance of consistent food intake in mitigating nutritional deficiencies.

- **Handwashing and Illness**

- Children who did not practice regular handwashing were 2.5 times more likely to experience frequent illnesses, emphasizing the critical role of basic hygiene in disease prevention.

4.5. Elaboration of Findings

These results collectively indicate a precarious cycle of poor health, inadequate nutrition, and substandard hygiene among street children in Raipur. The high prevalence of underweight children (80%) aligns with findings from previous studies (Patel et al., 2019), reflecting systemic failures in addressing their dietary needs. Similarly, the significant association between hygiene practices and health outcomes echoes global evidence on the role of sanitation in mitigating disease burdens (Mugisha et al., 2019).

The finding that junk food constitutes a major part of the diet due to its affordability mirrors broader urban trends, but its dominance among street children intensifies the risk of nutritional deficiencies (Saini & Gupta, 2021). Furthermore, the high incidence of waterborne and hygiene-related illnesses indicates an urgent need for improved access to clean water and sanitation facilities.

The statistical analysis underscores the interplay between behavioral and environmental factors. The strong correlation between poor hygiene practices and malnutrition ($p < 0.01$) highlights the multifactorial nature of the challenges faced by street children. The increased likelihood of illness among those lacking handwashing practices ($OR = 2.5$) is a stark reminder of the critical role of basic hygiene interventions.

5. Discussion

This study provides an in-depth analysis of the health, nutrition, and hygiene challenges faced by street children in and around Raipur railway station, contributing to the broader understanding of vulnerabilities among this marginalized population. The findings resonate with existing research conducted in other Indian urban centers, highlighting the universality of challenges faced by street children while also emphasizing the unique contextual factors of Tier-2 cities like Raipur.

5.1. Comparison with Other Studies

The results of this study align closely with findings from other urban centers in India. For instance, a study conducted in Kolkata identified inadequate hygiene practices as a significant

predictor of malnutrition among street children (Dasgupta et al., 2020). Similarly, research in Mumbai and Delhi revealed that the lack of access to clean water and sanitation facilities directly correlates with the prevalence of communicable diseases and undernutrition (Ray et al., 2011). However, unlike metropolitan areas where interventions such as mobile clinics and feeding programs are more established, Raipur lacks such targeted services, exacerbating the disparities faced by street children.

The dietary habits observed in this study, characterized by reliance on junk food and limited intake of fruits and vegetables, echo trends reported by Patel et al. (2019), who documented similar patterns among urban street children. The study further reinforces the importance of dietary diversity, as the lack of balanced meals contributes significantly to poor health outcomes. The observed prevalence of malnutrition (80%) is consistent with national data on street children, highlighting systemic failures in addressing their basic nutritional needs (Bapat & Agarwal, 2018).

5.2. Role of Environmental and Socioeconomic Factors

Raipur's railway station serves as a microcosm of the broader urban challenges faced by marginalized communities. The unsanitary living conditions, characterized by poor waste management and open defecation, contribute significantly to the high prevalence of illnesses among street children. The lack of clean drinking water and inadequate sanitation facilities, reported by 65% of participants, further underscores the environmental determinants of health disparities in this population.

Socioeconomic factors, including poverty, limited access to stable employment, and systemic neglect, exacerbate the vulnerabilities of street children. The findings on occupational engagement, with 30% involved in garbage picking and 25% in street vending, highlight the hazardous and exploitative nature of their work environments. These roles not only expose children to physical dangers but also perpetuate their exclusion from education and formal support systems, reinforcing cycles of deprivation and vulnerability.

5.3. Policy Implications

The findings of this study underscore the urgent need for targeted policies and interventions to address the health, nutrition, and hygiene challenges faced by street children.

1. Feeding Programs:

Establishing community kitchens near railway stations can ensure access to nutritious meals for street children. These programs should prioritize dietary diversity, incorporating fruits, vegetables, and protein-rich foods to address the nutritional deficiencies highlighted in this study.

2. Hygiene Education:

Awareness campaigns focused on handwashing, personal hygiene, and sanitation practices are crucial. Such programs can be implemented through partnerships with local NGOs and

community organizations, leveraging their grassroots presence to reach the target population effectively.

3. Healthcare Access:

Deploying mobile health units equipped with essential services, such as vaccinations, health check-ups, and treatment for common illnesses, can bridge the healthcare gap for street children. These units can also provide nutritional supplements and hygiene kits to support their overall well-being.

6. Recommendations for Sustainable Solutions

To ensure long-term impact, this study advocates for the following sustainable strategies:

- **Community Involvement**

Building collaborations with NGOs, local organizations, and community stakeholders is essential for creating robust support systems. These partnerships can enhance the delivery of services and foster a sense of shared responsibility for the welfare of street children.

- **Infrastructure Improvements**

Developing sanitation facilities near urban centers frequented by street children can significantly improve their hygiene and health outcomes. Access to clean water and safe bathing facilities should be prioritized as part of urban planning initiatives.

- **Empowerment Programs**

Skill development programs targeting older children can provide them with opportunities to transition into safer and more sustainable occupations. Vocational training in trades such as tailoring, carpentry, and digital literacy can equip them with skills for long-term economic independence.

7. Broader Implications

This study highlights the interconnectedness of health, nutrition, and hygiene in determining the well-being of street children. Addressing these challenges requires a holistic approach that integrates environmental improvements, policy interventions, and community engagement. By situating the findings within the context of broader urban challenges, this research underscores the necessity for tailored strategies that cater to the unique needs of street children in Tier-2 cities like Raipur. The recommendations provided aim to not only alleviate immediate vulnerabilities but also pave the way for sustainable improvements in the lives of these children.

8. Conclusion

This study provides a comprehensive analysis of the health, nutrition, and hygiene challenges faced by street children in and around Raipur railway station, highlighting the severe vulnerabilities of this marginalized population. The findings reveal a high prevalence of malnutrition, frequent illnesses, inadequate dietary habits, and poor hygiene practices, all of which are exacerbated by unsanitary living conditions and limited access to essential

resources. These challenges underscore the urgent need for targeted interventions that address the interconnected factors influencing the well-being of street children.

The study emphasizes the critical role of environmental and socioeconomic determinants in shaping the health outcomes of street children. Raipur's railway station serves as a microcosm of broader urban challenges, illustrating the systemic neglect that perpetuates cycles of vulnerability among this population. The significant associations observed between hygiene practices, malnutrition, and illness further reinforce the importance of integrating health, nutrition, and sanitation initiatives in interventions aimed at improving the lives of street children.

The policy implications outlined in this research call for the establishment of feeding programs, hygiene education initiatives, and mobile healthcare services tailored to the specific needs of street children. Additionally, the recommendations for sustainable solutions, including community involvement, infrastructure development, and skill-building programs, offer a pathway toward long-term improvements in their quality of life.

In conclusion, this study not only contributes to the understanding of the multifaceted challenges faced by street children but also serves as a call to action for policymakers, NGOs, and community stakeholders. By addressing these issues through holistic, context-specific approaches, we can pave the way for more inclusive urban environments that prioritize the well-being and development of street children. Future research should build upon these findings to explore scalable interventions and evaluate their impact, ensuring that no child is left behind in the pursuit of a healthier and more equitable society.

9. Acknowledgement

This research wouldn't have been possible without the invaluable contributions of various individuals and groups. My heartfelt gratitude goes to the street children and their parents who shared their stories and experiences, offering crucial insights into their lives. I am also deeply indebted to the government officials and railway station staff who provided their perspectives and facilitated access to essential information. This research is a testament to the power of collaboration and the collective effort to understand and advocate for a vulnerable population.

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