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RESEARCH ARTICLE

Health status of women in slums: A comprehensive study in Raichur District Karnataka, India

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Abstract

Health is the major aspect of all living organisms on this earth, good health gives a healthy life span to prolong in the present disturbed environment conditions. In the case of women's health status in slums from the Raichur district, the study focuses on all the age group persons from young to old age group. In the seven slum areas selected for the study, from each slum 490 respondents' data were collected. The result was analyzed with the help of SPSS software and computational data from Excel. The study revealed the infectious and non-infectious diseases spread and severity. In this came to know that younger women are highly suffering from blood pressure issues, which they almost neglect. Also, the highest degree of malaria disease was seen in the slum dwellers due to water logging in the areas, and the women are prone to joint pains, which is one of the most vulnerable problems arising due to stressful physical work. However, fungal diseases are intense, leading to hair loss in women and also occupational health problems, making them sick due to overcoming the poverty level of the family. In conclusion, women's health, especially in slums, has to be aware, and in medical camps, the disease severity may be treated also due to poor sanitation. Parasitic diseases are more prevalent in the slums, which have to be prevented by taking appropriate measures.

Keywords: Women's health, Slum, Communicable, Non-communicable diseases, Parasitic, Fungal, Occupational

Introduction

Health is one of the most important parts of Women's life because she is the interactive person in the family and society. The present study focuses on communicable, noncommunicable, parasitic, fungal, and occupational health problems. An infectious disease is an illness caused by an infectious organism or its toxic metabolite that transmits to a susceptible host through contact with an infected human, animal, or inanimate object. Vulnerable communities are disproportionately affected by the enormous global burden of disease caused by infectious diseases, which also affects

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public health systems and economies around the globe. With 40 million deaths annually from non-communicable illnesses, including 15 million in those under the age of 70, the burden of these diseases is significant worldwide (Nyaaba et al., 2017). Non-communicable diseases cause 78% (31 million) of all deaths in low- and middle-income countries, while just 1% of global health spending is allocated to their prevention (WHO, 2017). Recently, it has been noted that diabetes mellitus might exhibit certain gender-specific characteristics. According to certain data, women with diabetes have an average of more years of disease and a higher body mass index (BMI) than males. Sex hormones appear to play a significant role in energy metabolism, vascular function, body composition, and inflammatory responses (Ciarambino et al., 2022). Women are more likely to experience musculoskeletal pain, arthralgia, and arthritis; these conditions also tend to occur more frequently as women age and in some cases, seem to be linked to menopause (Watt, F. E. 2018). One of the biggest risk factors for dementia, chronic kidney disease, ischemic heart disease, stroke, and other cardiovascular diseases (CVDs) is high blood pressure. In most parts of the world, high blood pressure is a major preventable factor in the burden of disease and death from CVD. Lowering the prevalence

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of elevated blood pressure by 25% by 2025 compared to its level in 2010 is one of the global non-communicable disease (NCD) targets set by the World Health Assembly in 2013 (Zhou et al., 2021). In the environment, parasites are extensively dispersed and develop intricate connections with their hosts to establish host-parasite systems. They can either live inside the host's body (endoparasites) or as ectoparasites, parasitizing it on its exterior(Rolbiecki, 2024). Fungal infections pose a significant risk to public health. Fungal infections are linked to fatal mycoses and a higher risk of death in individuals with COVID-19 and other disorders (Reddy et al., 2022). The International Labour Organisation estimates that 2.4 million of the estimated fatalities worldwide occur each year as a result of diseases or illnesses related to the workplace. According to data from the World Health Organisation, over 2 million healthcare workers (HCWs) are annually exposed to sharp object injuries, such as (NSI) needlestick injuries occur in workers without any protection in the workplace due to unawareness in a particular field where the injuries are neglected by the worker (Debelu et al., 2023).

