International Journal of English Literature and Social Sciences
Vol-8, Issue-1; Jan-Feb, 2023

Journal Home Page Available: https://ijels.com/
Journal DOI: 10.22161/ijels

Health issues of women migrants in slums of urban Aligarh

Sanoobia Iqrar, Prof. Azra Musavi

Advanced Centre of Women's Studies, Aligarh Muslim University, India

Received: 19 Dec 2022; Received in revised form: 13 Jan 2023; Accepted: 21 Jan 2023; Available online: 30 Jan 2023
©2022 The Author(s). Published by Infogain Publication. This is an open access article under the CC BY license (https://creativecommons.org/licenses/by/4.0/).

***Abstract*— *Globally and nationally, women are migrating in a similar pattern as men, although they are differently affected by migration. Female migrant workers face a new set of challenges in the host states. The neglected and deprived women in slums often suffer from physical and mental health issues along with exposure to poor sexual and reproductive health, maternal morbidities and risk of infectious and non-communicable diseases. The present study has used a qualitative research design to highlight the mental, sexual and reproductive, maternal and general health-related perspectives and issues faced by migrant women in the slums in Aligarh city. The qualitative data were collected using a purposive sampling design from women in slums using open-ended interviews to understand the plight and vulnerability. The study found the health of migrants to be in a highly deteriorated state and recommended the need for the state to streamline the provisional care needs of women migrants in slums.*

***Keywords*— Migrants; slums; mental health; sexual and reproductive health; maternal health.**

I. INTRODUCTION

Migration occurs due to the inability to earn in the states of origin (Siddaiah *et al.,* 2018). There are diverse reasons for internal migration, such as rural poverty, landlessness, non-uniform development, lack of employment in the state of origin, family feuds, and expectations to improve living standards (Yadav, 2019). India is observing a trend where the mobility of workers from one state to another is on the rise due to employment prospects, however, some studies have particularly focused on internal migration happening across states within a country (Subbaraman *et al.,* 2014; Saraswati *et al.,* 2015; Siddaiah *et al.,* 2018; Yadav, 2019; John *et al.,* 2020). However, the problems of internal female migrants in India are not much focused upon particularly, the female migrants are more vulnerable in the host states regarding health, finance, and safety (Saraswati *et al.,* 2015). They are typically subject to gender vulnerability (Makuch *et al.,* 2021), with most of India's migrant workers being employed in the informal sector (Singh, 2021; Siddaiah *et al.,* 2018). Human rights violations are often not addressed for interstate migrant workers. Lack of institutional mechanisms and coordination between centre and state governments results in the poor provision of welfare facilities. (Jacob *et al.,* 2020). Life after migration becomes difficult for migrants due to harassment, violence, abuse, lack of social and legal security, illegal housing, and inadequate sanitation and health facilities. Further, the new culture in the host states creates a sense of alienation and uprootedness among them (Yadav, 2019) Migrants are neither treated as the ones belonging to the urban land nor as rural from their place of origin due to the inheritance of the urban culture, they are living in. However, the current migration pattern is different, where expectations are unmatchable with reality leaving migrants in a confusing identity crisis (Rulian, 2012). The long working hours hinder the social support network formation and in turn, coping mechanisms (Lau *et al.,* 2012)

Migrants face a lot of discrimination (Lau *et al.,* 2012). Being vulnerable to their movement across states and various labor markets, migrants lack confidence and awareness relating to health benefits and health schemes provision. They are subject to cultural differences and language constraints, and their health-seeking behavior is impoverished (Jacob *et al.,*2020). Further, they face a lot of

challenges in cities. Inequalities between migrants and residents prevent them from accessing services and having the same set of entitlements. The future of migrants lacks the required concern. However, with the development of uncertainties regarding the future, it becomes difficult to overcome the constraints of urban life (Rulian, 2012). They bear survival difficulties, low self-esteem, poor socialization, helplessness, disturbed sleeping patterns, and are under the dual burden of poverty and migration (Singh, 2021). Since migrant workers often do not have legal documents and identity proof, they are often denied access to legal rights, services, and social protection programs. They face problems in accessing food, housing, and banking services at subsidized rates, are not entitled to various schemes, and face social exclusion and lack of social security (Jacob *et al.,* 2020). They are often paid low wages and have low job security, poor living environment, and an increased vulnerability to poor mental and physical health outcomes. (Hasan *et al.,* 2021). Over a third of Indian slum dwellers in India reside in unorganized slums where every and each slum pocket have a distinct identity and different set of collective opinions (Parsuraman & Somaiya, 2016). The non-notified slums receive less assistance from the government and are more vulnerable to diseases, survive in the disastrous environment, and have limited access to sanitation, safe drinking water, and other civic amenities (MOSPI, 2013). In the non-notified slums, psychological distress prevails due to exacerbating deprivations leading to stress, the relationship of slum dwellers with the government in the absence of basic needs and rights, and a community identity built with social exclusion (Subbaraman *et al.,* 2014).

Women are substantial contributors to the slum economy, mainly as domestic workers and daily wage laborers; still, their unskilled contributions are ignored (Parsuraman & Somaiya, 2016). They are often subject to various kinds of violence (mental, physical, and sexual) and are vulnerable to social class and gender. Their needs are often underrepresented, and their status attaches to a social stigma. Migrant women are often over-represented in low-wage jobs. Their social networks of friends, family, and agents play an important role by providing them with information regarding the nature and demands of work. However, the host states have an altogether new set of challenges and setting up networking issues (Jacob *et al.,* 2020). Most interstate migrant women and children are not protected by state laws. According to the Convention on the Elimination of discrimination against women (CEDAW), the committee focused on the barriers faced by female migrant workers while accessing interstate migrant workers' health care, still not having access to various health facilities and government schemes. According to human rights law, the right to health is one of the basic rights (Smith *et al.,* 2016). However, internal migration has affected the health status of women and children significantly. Migrant women strive for adequate access to health care (Makuch *et al.,* 2021). While accessing health facilities, migrant workers often face constraints such as financial barriers, discrimination, language and cultural differences, lack of proper documents and physical inaccessibility (Loganathan *et al.,* 2020). Women migrants also suffer from poor occupational health and face social exclusion, and are exposed to high risk and longer working hours, and poor accommodation (Jacob *et al.,* 2020). Since women's central role is considered to be caregivers and breadwinners for the household, their health gets neglected and adversely impacted (Smith *et al.,* 2016).