Review of Literature:

The epidemiological triangle (Snieszko, 1974), a traditional model of infectious illness causation, postulates that an infectious disease is caused by a confluence of agent (pathogen), host, and environmental factors. Patients with underlying medical conditions may develop healthcareassociated infections (HAI) as a result of molds and Mucorales (Perlroth et al., 2007). Fungal pathogens can cause endemic mycoses that are common and potentially fatal in certain geographical areas. These include Blastomycosis, Coccidiodomycosis, Histoplasmosis, Talaromycosis, Paracoccidiodomycosis, and Sporotrichosis (Lee and Lau, 2017). Women with alopecia areata, alopecia universalis, alopecia totalis, and alopecia androgenetic had a lower quality of life (QoL) than men in a research by Cartwright et al. Men were more likely to claim that hair loss disrupted their jobs, whereas women were more likely to say that it harmed their personal relationships and leisure activities. In research on people with androgenetic alopecia, women were more likely than men to experience depression (Hoffer et al., 2021). To reduce the number of early deaths from noncommunicable diseases by 25% by 2025, the World Health Organisation (WHO) adopted the Global Action Plan for the Prevention and Control of NCDs (2013–2020). The goal of sustainable development 3.4 restates the goal of a onethird decrease in premature death from non-communicable illnesses by 2030. The lives of the impoverished and those barely above the poverty line are far too vulnerable. About 93% of our workforce is employed in the unorganized sector, where there is no social security, particularly against old age (Goswami, 2014). As a result, long-term care for NCD patients is becoming a significant problem in healthcare. The majority of behavioral risk factors (BRFs) associated with non-communicable diseases (NCDs), including poor diet, stress, lack of exercise, smoking, and alcohol use, may be prevented or modified (Manjrekar et al., 2014). In Indian society, poverty is a systemic issue that has contributed to poor health outcomes. According to the WHO (2011), poverty is defined as "a state of being inferior in quality or insufficient in the number of resources such as food, housing, basic healthcare services, and literacy" (Harries et al., 2015). According to research on the Global Burden of Disease, at least four SSA nations—the Democratic Republic of the Congo, Nigeria, Ethiopia, and South Africa—have age-standardized death rates from NCDs that are greater than those of high-income nations. In addition, a Tanzanian study revealed that, compared to high-income nations, death rates from NCDs are greater across all age groups between 15 and 59 years old (Dalal et al., 2011). Poor people are unable to receive institutional healthcare due to social constraints. Because the technology for diagnosis and screening is institutionalized, there is an unmet barrier to care access. Studies by Thakur J.S. et al. (2011), clearly show that socioeconomic strata have a substantial impact on NCM management. A study done in coastal Karnataka in 2006-07 showed the prevalence of hypertension among people over 30 years at 43.3% and out of them, only half knew that they had hypertension, and 20.2% were newly detected during the study. The prevalence of type 2 diabetes ranges from 3.77 to 16% (Jayanna et al., 2019).

Methodology:

Study Area

Raichur is situated at latitude 16° 9′ 36″ N and longitude 76° 54′ 36 E. The current study examines the health status of women in the slum regions of Sartigera, Ambedkar Nagar, Gajagarpeth, Harijanwada, LBS Nagar, and Thimmapurpet in the Raichur district of Karnataka, India, depicted in figure 1.

Sampling of Respondents

There are 40 slum neighborhoods in Raichur City; however, only 7 were chosen for the research study. 490 responders were chosen for the study from each slum location. Slums are located at the city's periphery, roughly two to four kilometers from the center. For this study, which aims to learn more about the health status of women living in slums, women are the primary participants.

Sources of data and technique

The data is collected from secondary and primary sources.
a) Secondary sources: Books, reports, published and

a) Secondary sources: Books, reports, published and unpublished papers, municipal records, and government circulars were the sources from which information was collected and compiled.

b) Primary Sources: With the aid of an interview schedule,

field interviews with respondents were used as the main source of data to get their perspectives and experiences living in the slum. This interview schedule had both planned and unstructured questions and covered every aspect of the study.

Statistical Tools

The statistical software SPSS (Statistical Package for the Social Science) version 27 is used to classify and tabulate the collected data. Excel programming is also used to analyze the results from the selected slums with precise frequency and percentage, and these programs are used to create graphical representations.

Result and Discussion

Communicable Diseases

Communicable diseases are devastating the entire slum areas with the spread of infection from one person to another person in a faster mode. From the seven slum areas, cold is commonly seen in all women suffering from breathing problems, nasal blockage, and headache with fever. This situation makes them sick which will not allow them to work properly and it can spread to other persons in the family. The standard questionaries are prepared for data collection from each person from seven slums, where 490 respondents answered with accuracy. For cold shown positive result is counted as 143, with 63% from the respondents is higher in Harijanwada whereas in Ambedkar Nagar it has 15% which is the lowest value. And remaining slums are in between these two percentages. In the same way, the negative result for cold is counted as 347, this peak level comes in Ambedkar Nagar (78.67%), while in Sartigera is the lowest level (77.1%). The remaining slum's value falls in between these two areas' percentages. Another communicable disease study from the slum areas is fever, it is also affects most of the women in the slums, which makes them weak in doing household work. It is also an infectious one which can spread to the family persons. Here, out of 490 respondents infected women are 287 numbers and those who are not infected women are 203 numbers.

In Gajagarpeth fever cases in women are reported at a maximum of 61.4%, and Siyatalab has reported a low that is 55.7%. However, in other slums, a minute variation in percentage compared to these areas. Whereas Sartigera has no effect on fever cases in women is raised to 46% is the highest and the lowest is from Harijanwada 38.6%. However, in the case of cough, the women suffer mostly from asthma where the blockage of the respiratory tract causes most discomfort in breathing. In this case, 358 respondents are suffering from cough, while 132 respondents are not affected by cough. From LBS Nagar women who are not infected with cough are elevated to 80% and low-lying is from Siyatalab which has only 71%. As well as, the topmost number 32.9% of women infected with cough is recorded from Ambedkar Nagar and minor is recorded from Thimmapurpet 30%.

On the other hand, viral diseases like hepatitis are common due to poor sanitation and unclean environment in slums which leads to such types of viral infections among the people. Out of 490 women 78 is counted for viral infection, while 412 is counted for no viral infection in women. Here, Thimmapurpet contains the foremost spread of disease is 21%, and below level is from Harijanwada at 14%. And other slums are recorded between these percentages.

Whereas, women's are not infected with the disease numbered 89% from LBS Nagar high-level compared to other slums and underneath from Siyatalab 83%. The slum dwellers suffering from tuberculosis especially women are more prone to this disease which is one of the most painful conditions in breathing and infection to the respiratory system. Of 490 respondents, 76 women peaked with the disease and 414 women were without the disease. Upraised tuberculosis is seen from Siyatalab at 20% and below level is recorded from Ambedkar Nagar at 10%. Other slum regions' percentages are in between these two slums. Women's are not infected with tuberculosis recorded higher from

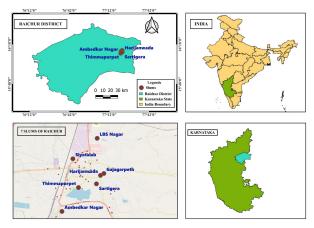


Figure-1: Study Area of Raichur District

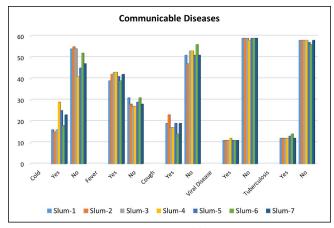


Figure-2: Communicable Diseases

Thimmapurpet at 87% and the lowest is from LBS Nagar at 81%. The study conducted for communicable diseases came to know that the dominant regions for this infectious illness are from these areas Harijanwada, Gajagarpeth, LBS Nagar, Thimmapurpet and Siyatalab, the graphical representation is shown in Figure 2.

Non-Communicable Diseases in Respondents

The present study is conducted for non-communicable diseases in the slums, where women are neglected towards these diseases, due to a lack of knowledge of the health conditions to be maintained in this part. At present days almost all people around the globe are suffering from diabetes, if untreated it leads to more complicated conditions for the person. Such type of disease is recorded in slums out of 490 respondents 58 counted for diabetes and 432 respondents are without diabetes. The disease frequency is elevated from Sartigera at 10% and the sunken frequency is from Harijanwada at 3% compared to other slums. However, without diabetes, women are healthy recorded at 91% foremost in Thimmapurpet and below 81.4% from LBS Nagar. People around the world are more prone to blood pressure, if untreated leads to many problems in different parts of the body. From the present study on the slums, the highest percentage of blood pressure is recorded, especially in younger age group women. Out of 490 respondents, 211 have blood pressure health issues and 279 are in healthy condition without the disease. A widespread of disease is seen in Thimmapurpet with an upraised 51.4% and lowered in Siyatalab at 12.9%. On the other hand, without blood pressure cases are found in elevated at around 87.1% in Siyatalab and lowered from LBS Nagar at 53%.