In India, universal healthcare is not achieved as the focus is shifted from improvements in the coverage of institutional healthcare to private healthcare interventions (Siddaiah *et al.,* 2018). Gender inequality, gender-based violence, and feminization of poverty adversely impact women's health. The intersecting forms of discrimination with ethnicity, race, and poverty undermine their physical, economic, and social well-being (Smith *et al.,* 2016). This shed focus on the need to research the health of women migrants in the unorganized sector (Siddaiah *et al.,* 2018). There is limited information on the health-related vulnerabilities among the migrants provided by the authentic sources of information (Census, NSS, and NFHS) in India (Saraswati *et al.,* 2015).

One of the major health concerns among the migrant population is related to their mental health. In low- and middle-income countries, migration stressors lead to a rise in psychological distress and mental disorders among migrants (Meyer *et al.,* 2015). Psychological stress results from stressors such as financial constraints, cultural and social barriers to language, discrimination, health risks, and low access to healthcare services (Hasan *et al.,* 2021). Migrant women have low self-efficacy, low educational attainment and limited access to health care, lack of awareness about urban norms, and feelings of loneliness due to separation from families and land. Mostly migrants suffer from psychological distress and lack resilience (Singh, 2021). The unskilled migrant workers suffer from various forms of distress such as demoralization, disenfranchised and alienated self, and a sense of self-defeat. The culture, along with the existing social hierarchy, forms daily distress experiences for migrants. (Yadav, 2019).

Similarly, another common health issue among the migrant population is related to their sexual and reproductive health. Migrants being the most vulnerable, often face issues in these areas. Migrants are the vulnerable population subgroup in terms of maternal healthcare utilization.

Further, pregnancy and childcare responsibilities can lead to reduced working hours and loss of jobs altogether for them (Smith *et al.,* 2016). If the women migrants cannot escape inequalities and extractions, their capabilities (even in terms of reproduction and sexuality) remain underdeveloped and unrealized (Freeman *et al.,* 2021). Their needs are yet to be highlighted, along with the concerted efforts to achieve universal health care and improve the level of overall health status. (Siddaiah *et al.,* 2018).

However, another health adversity faced by women in slums is related to their maternal health. The migrant women lack access to basic maternal health care and are deprived of the benefits of government schemes (Siddaiah *et al.,* 2018). In India, apart from state-level and regional inequalities in maternal health services, socioeconomic inequalities persist, with the economic status being a factor to enhance it (Patel *et al.,* 2021). Migrants belong to socially marginalized groups and suffer disparity in maternal health services utilization and accessibility (Patel *et al.,* 2021). The women often perceive maternity care as unresponsive and feel neglected in the formal health arrangements (Atukunda *et al.,* 2020) in spite of WHO's recommendation of birthing to be in an adequate sanitary environment and humanized attitude in attention (Makuch *et al.,* 2021).

The other issue lies in the presence of infectious and non-communicable diseases in slums. As slums are generally categorized with the absence of drainage systems and garbage disposal, and contaminated drinking water (Parsuraman & Somaiya, 2016). Slum women survive in overcrowded spaces and are more vulnerable to infectious transmissions. Less focus is given to health-related issues, access to health benefits, and migrant workers' rights living in Indian slums. While the children in slums suffer from various adversities. They live life on their own and survive without any proper care available to them. Further, insufficient incomes, unhygienic living conditions, and changing social contexts may expose them to greater health risks. (Ha *et al.,* 2021). It is evident from research that conditions during formative childhood years, such as fetal malnutrition, exposure to infectious diseases, and distress during critical periods of early life, led to cognitive impairment, dementia, and poor health outcomes later in life (Fritze *et al.,* 2014). Further the dual burden of infectious diseases along with non-communicable diseases such as diabetes, cardiovascular diseases, cancer and chronic pulmonary diseases can altogether impose a new burden on developing economies with few resources (Mahmood *et al.,* 2013). The urbanization, along with globalization and economic liberalization, increased the prevalence of non-communicable disease risk factors such as unhealthy dietary practices, sedentary lifestyle and obesity (Yadav & Krishnan, 2008).

The differences in the type of housing and access to health care influence disease exposure (Fritze *et al.,* 2014). The migrant workers have poor health profiles and cannot get proper health check-ups. Low educational attainment, low parental social class, adverse birth conditions, and low economic childhood arrangements influence cognitive functioning in later life. Early experiences increase vulnerability to diseases by affecting hormonal and inflammation levels among women (Fritze *et al.,* 2014). Generally, migrant women are at more risk of healthcare service utilization and low health service acquisition results in poor occupational health (Kusuma *et al.,* 2018). Female migrants have difficulties in access to public health services due to discrimination, avoidance, and language barriers (Makuch *et al.,* 2021). In cities, healthcare services are expensive, so their cost unaffordability becomes a barrier towards access (Freeman *et al.,* 2021). Public health care often fails in the provision of health services to migrants. They are often unaware of the existing local health systems, which affect their health care utilization. Further, cultural insensitivity and privacy deter women from public-based facility attainment (Adinew *et al.,* 2018).

The present study intends to explore the condition of mental, SRH (sexual and reproductive health care), maternal and general health care for interstate migrant women residing in non-notified slums of Aligarh, Uttar Pradesh.

II. Material and Methods

The study used qualitative methods in an exploratory design to understand the challenges of the female migrant workers in slums regarding their health adversities in the three most commonly affected health areas in slums.

Field Site and Participants

The study includes interstate migrant women. They are low skilled and marginally waged laborers and domestic workers. They migrated due to lack of employment prospects and unavailability of land to construct settlements. They were mainly from various regions of Bihar such as Bhagalpur, Bhaktiarpur, Sirsa and Araria Zila. They live in temporary settlements in open plots due to safety purpose for the land and to raise the level of and by filling in mud.

Data collection and sampling

From April 2022 to June 2022, in-depth, open-ended face-to-face interviews were done. As these topics were not openly addressed by participants, all of the interviews were done one-on-one in the temporary land holdings of slum residents independently within each settlement in order to guarantee anonymity and freedom of expression. The date

of the interviews was determined by the suitability of each respondent. Despite their demanding job schedules and domestic duties, their interviews were scheduled according to their preferred times. One to two hours were spent on each interview on average each day, and the respondents offered their best cooperation. After being conducted in Hindi, the interviews were translated into English. Following transcription, the replies were coded line by line and themes were developed accordingly. A purposive sampling strategy was utilized in the study, with each interview lasting an average of one to two hours. There were forty participants in the research. The respondents' verbal agreement was obtained before they were asked to participate. The goal was explained to the participants.