A major health condition studied is heart attack from the slum dwellers due to stressful conditions and heavy work pressure women suddenly get heart attacks. The data shows that 35 respondents have heart attacks while 455 respondents are without heart attacks from 490 respondents. The highest is recorded from LBS Nagar at 10% and the lowest is from Harijanwada. Whereas, women are healthy without any heart issues found from the study supreme at 97% in Thimmapurpet and minor at 96% in Gajagarpeth. From the slum, a study came to know that for cancer disease almost nil data is one of the healthy conditions of the women shown in all 7 slums. Out of 490 respondents, all the respondents are not suffering from the cancer disease, all women from the slums are healthy. Younger, middle-aged age and aged women are severely suffering from joint pains, which is stopping them from doing heavy work and long periods of standing work due to intense pain. Of around 490 respondents, 249 are counted for joint pains, and the remaining 241 are counted for no joint pains in women. Here, the high-level joint pains are documented from Thimmapurpet at 56%, and below 45.7%

recorded from Gajagarpeth. However, women's are not suffering from joint pains have been documented foremost at 52.9% in Siyatalab and 45.7 in LBS Nagar at 45.7%. Women have allergies when they come in contact with the allergens from the workplace environment which leads to different skin and bronchial afflictions. Total of 490 women, only 77 women have allergies while 413 women are without allergies. From the study women's suffering from allergy is elevated to 20% in Ambedkar Nagar, and lowest is recorded from LBS Nagar 11%. Whereas, women are not affected by allergy is maximum of 86% in Thimmapurpet and a minor of 81% in Gajagarpeth has recorded.

In age older group women's respiratory diseases are found which lead to complications like being unable to breathe properly at night when a cool environment is present. Also, women have asthma congestion in the respiratory tract. Out of 490 respondents, 42 are counted for disease severity and the remaining 448 are counted for no disease in women. The upraised level is 11% in Siyatalab and the low-lying level is 4% in Harijanwada. In the case of, no disease severity is recorded as high in Gajagarpeth 94%, and lowest in Thimmapurpet 87%. Other noncommunicable disease spread seen in slums are recorded 119 and no non-communicable disease number is counted 371 out of 490 respondents. The leading disease occurrence is from Siyatalab at 29%, and the sunken of disease is seen in Thimmapurpet at 20%. Although, no other diseases are found in women's recorded high level is 79% in Harijanwada, and the lowest is from Sartigera at 73%. Figure 3 shows, studying the non-communicable diseases spread in the slums given unknown illnesses from younger to old age women. Widespread disease has occurred in Sartigera, Thimmapurpet, LBS Nagar, Ambedkar Nagar, and Siyatalab.

Fungal Infection in Respondents

Fungal diseases are widely spread in slums due to environmental conditions that are unclean, due to limited resources available for the daily activities of niche. Moreover, by using the same materials the infected women or family members are prone to fungal infections, and more awareness

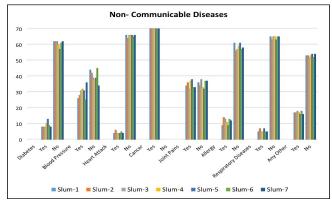


Figure 3: Non-Communicable Diseases

has to be spread about the infection cycle to prevent the diseases shown in Figure 4. The women from the study came out regarding the itching and ringworm infections due to changes in environmental seasons and unclean habits due to a lack of awareness in this region. The infected one is raised to 37.1% in LBS Nagar and lowered to 27.7% in Gajagarpeth. While no infection from fungi is recorded high in Thimmapurpet 71% and minor in Siyatalab 64.3%. Almost all women's hair loss is due to fungal infections like dandruff and other fungal infections. Of this women are more afraid of this infectious threat where it is indirectly leads to stressful conditions due to psychological thinking of particular hair loss occurring in women. Out of 490 respondents, 321 are counted for hair loss and 169 are counted for no hair loss. In the case of Thimmapurpet hair loss is elevated to 70% high compared to other slum areas and Siyatalab has recorded the lowest 60%. Meanwhile, no hair loss is recorded peak level in Ambedkar Nagar at 37% and underneath level in LBS Nagar at 31%. The study revealed that higher fungal skin infections have occurred in the areas of LBS Nagar and also hair loss is raised in Thimmapurpet.