Data Analysis

The open-ended interview questions served as the basis for the traditional thematic analysis of the qualitative interview data, which was then used to derive the appropriate sub-themes from the data and describe our findings. The recurrent thoughts and behavioral patterns of the migrants were also examined when developing themes.

III. Results & discussion

The present study found migrants to vulnerable population subgroups in terms of mental health, SRH, maternal and general health care needs and utilization. They were short-distance migrants according to the classification of the state of origin by destination sites who migrated to the nearest urban areas. They resided in high-density settlements of low income amidst poor living conditions. They had low educational attainment, as most of the migrated women were uneducated, with very few who enrolled and dropped out of primary schooling. The informal settlements were categorized with unhygienic prevalence and inadequate access to clean drinking water and sanitation. These informal places turn migrants prone to certain diseases by impacting their health in various forms.

1) Mental health of Migrants

Migration increases vulnerability to mental health problems. Migrant workers seek social support from informal support systems to reduce emotional distress and are low on the parameters of mental well-being. In the lack of social and emotional support, they often face depression, anxiety, substance abuse and disturbed sleeping pattern (Hasan *et al.,* 2021). Common mental health issues among migrants include psychological distress, depressive and anxiety disorders, substance use disorders, and suicidal tendencies (Singh, 2021). Internationally, migrant domestic workers work under harsh conditions where mental disorders, psychosis, and suicidal tendencies are common among them (Kronfol *et al.,* 2014). In middle and low-income countries, migrants survive in poor living and working conditions, often deprived of basic rights and necessities and hence exposed to the risk of poor mental well-being. (Meyer *et al.,* 2015). The limitations towards access to health care, poor living conditions, and longer durations of stay can lead to psychological distress and risk factors associated with mental health. Further, isolation and acculturative stress can also develop serious mental health complications among migrants. (Hasan *et al.,* 2021). The psychological distress under which slum dwellers survive contributes to the functional impairment of the slum's overall burden. The individuals in the non-notified slums are prone to a high risk of developing common mental disorders such as depression and anxiety. Further, household income, educational attainment, the loan taken, poverty-related factors and the Slum Adversity Index (SAI) score have strong and independent associations with the risk of having common mental disorders (Subbaraman *et al.,* 2014).

> *"After her marriage, my daughter was tortured badly by her in-laws, due to sufferings and tension, she lost her mind completely; I took her back here, people believed she was mad, but the doctor told me she had severe depression. Sometimes she used to go to mandir nearby, sometimes, she tore her clothes in anxiety, and sometimes, she used to sing and dance in the middle of the night. She often ran out of houses, and several times I found her lying at railway station and sitting in Chilkora (village). Then we went to see doctor in Delhi for her medication"* – **[Shakeela, 55 years]**

> *"Biggest nightmare of our lives is poverty. My husband used to drink alcohol daily and beat me thereafter. One day he consumed drugs and tried burning me by putting in kerosene oil. I left him, but you see, I have four daughters; I have tried suicide, but then I thought about children and decided to live. I can't afford their schooling, they work along with me as domestic workers, but my life is hell, I see no hope, no future, fear of their future haunts me"* **– [Rani, 40 years]**

> *"I started having disrupted sleeping patterns and then altogether loss of sleep, I can't sleep during whole night, and I behave weirdly; I press my legs throughout the night. This poverty, you can't imagine how bad it is to spend entire life with it; then in this old age, when I cannot work and be totally dependent on my son and daughter-in-law for food, it is worse than losing my life. I am fed up with daily quarrels of food during day and worries in the night"*- **[Noor Jahan, 80 years]**

Women in slums often had feelings of stress, loss of sense of identity, low self-worth, low self- esteem and coping with the daily challenges in absolute poverty made them vulnerable towards depression and anxiety. Some respondents reported having suicidal tendencies particularly when they were subject to domestic violence. Respondents also discussed of their disturbed sleeping patterns and insomnia in few cases. Poverty along with economic deprivation poses greatest threat to the mental health of the migrants. Studies have supported this view and focused on common mental health issues and their causes in migrants, there lies strong evidence of an association between poverty and mental health (Subbaraman *et al.,* 2014). Further, the migrant workers often experience stressors associated with daily hassles and workplace security, leading to adverse mental health outcomes such as depression and anxiety (Meyer *et al.,* 2015). Further the daily hassles arising from forced overtime work, forced work during illness and verbal abuse at the place of work can arouse stressors leading to severe mental health implications (Meyer *et al.,* 2015). Female domestic workers are often subject to underpaid wages and longer duration of working hours, and less sleep and are prone to certain risk factors for mental health, such as discrimination, ethnic minority background, and poor living conditions (Kronfol *et al.,* 2014). However, the information and material support help workers develop coping mechanisms to combat stressors. (Hasan *et al.,* 2021).

Sexual and Reproductive health of migrants

SRH (Sexual and reproductive health rights) rights are fundamental rights of humans. They are pertinent in having adequate information and attaining the highest standard of sexual and reproductive health and in deciding the number, timing and spacing of children. They were conceptualized at the International Conference on Population & Development (ICPD, Cairo, 1994) and were built accordingly with international agreements (Loganathan *et al.,* 2020). Women are more vulnerable compared to men in terms of SRH needs due to the severe impact of certain STIs (sexually transmitted infections) on women, being subject to sexual violence and experiencing pregnancy and childbirth, the vulnerabilities getting further magnified due to migration (Freeman *et al.,* 2020). The main issues of SRH include contraception, unintended pregnancies, unsafe abortions, GBV (Gender-based violence), pregnancy and child birth-based complications, risk of HIV, STIs (sexually transmitted infections), infertility and reproductive cancers (Loganathan *et al.,* 2020). Migrants are at higher risk of contracting STIs compared to the general population (Rulian, 2012), with limited available options for SRH services (Loganathan *et al.,* 2020). Although the health care and information of SRH are available notionally, women migrants face multiple challenges such as long barriers, personal beliefs and power relations between workers and employers in the conversion of resources into functionings, thus constraining the achievement of capability for SRH (Freeman *et al.,* 2020). Women migrants have restricted access to resources for achieving SRH well-being. They are particularly low on the parameters of education, healthcare provision and social capital (Freeman *et al.,* 2021). Since women are vulnerable to poor sexual and reproductive health, they need access to SRH services for pregnancy and childbirth-related complications (Makuch *et al.,* 2021). Migrants are often not well informed about the issues of reproductive health. Migrant women workers have nutritional deficiencies among them and restricted access to reproductive health services. They often suffer from complications of reproductive health (Jacob *et al.,* 2020). The majority of migrant women do not have access to reliable sources of information on reproductive health. Poor reproductive health negatively impacts the migrant's life and reduces work productivity by limiting working hours (Rulian, 2012).