Parasitic Diseases in Respondents

Parasitic diseases are highly seen in the slums because the main problem seen is water logging in the slums proper sanitation facilities are lacking in the slum areas. Which leads to a compatible environment for the growth of parasites in that standing water. Malaria is one of the highest peak levels of parasitic disease, infecting children, women, and their families, especially in the rainy season and winter seasons its intensity is high the women suffer more compared to other diseases. Out of 490 respondents, 386 women's got malaria disease where its dominance is seen and 104 women are not affected by malaria disease. The adversity of malaria disease is recorded highest from Siyatalab at 84% while, and lowest is from Harijanwada at 72.9%. However, no malaria disease spread is recorded maximum from LBS Nagar at 26% and minor in Gajagarpeth at 17%. Due to contamination of food and water women are prone to loose motions. For this illness out of 490 respondents, 141 have loose motion due to parasitic infection, and 349 women are not infected with

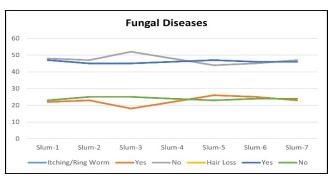


Figure 4: Fungal Diseases

parasites. The illness is leading in number at 38.6% from Harijanwada and below the level in Thimmapurpet at 21%. Also, women are not suffering from loose motions due to parasitic infection recorded high in LBS Nagar at 75.7% and low in Gajagarpeth at 62.9%.

One more disease infecting women severely is dengue. Which is a devastating and stressful illness that is more dangerous compared to other parasitic diseases spread through the mosquito it is caused by the dengue virus. This disease is more fatal out of 490 respondents 55 are counted for dengue disease and the remaining 435 are not infected with dengue. The highest peak level of disease is recorded from Thimmapurpet at 22.9% and the lowest level is seen from Sartigera at 4.3%. Also, no dengue diseases are seen maximum from Ambedkar Nagar at 95.7%, and below level is from LBS Nagar at 84.3%. Another parasitic infection is recorded from the slums out of 490 respondents 35 is the number for infection and 455 recorded no infection. The highest is observed in Thimmapurpet at 11% and the lowest is seen in Siyatalab at 3%. Whereas, no parasitic infection is topmost from Sartigera at 96% and below level is from Harijanwada at 90%. As shown in Figure 5 the parasitic disease spread is seen in Siyatalab, Harijanwada, and Thimmapurpet in high-level.

Occupational Health Problems

In slums the entire women are below the poverty level, to meet their family's daily needs, they will move to different works like labor, agriculture, industrial work, household work, and other occupations. Where heavy work and stressful lifestyle lead to occupational health problems. Those who do highly physical type of work experience severe body pains which make them weak and exhausted energy level, where out of 490 respondents 434 women have body pains, and 56 women do not have body pains. An elevated level of body pains has come out from Thimmapurpet at 93% and a low level is from LBS Nagar at 84%. In the case of, no body pain is recorded highest in Ambedkar Nagar at 14% and below the level in Gajagarpeth at 9%. The women's workplace consists

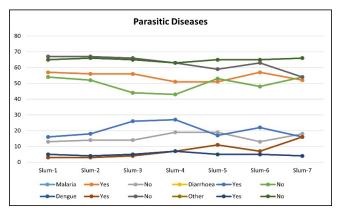


Figure-5: Parasitic Diseases

of machines and heavy weight lifting works are done, suffer adversely from nerve disorders due to overwork pressure which cannot be handled by women. Such types of cases were recorded in slums, where from 490 respondents 82 are affected with nerve disorders in women, and the remaining 408 are without nerve disorders. From all the slums peaked level of nerve disorder is recorded from Gajagarpeth at 20% and below level from LBS Nagar at 11%. In the same way, no nerve disorder has been seen as high in Ambedkar Nagar 86% along with the lowest level in Sartigera 82.9%. Those who are weak due to work pressure and enormous levels of psychologically weaker women's subjected to heart palpitation disorder. At this point out of 490 respondents, 14 are counted for heart palpitation and the remaining 476 are healthy without heart palpitation. However, Gajagarpeth recorded a high level of disease severity at 4.3% and the lowest level is from LBS Nagar at 1%. Meanwhile, no heart palpitation in women's also observed foremost in Sartigera at 99% and a minor number is 97.1% from Ambedkar Nagar.