> *"We have no idea of such diseases, we don't even take their name; I fear if others will listen, what will they think? Nobody here knows about it. These diseases should not be discussed. They are a curse, and I can't even imagine I am talking about it"* **– [Laadli, 25 years]**

> *"We only use copper-T; it is the most commonly used one here; other than that, I have no idea of any other such method. Although, it has not worked for me as I used it after having seven children and then again it didn't work and I was again pregnant with my eighth child"* **[Saajda, 28 years]**

> *"After he had issues with his first wife, he started living with me. After few months, he decided that we should get married, but then at times, he beat me. He even used that rod to beat me while I was pregnant; he didn't realize anything once he was drunk, now it is my fate to suffer his beatings and still live with him, but I will work hard for my children and get through somehow"* – **[Sony, 30 years]**

The present found that there is a lack of awareness among migrants in terms of their sexual and reproductive health issues. Migrants had low awareness regarding family planning norms and a lack of knowledge on contraception.

The most preferred contraceptives were copper T as suggested in the hospitals. The respondents were reluctant to discuss about the sexually transmitted diseases such as AIDS due to the cultural values and conservative nature where such diseases were associated with feelings of shame and guilt. Further, the study also noticed that majority of the women migrants in slums suffer from gender-based violence in their settlements on daily basis. On similar lines, studies conducted in Asian countries like China, India, the Philippines and depicted a higher rate of HIV prevalence among female migrant workers compared to the general population, with women being vulnerable due to exploitative working conditions and low incomes (Ha *et al.,* 2021). Women lacked access to contraceptives and had inadequate knowledge of STD/HIV transmission & prevention, along with the predominance of traditional gender imbalance (Makuch *et al.,* 2021). Further, they were deterred from seeking contraception due to financial constraints (Loganathan *et al.,* 2020). Particularly single women were found to be more likely to engage in sexually risky behavior with low HIV prevalence and low level of SRH service usage (Ha *et al.,* 2020).

Maternal Health of Migrants

Millennium Development Goal five was to "Improve maternal health", and MDG target 5. A "to reduce maternal mortality ratio by three quarters" and the SDG target 3.1 included "to reduce the global maternal mortality ratio to less than 70 per 100,000 live births" (WHO, 2019). In India, still, a sizeable portion continues to give birth at home (18.9 %) whereas the full ANC visits were only done by (19.9%) women in 2015-16 (Patel *et al.,* 2021). Although the, European Board and College of Obstetrics and Gynecology (EBCOG) care standards ensure that families that experienced maternal loss, mid-pregnancy loss, stillbirth or neonatal death should get maternity services which are comprehensive, culturally sensitive, and multi-disciplinary, accompanied by standard operating procedures and other facilities (Smith *et al.,* 2016). However, due to low literacy and low formal education, women cannot easily acquire high obstetric care. Often, women with birth complications and the presence of diseases such as diabetes and thyroids are unaware of their health status and exposed to birthing without medical assistance (Atukunda *et al.,* 2020). Women delivering with the help of midwives were more prone to unassisted vaginal birth and longer labor duration (Garces *et al.,* 2012). They had a higher incidence of existing medical conditions and previous obstetric complications (Symon *et al.,* 2009).

It is projected that between 2018 and 2030, 27.8 million children can die within the first month if the current rate of NMR remains the same globally. However, despite the substantial progress, in 2017, 2.5 million neonatal deaths were recorded, along with huge disparities in neonatal mortality persisting across regions and communities (WHO, 2019) where the traditional birth attendants (TBA) while home deliveries could be a cause of maternal and neonatal mortality (Badriah *et al.,* 2014). Maternal and perinatal mortality is directly influenced by the birth attendant's skill level and access towards diagnostic and therapeutic interventions (Garces *et al.,* 2012). As per WHO and Maternal and Child Epidemiology Estimation group, 24 % of neonatal deaths were due to intrapartum complications (Hug *et al.,* 2019). It is pointed out that most of the birth attendants in low-income countries are illiterate, without basic equipment, and have received less or no formal training (Garces *et al.,* 2012). However, the strategic framework for Ending preventable maternal mortality (EPMM) includes empowering women, girls, and communities, protecting the mother and baby dyad, ensuring supporting country framework, and applying human rights for achieving high-quality reproductive, maternal, and newborn healthcare, accessible and acceptable to all (WHO, 2019).

"*I went to a private hospital for delivery as I fear going to a government hospital. They abuse us, use slang language and one time, I saw a nurse slapping delivering woman even; they even ask us to bring our own injections. I'll never go there. But for private, I had to take a loan, and I was already indebted, so the house people didn't provide me with anything. I had to take loan from moneylenders on interest. I am still paying for it*"**- [Shaheen, 25 years]**

"*They don't treat the women of young age seriously. They don't even look at them, they think we will deliver easily on our own. I knew nothing of the process of delivery, so I fear going there on my own. But neighboring women told me that the mid-wife takes half the money required in hospital and delivers with kindness and answers every query*"- **[Ruby, 20 years]**

"*I tried a lot to deliver at home, but during the last hours, the midwife gave up looking at my condition, and we had to rush hospital. Doctor said my case was difficult, and I had to undergo an operation. The child also had severe complications in the head. But we had no money for the treatment, even today he suffers from fits, and when I go to work, my younger children often drop him here and there, making his condition more severe*"- **[Nahid, 25 years]**

Out of the sampled respondents, despite the few unmarried females, most of the women were married before the age of 17 years. Out of the women who delivered a child, the majority reported having low awareness and no regular access to ANC (Antenatal care) and only visiting in the cases of some complications such as swelling in the lower

abdomen or diseases such as diabetes or thyroid. This was due to a lack of time, negligence in the care and the absence of alternative sources to take proper care of infants at home. The study found that along with poor ANC care, women delivered in their slums under the supervision of midwives (generally preferred due to lack of money) lacked medical equipment and the necessary knowledge to deal with obstetric complications. They were rushed to hospitals in the last hours, where private hospitals were preferred over government hospitals, although the former resulted in an indebtedness trap for slum dwellers. Mostly the participants delivered at home, followed by private hospitals and a negligible portion delivered at government hospitals. Further, the respondents reported the non-provisioning of the entitlements of the various schemes of the Government of India related to health care. They had no knowledge of schemes such as '*Janani Suraksha Yojana'*. The benefits of these government schemes were not availed by migrant women in slums due to a lack of awareness, communication, skills, and cultural barriers. The studies have supported these views as the phenomenon of home births was common among women with low socioeconomic status and higher parity, where the expected delivery occurred at home with diversification in regional differences across Indian states (Patel *et al.,* 2021). Further, the perception regarding health and associated dangers and disease prevalence also determined home birthing preference (Adinew *et al.,* 2018). The practice of traditional delivery is not due to cultural preference but rather a result of desperation and avoidance of public health care centres (Loganathan *et al.,* 2020). However, the financial constraints to facility-based care included expensive local transport, high cost of services, and delivery of facility-based care. The lack of advanced planning, location of delivery, and acquisition of liquid assets to pay for cost further hindered the facility delivery (Adinew *et al.,* 2018).