Women work in big industries where the machine's sound level is higher and more anxiety conditions life, leading to severe headache problems. Such an event is recorded from out of 490 respondents 156 had headache problems while 334 had no headache problems. LBS Nagar recorded a peaked level of severe headache in women is 55.7% and Ambedkar Nagar has the lowest level at 25.7%. Along with this no severe headaches in women's also observed raised to 76% in Siyatalab and below level 68.6% from Thimmapurpet. In chemical industries, companies, and household workers have acid burns and burns recorded in slums out of 490 respondents 249 are counted for burns, and the remaining 241 are counted for no burns in women. Siyatalab has the highest record of burn cases at 16% while Sartigera is the lowest at 3%. In the same way, no burns are also seen at the maximum level from Harijanwada at 96% and below the level from Thimmapurpet at 90%. Psychologically weak women have more responsibility due to below poverty, being subjected to stressful environments

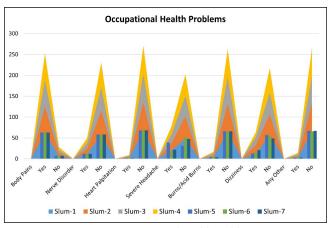


Figure 6: Occupational Health Problems

leads to dizziness, and also other health problems are the main reasons for it. Out of 490 respondents, 38 recorded dizziness and 452 without dizziness in women. Also, the elevated record is seen in Thimmapurpet at 30% and the sunken number is observed in Harijanwada at 17.1%. Meanwhile, no dizziness documented from Sartigera is highest at 81.4% and Ambedkar Nagar has a low number at 71.4%. Other occupational health issues were also recorded from 490 respondents 113 women are suffering from other work-related illnesses and 377 women do not have any workrelated health issues. High-level cases are recorded from Siyatalab 13% and the lowest is 1% from Thimmapurpet. Also, no other work-related issue observed with the peak level is from Ambedkar Nagar at 97% and the below level is from LBS Nagar at 90%. The study reveals that occupational health illness is documented among the labor workers from Thimmapurpet, Gajagarpeth, LBS Nagar, and Siyatalab depicted in Figure 6.

Health Problems Frequency

In the slum areas, the health problems frequency depend upon various factors of sanitation conditions, spread of infectious and non-infectious diseases, and fungal, parasitic, and occupational health problems. Depending upon the severity of the diseases the women will have monthly, occasional changes in the environment of health issues. As shown in Figure 7, out of 490 respondents, 108 women have monthly health illness frequency, 293 women have occasional health issue frequency and 89 women have a change in environment-based health problem frequency. In the case of monthly health illness frequency is reported highest from Harijanwada at 50% while Sartigera is recorded with the lowest at 5.7%. However, from Thimmapurpet health issues frequency is recorded peak level of 87.1% and Harijanwada contains 32.9% based on occasional health issue frequency. However, due to a change in environment health problems frequency is elevated from Sartigera at 44.3% and lowered from Thimmapurpet at 4.3%. The study revealed that health problem frequency from Harijanwada and Thimmapurpet has documented the highest level.

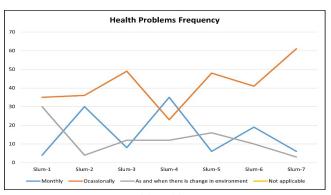


Figure-7: Health Problems Frequency

Moreover, it shows the maximum of occasional health issues of the respondents compared to monthly and changes in the environment.

Conclusion

The study is conducted on communicable, and noncommunicable diseases, fungal, and parasitic diseases, occupational health problems, and health problems frequency. It was revealed by the observation that younger women have the highest frequency of blood pressure from all the slum regions compared to other diseases, whereas women are elevated to hair loss from fungal infections and a high percentage of joint pains is seen in women from all age groups. Moreover, a peaked level of malaria parasitic disease spread is observed in women which is one of the devastating health conditions of women in the slum. Also, due to heavy physical work especially women are prone to extreme body pains and severe headache issues. In the future, more studies will be conducted on women's health in slum regions with still broader aspects to prevent disease spread and to give more awareness of disease cycles. Women's health in slums is critical because their lifestyle style is prone to various diseases which is a more overwhelming part of their lives.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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