Prevalence of non-communicable diseases and infections in slums

Society's health profile, in general, is affected by an interplay of various factors pertaining to various physical aspects, community, ecology and economy (Mahmood *et al.,* 2013). The increased risk of diseases is often associated with the socio-economic characteristics of the neighborhood along with the individual level characteristics with the slum dwellers and informal settlers being the most vulnerable (Alirol *et al.,* 2011) particularly the women and children in slums, with women being the most frequent visitors of outpatient clinics of local community health centres and bearing most of the burden of ill health (Abdi *et al.,* 2018). The modern disease pattern is shifting from infectious disease prevalence, and nutritional deficiencies to non-communicable disease categorization, thus depicting a large and growing disease burden (Mahmood *et al.,* 2013). They are becoming a major issue of concern in various countries along with their linkages with poverty and health, economic losses imposed on populations and demands placed on resources (Yadav & Krishnan, 2008). The urbanization has led to an important shift in the disease pattern leading to a rise in chronic diseases where infectious diseases still remain the main cause of mortality and morbidity. Further, due to international travel and migration, cities serve as significant transmission centres for infectious diseases (Alirol *et al.,* 2011) and megacities turn out to be the incubators of epidemics and zoonotic diseases spreading in a rapid manner and hence getting converted into world threats (Neiderud, 2015). However, with the advent of urbanization, traditional rural diseases such as lymphatic filariasis arising due to a lack of proper sanitation facilities and leishmaniasis originating from protozoa leishmania, are turning urban (Neiderud, 2015; Ross *et al.,* 2020). However, the urban environment has various risk factors contributing to the proliferation of diseases, such as poor housing leading to an increase in insects & rodents, vector diseases and geohelminths. The urban slums comprise a social cluster engendering distinct kinds of health issues. As a result of the slum's unique cultural, social and behavioral factors and the informal nature of the settlement, the spectrum, burden and determinants of chronic diseases, along with the associated consequences, are not much focused upon (Riley *et al.,*2007). Urban slum communities, in particular, have poorer health outcomes in comparison to other urban localities and rural areas, so it becomes immensely pertinent to address the health challenges of urban slum communities (Abdi *et al.,* 2018). The continuing process of slum formation and the rise in the burden of non-communicable diseases foster chronic illness and push the residents of slums deeper into poverty (Lumagbas *et al.,* 2018). In urban populations, a high risk of disease transmission is posed by the mobility of the people, increased rate of contact and heterogeneity in the health of urban people (Alirol *et al.,* 2011). Where infectious and non-communicable diseases arise due to the intake of excessive calories, poor health hygiene, lifestyle choices and genetic predisposition (Mahmood *et al.,* 2013).

The disease pattern is often categorized with emerging diseases or newly appeared, such as Ebola and AIDS and re-emerging that are age-old. Still, their prevalence increases again after a period of time, such as of cholera and malaria (Mahmood *et al.,* 2013). Slum dwellers are more at risk of acquiring diseases which are particular to the slums of different places, such as visceral leishmaniasis (in Teresina, Brazil), yellow fever and chikungunya spread by the vector Aedes spp mosquitoes, plague outbreak (in

Mahaganja, Madagaskar) and Trypano soma cruzi (in suburbs of Arequipa Peru) (Alirol *et al.,* 2011). Certain infectious diseases are more common in slums, such as diarrheal disease and cholera, are common in the slums of Tanzania (Neiderud, 2015). For a long period of time, Leptospirosis has emerged as an infectious disease spreading due to contact with contaminated flood water and the outbreak of the disease was reported among children after heavy rainfall and flooding in the slums of Mumbai (Karande *et al.,* 2002). Similarly, in the slums of Nairobi, Kenya, severe acute respiratory illness was reported, and the children who were found to be suffering were swabbed and had difficulty in breathing and chest indrawing (Breiman *et al.,* 2015). Also, a high incidence of acute respiratory infections and diarrheal disease was found among the poor urban children belonging to the slums of Fortaleza, Brazil (Castro *et al.,* 2003).

A high burden of non-communicable diseases such as hypertension and psychological distress was noticed as a unique feature of the slums (McNairy *et al.,* 2019). However, the major health issues reported in the urban slums include non-communicable diseases such as diarrhea, anemia, malnutrition, hypertension and diabetes and infections such as viral, seasonal infections, monsoon-related infections such as malaria and chikungunya (Abdi *et al.,* 2018).

"*They, told me, those doctors, that I have a blood pressure-related problem. But I don't have money for all this, and who really cares at this age, after spending whole life in deep poverty, nothing matters. Although I feel my heart is sinking at times and I am not able to do any work as breathing becomes heavy, then I leave that one-time meal also, but nothing helps*" **– [Khatoon, 90 years]**

"*I often develop rashes and other infections from living here. The rashes burn like hell at times then I apply balm all over them. Who will look after children if I go to medical? These surroundings, see yourself, are full of flies, rats and mosquitos; these places originate infections themselves. No one wants to live here*" **– [Muskaan, 40 years]**

"*I am suffering from serious anemia. I have so much pain in my legs that I cannot move without support. Also, irregular periods keep occurring from time to time, making my condition worse. When I went to medical, they told me I had two cysts in uterus and swelling. But I don't think I have any such problem. You tell me, from where we will bring money for operation, when there is no money for food and who will work for the family and look after children, these doctors always scare you like this*"- **[Marjeena, 35 years]**

The present study found the prevalence of unhygienic practices and inadequate access to clean water and sanitation without access to proper drainage contributed to growth of various infections in slums. The commonly occurring infectious diseases included respiratory infections, rashes and diarrhea. The study noticed the occurrence of infections due to lack of hygiene in handling of water at various stages and use of old plastic and contaminated cans to store water. Further the practice of regular handwashing with soaps was not common among migrants, where soap was often replaced with clay. However, among the non-communicable diseases, the most frequently occurring were the blood pressure and anemia among female slum dwellers. However, the treatment pattern reflected that slum dwellers depended on the alternate medical practitioners or the local practitioners of their area in comparison to a registered medical practitioner working in government hospital. The government hospitals were also not preferred due to priority attached to families as women had no one to look after their children in their absence. However, the major barrier in taking treatment was poverty and absence of savings. Various studies have discussed these issues. The epidemic of non-communicable diseases in slums has increased the vulnerability of slum dwellers, where poverty remains the largest structural health determinant in slums (Lumagbas *et al.,* 2018). Chronic diseases have a different set of complications when they occur among the neglected section of the population residing in slums. These include diabetes, hypertension, tuberculosis, injuries and rheumatic heart disease (Riley *et al.,* 2007). The migrant workers working as domestic workers in the households often suffer from severe and moderate anemia and were found to be low in BMI (Body Mass Index) (Saraswati *et al.,* 2015). Apart from the non-communicable diseases, the infectious diseases are also common among slum dwellers. The major causes of such diseases lie in the fact, that in slums, the water gets contaminated by vectors, posing the risk of non-communicable diseases and further leading to susceptibility to autoimmune diseases (Lumagbas *et al.,* 2018). Further inadequate sanitation, water supplies and waste disposal and unhygienic practices provide a favorable environment for rodents and insects carrying pathogens and soil-transmitted helminth infections, the contaminated water and poor food preparation and storage techniques spreading disease due to microbial toxins and zoonoses (Neiderud, 2015). The open sewage and anti-microbial resistance organisms contaminate the household drinking water sources and along with unhygienic habits, infectious diseases (transmitted through the fecal-oral route) easily spread (Ross *et al.,* 2020). These factors also contribute to diarrheal infections and cholera endemicity, with inadequate sanitation leading to soil-transmitted intestinal parasitic infections and helminthiasis (Alirol *et al.,* 2011). Further, population density is an important factor affecting disease

transmission, particularly the one communicable through the respiratory and oral-fecal route. The shared airspace leads towards exposure to influenza, measles and mycobacterium tuberculosis (Alirol *et al.,* 2011). Further, the close proximity of people with limited space for survival and a large number of members per household in densely populated slum cities have favorable conditions for the transmission of emerging diseases such as influenza and respiratory syndrome (Alirol *et al.,* 2011).

Solutions

Gender sensitivity needs to be improved, and discrimination to be reduced in order to provide a safe and healthy environment to migrant workers. Increasing the feeling of belongingness and providing migrants with social and emotional support would increase their self-esteem and self-worth. There is also a need to strengthen the health system so as to maintain the provision of reasonable care by understanding the nutritious requirement and care of pregnant women and breastfeeding mothers. Public health should be prioritized along with human rights considerations. The social safety measures across states should be comprehensive between centre and state, emphasizing the needs of the poor interstate migrant workers. Improving the quality of public health care, particularly in existing facilities, would help.

In order to improve mental health among migrants, the policies and interventions aimed at improving mental health need to be in accordance with protective factors. Further, the knowledge about risks for mental health needs to be associated with the process of migration. Counsellors are to be available for low-paid workers at government hospitals and mental health clinics where common mental health disorders can be detected early after proper screening. As the migration and labor policies are often unsuccessful in protecting interstate migrant's rights, they need to be addressed specifically catering to migrant's needs and problems. Further, the scope of the labor protection act needs to be addressed for women domestic workers where the maximum number of hours of work, minimum wage rate, and a day off in a week can be fixed. Also, there is a need to explain to migrants of considering common mental disorders such as depression and anxiety as normal without stigmatizing them.

The SRH education and the intervention programs are important to develop an understanding of the risk associated with sexual behavior among female migrants. Migrants need SRH leaders to provide them with the necessary knowledge and create awareness among them. Some of the slum women can be trained and turned into leaders. Reproductive training should also be provided to migrant slum women. Women migrants require help to understand the functioning of the health care system to overcome the challenges while seeking SRH care.

In order to improve maternal health, the interventions addressing barriers to healthcare utilization by removing misconceptions can help women deliver in institutional settings. They can prefer institutional delivery if government provide a good facility, free treatment, and care services. Further, improving the awareness about low-cost public health care services among migrants, encouraging government hospital visits, and introducing behavioral interventions towards disease prevention and hygienic behavior will bring community-level changes. The states should effort to implement high-quality standards of care in terms of maternity and gynecological services, focusing on maintaining safety, care, dignity, and treatment during the periods ranging from conception, ante-natal, and post-natal, respectively. In order to prevent neonatal deaths, interventions aiming at care are immensely needed by mother and child during pregnancy, antenatal, intrapartum, delivery, and post-partum periods with a high proportion of deliveries occurring in well-equipped and high-quality settings to improve neonatal survival. Further, home birth attendant training and building linkage to the health system can reduce perinatal mortality. Further, health providers must be trained to be compassionate and respectful towards patients. The public health care system needs to be accessible and easily affordable to marginal sections of society. There is a need for a dedicated migrant mobile health program to be developed and reach out to migrants. Further, the Government hospital's online portal, mobile technology, and social media can together serve as tools of awareness, availability, and procedures of Government facilities and increase solidarity and feeling of self-confidence among them. The phone can have recorded stories where women should be made aware of their sexual and reproductive health, benefits of institutional delivery, hazards of unhygienic home delivery, and knowledge of schemes, their application procedures, and monetary incentives of delivering in hospitals can be narrated. Confidential and case-specific inquiry into maternal and neonatal deaths among migrant women while capturing it as a part of national statistics will help lower maternal and infant mortality rates. Further, the employers can convince the women about the adoption of treatment from the hospital, and all employers together can give them advance payments and loans so that they can opt for institutional delivery. Whereas in the case of non-institutional delivery, midwives should be trained to identify early life-risking complications, safe and hygienic birthing practices, and opting for facility delivery instead of handling birthing at home, midwives should help women by directing them to facility care as they are the first local source of information

to them. Further, they should be incorporated as pregnancy advisers in the formal health care system. It will help them get employment and foster their skills. Also, the ASHA should be trained to recognize the signs of mental stress during pregnancy associated with domestic violence or other family issues and help them get counselled, maintain communication throughout pregnancy, and be aware them of the benefits of institutional delivery. They should also be trained to focus on the perspective of women regarding birthing and help them accordingly. The Example of Brazil needs to be replicated for the interstate workers, as the country has invested in improving obstetric attendance in the public health system through trained healthcare providers, improved counselling ante-natal, childbirth, and post-natal care, and avoidance of obstetric mistreatment.

Further, in order to prevent infections and chronic diseases in slums, the habit of handwashing should be encouraged as there is a link between improved hygiene and reduced infections, with handwashing playing an important role in controlling diarrhea and other infectious diseases. The maintenance of basic minimum hygiene and safe handling and storage of water will prevent various diseases. Further, the early signs of treatment of chronic non-communicable diseases and proper treatment will help migrants effectively. Further, there is a need for identification and reaching out towards migrant settlements by public health employees and the provision of information and communication regarding public health services targeted toward the migrant population. Collective action can further foster individual freedoms among migrants. In order to find the ached migrants, the government should plan regular registration facilities via mobile apps to address migrant health problems. There is a need for awareness regarding government schemes to be created by selecting leaders out of every migrant settlement, as community members can work accordingly for their own upliftment and in overcoming challenges. Further, the poor migrants should be identified, and well-fare schemes should be delivered to them accordingly.

IV. CONCLUSION

The present study tried to understand various constraints faced by vulnerable migrant workers. It illustrated the mental, sexual and reproductive, maternal, and general health which remains in a very neglected state among female inter-state migrants in slums. The study highlighted the experiences, sufferings, and perceptions of women in terms of health adversities faced by them. The study aimed to gain insight into the crisis they faced in the most difficult times by shedding light on their challenges, emotions, values, behaviors, and coping mechanisms.

The health of the migrant women in slums is in a precarious state, with the various health issues being less focused upon. The harsh life in slums gets further complicated in the absence of a hygienic environment and proper sanitation facilities available for women resulting in various kinds of health adversities. Further, lack of care and immunization exposes women and children in slums to chronic diseases. Slum life is typical of women who lack nutritious diet, rest and care with the prevalence of unhygienic surroundings and neglect towards health care. This depicts the immense need for public policies to be framed so as to enhance the health concerns along with agency freedom of vulnerable women creating an increase in their overall well-being.

REFERENCES

[1] World Health Organization. (2019). Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division.

[2] Hug, L., Alexander, M., You, D., Alkema, L., & for Child, U. I. A. G. (2019). National, regional, and global levels and trends in neonatal mortality between 1990 and 2017, with scenario-based projections to 2030: a systematic analysis. *The Lancet Global Health*, *7*(6), e710-e720.

[3] Badriah, F., Abe, T., Baequni, B., & Hagihara, A. (2014). Skilled versus unskilled assistance in home delivery: maternal complications, stillbirth and neonatal death in Indonesia. *Journal of Nursing and Care*, *3*(198), 2167-1168.

[4] Loudon, I. (2002). Midwives and the quality of maternal care. In *Midwives, society and childbirth* (pp. 194-214). Routledge.

[5] Hemschemeyer, H. (1939). Midwifery in the United States: How shall we care for the million mothers whose babies are born at home? *The American Journal of Nursing*, 1181-1187.

[6] Symon, A., Winter, C., Inkster, M., & Donnan, P. T. (2009). Outcomes for births booked under an independent midwife and births in NHS maternity units: matched comparison study. *BMJ*, *338*.

[7] Garces, A., McClure, E. M., Chomba, E., Patel, A., Pasha, O., Tshefu, A., ... & Goldenberg, R. L. (2012). Home birth attendants in low income countries: who are they and what do they do?. *BMC pregnancy and childbirth*, *12*(1), 1-9.

[8] Kusuma, Y. S., Kaushal, S., Garg, R., & Babu, B. V. (2018). Birth preparedness and determinants of birth place among migrants living in slums and slum-like pockets in Delhi, India. *Sexual & reproductive healthcare*, *16*, 160-166.

[9] Atukunda, E. C., Mugyenyi, G. R., Obua, C., Musiimenta, A., Najjuma, J. N., Agaba, E., ... & Matthews, L. T. (2020). When women deliver at home without a skilled birth attendant: a qualitative study on the role of health care systems in the increasing home births among rural women in Southwestern Uganda. *International Journal of Women's Health*, *12*, 423.

[10] Atukunda, E. C., Mugyenyi, G. R., Obua, C., Musiimenta, A., Agaba, E., Najjuma, J. N., ... & Matthews, L. T. (2020). Women's Choice to Deliver at Home: Understanding the Psychosocial and Cultural Factors Influencing Birthing

Choices for Unskilled Home Delivery among Women in Southwestern Uganda. *Journal of pregnancy*, *2020*.

[11] Yebyo, H., Alemayehu, M., & Kahsay, A. (2015). Why do women deliver at home? Multilevel modeling of Ethiopian National Demographic and Health Survey data. *PLoS One*, *10*(4), e0124718.

[12] Patel, R., Marbaniang, S. P., Srivastava, S., Kumar, P., & Chauhan, S. (2021). Why women choose to deliver at home in India: a study of prevalence, factors, and socio-economic inequality. *BMC Public Health*, *21*(1), 1-14.

[13] Marland, H., & Rafferty, A. M. (Eds.). (2002). *Midwives, society and childbirth: Debates and controversies in the modern period*. Routledge.

[14] Siddaiah, A., Kant, S., Haldar, P., Rai, S. K., & Misra, P. (2018). Maternal health care access among migrant women labourers in the selected brick kilns of district Faridabad, Haryana: mixed method study on equity and access. *International journal for equity in health*, *17*(1), 1-11.

[15] Smith, A. C., LeVoy, M., Mahmood, T., & Mercer, C. (2016). Migrant women's health issues: addressing barriers to access to health care for migrant women with irregular status. *Entre Nous WHO Europe*, *85*, 18-21.

[16] Saraswati, L. R., Sharma, V., & Sarna, A. (2015). Female migrants in India. *Population Council. https://assets. publishing. service. gov. uk/media/57a0897640f0b652dd00022a/61263_Internal-Female-Migrants. pdf*.

[17] Yadav, S. (2019). Socio-culturally induced distress among migrant labourers in India: A qualitative inquiry. *Mental Health, Religion & Culture*, *22*(1), 12-24.

[18] Lau, J. T., Cheng, Y., Gu, J., Zhou, R., Yu, C., Holroyd, E., & Yeung, N. C. (2012). Suicides in a mega-size factory in China: poor mental health among young migrant workers in China. *Occupational and environmental medicine*, *69*(7), 526-526.

[19] Subbaraman, R., Nolan, L., Shitole, T., Sawant, K., Shitole, S., Sood, K., ... & Patil-Deshmukh, A. (2014). The psychological toll of slum living in Mumbai, India: a mixed methods study. *Social science & medicine*, *119*, 155-169.

[20] Makuch, M. Y., Osis, M. J. D., Brasil, C., de Amorim, H. S., & Bahamondes, L. (2021). Reproductive health among Venezuelan migrant women at the north western border of Brazil: A qualitative study. *Journal of Migration and Health*, *4*, 100060.

[21] Singh, G. P. (2021). Psychosocial and Mental Health Issues of the Migrants Amidst COVID-19 Pandemic in India: A Narrative Review. *Indian Journal of Psychological Medicine*, *43*(6), 473-478.

[22] Fritze, T., Doblhammer, G., & van den Berg, G. J. (2014). Can individual conditions during childhood mediate or moderate the long-term cognitive effects of poor economic environments at birth?. *Social Science & Medicine*, *119*, 240-248.

[23] Loganathan, T., Chan, Z. X., de Smalen, A. W., & Pocock, N. S. (2020). Migrant women's access to sexual and reproductive health services in Malaysia: a qualitative study. *International journal of environmental research and public health*, *17*(15), 5376.

[24] Hasan, S. I., Yee, A., Rinaldi, A., Azham, A. A., Mohd Hairi, F., & Amer Nordin, A. S. (2021). Prevalence of common mental health issues among migrant workers: A systematic review and meta-analysis. *PloS one*, *16*(12), e0260221.

[25] Kronfol, Z., Saleh, M., & Al-Ghafry, M. (2014). Mental health issues among migrant workers in Gulf Cooperation Council countries: literature review and case illustrations. *Asian journal of psychiatry*, *10*, 109-113.

[26] Meyer, S. R., Decker, M. R., Tol, W. A., Abshir, N., Mar, A. A., & Robinson, W. C. (2016). Workplace and security stressors and mental health among migrant workers on the Thailand–Myanmar border. *Social psychiatry and psychiatric epidemiology*, *51*(5), 713-723.

[27] Freeman, T., Miles, L., Ying, K., Mat Yasin, S., & Lai, W. T. (2021). At the limits of "capability": The sexual and reproductive health of women migrant workers in Malaysia. *Sociology of health & illness*.

[28] Meyer, S. R., Decker, M. R., Tol, W. A., Abshir, N., Mar, A. A., & Robinson, W. C. (2016). Workplace and security stressors and mental health among migrant workers on the Thailand-Myanmar border. *Social psychiatry and psychiatric epidemiology*, *51*(5), 713–723. https://doi.org/10.1007/s00127-015-1162-7

[29] Ha, Toan & Schensul, Stephen & Schensul, Jean & Nguyễn, Trang & Nguyen, Nam. (2021). Sexual Risk Behaviors, HIV Prevalence and Access to Reproductive Health Services Among Young Women Migrant Workers in the Industrial Zones in Vietnam. Frontiers in Reproductive Health. 3. 10.3389/frph.2021.775375.

[30] Rulian, W. (2012). Reproductive health and gender awareness in Shenzhen's migrant population.

[31] Lumagbas, L. B., Coleman, H. L. S., Bunders, J., Pariente, A., Belonje, A., & de Cock Buning, T. (2018). Non-communicable diseases in Indian slums: re-framing the Social Determinants of Health. *Global health action*, *11*(1), 1438840.

[32] McNairy, M. L., Tymejczyk, O., Rivera, V., Seo, G., Dorélien, A., Peck, M., ... & Fitzgerald, D. W. (2019). High burden of non-communicable diseases among a young slum population in Haiti. *Journal of Urban Health*, *96*(6), 797-812.

[33] Shakeel, A. I. M., Shaiful, A., & Rashedul, I. (2013). Shifting from infectious diseases to non-communicable diseases: A double burden of diseases in Bangladesh. *Journal of Public Health and Epidemiology*, *5*(11), 424-434.

[34] Abdi, S., Wadugodapitiya, A., Bedaf, S., George, C. E., Norman, G., Hawley, M., & de Witte, L. (2018). Identification of priority health conditions for field-based screening in urban slums in Bangalore, India. *BMC Public Health*, *18*(1), 1-11.

[35] Ross, A. G., Rahman, M., Alam, M., Zaman, K., & Qadri, F. (2020). Can we 'WaSH'infectious diseases out of slums?. *International Journal of Infectious Diseases*, *92*, 130-132.

[36] Neiderud, C. J. (2015). How urbanization affects the epidemiology of emerging infectious diseases. *Infection ecology & epidemiology*, *5*(1), 27060.

[37] Alirol, E., Getaz, L., Stoll, B., Chappuis, F., & Loutan, L. (2011). Urbanisation and infectious diseases in a globalised world. *The Lancet infectious diseases*, *11*(2), 131-141.

[38] Yadav, K., & Krishnan, A. (2008). Changing patterns of diet, physical activity and obesity among urban, rural and slum populations in north India. *Obesity reviews*, *9*(5), 400-408.

[39] Langford, R., Lunn, P., & Brick, C. P. (2011). Hand-washing, subclinical infections, and growth: A longitudinal evaluation of an intervention in Nepali slums. *American Journal of Human Biology*, *23*(5), 621-629.

[40] Breiman, R. F., Cosmas, L., Njenga, M. K., Williamson, J., Mott, J. A., Katz, M. A., ... & Feikin, D. R. (2015). Severe acute respiratory infection in children in a densely populated urban slum in Kenya, 2007–2011. *BMC infectious diseases*, *15*(1), 1-11.

[41] Riley, L. W., Ko, A. I., Unger, A., & Reis, M. G. (2007). Slum health: diseases of neglected populations. *BMC international health and human rights*, *7*(1), 1-6.

[42] Karande, S., Kulkarni, H., Kulkarni, M., De, A., & Varaiya, A. (2002). Leptospirosis in children in Mumbai slums. *The Indian Journal of Pediatrics*, *69*(10), 855-858.

[43] Castro, M. X., Soares, A. M., Fonsêca, W., Rey, L. C., Guerrant, R. L., & Lima, A. A. (2003). Common infectious diseases and skin test anergy in children from an urban slum in northeast Brazil. *Brazilian Journal of Infectious Diseases*, *7*, 387-394.