

# Working Environment and Health Challenges of Women Workers in Home-based Bangle Manufacturing Units in Firozabad City

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## ABSTRACT

Firozabad is famous for its glass and bangle manufacturing industries worldwide. It lies under the unorganized sector and a significant part of this work force is formed by women as most of the processes involved in bangle making take place at Home-based manufacturing units by them. They have to work in the harsh and contaminated working conditions which lead to the various health challenges. This paper focuses on the working conditions or environment of the Home-based bangle manufacturing units and the consequences of the work induced hazards on the mental and physical health of the women workers. The data is collected from 50 women respondents who are engaged in Home-based bangle manufacturing units with the help of Interview schedule and Field observations. This study features that the majority of women feel unsafe due to the presence of flammable objects like kerosene, gas cylinder, fire flames etc. The working place is congested or cramped without proper lighting and safety measures. The constant fear of getting burnt is there among these Home-based women workers. Working for longer hours in improper postural support result in musculoskeletal pain, eye pain and watering and skin irritation. Along with this, women workers also face psychological challenges like stress, anxiety and seclusion which occur due to excessive work load, time pressure, low wages, longer working hours and job insecurity. This necessitates the urge for appropriate policy measures to enhance the working environment of women workers in Home-based bangle manufacturing units of Firozabad city.

**Keywords:** Working Environment, Health, Women Workers, Home-based Bangle Manufacturing Units, Unorganized Sector.

## INTRODUCTION

Firozabad is a city in Uttar Pradesh also known as Suhag Nagari or Kanch Nagari worldwide. It is famous for its manufacturing of glass bangles and glass products like jars, wine bottles, light lamps, toys, chandeliers and many more. Most of the workforce in Firozabad city is involved in glass factories and Home-based bangle manufacturing units. Although the main work of the bangle manufacturing is done in factories but the bangles are finally shaped in the Home-based manufacturing units with the assistance of some processes like Sadai, Judai, Cuttai, Mudai, Coloring and Beads decoration. Women occupied a significant portion in the workforce of the Home-based bangle manufacturing units which is an informal setup and lies under the unorganized sector. According to the ILO, Home-based workers are termed as those workers who carry out paid work from their homes and may be self-employed and are

outside the social security net. Women play supporting roles to their families in contributing economically due to the skyrocketing prices of commodities. Women working in the unorganized sector same as in case of women Home-based bangle workers face exploitation, less income, job insecurity and socio-economic distress and are deprived and exploited on the grounds of benefits and rights as they do not have legal and social protection provisions (**Gnanadesigan and Kumar, 2024**). They have to work in congested and dilapidated working conditions for longer hours resulting in severe musculoskeletal issues like poor posture, joints problem, back pain and problems like skin infections, pain and watering in eyes (**Kawakami et al., 2006**) (**Solanki and Dua, 2023**). They feel unsafe as they are exposed to risks like leaking of gas and burns from the fire flames while working due to the presence of flammable objects like kerosene, gas cylinder, fire flames etc. at the work place (**Rehan et al., 2023**). There is absence of occupational safety measures at the work place which result in occurrence of these dangerous conditions as women work without ergonomics in suffocating environments (**Fouad, 2024**). Human safety and health together at workplaces termed as ergonomics. It is the study and practice of designing jobs and workplaces that consider the limitations and capabilities of the human body to improve quality of life, productivity, safety and convenience (**Fasanya and Shofoluwe, 2018**). There is absolute insecurity of job and life in Home-based bangle manufacturing units. Working place is overcrowded with unclean and unhygienic surroundings along with improper ventilation and water drainage facilities which result in the exposure to severe health consequences in the long term like bronchial asthma and respiratory disorders among them (**Panneer, 2019**) (**Tongko et al., 2024**). The factors like family responsibilities, low income, work load, time pressure and insecurity of work lead to the various psychological challenges like stress, anxiety, irritation, boredom, physical and mental fatigue etc. (**Raza, 2010**). In the city, there is absence of appropriate alternatives for the income generation apart from Bangle manufacturing work which compel them to engage in this hazardous work which perpetuates a cycle of vulnerability among them. Therefore, the opportunities of employment for women workers are limited reinforcing their reliance on the dangerous job (**Mahalkar et al., 2022**). The quality of life is far below satisfactions of these women Home-based workers due to their miserable socio-economic status and absence of social protection measures. There is no legitimate basis of rights advocacy, occupational safety and health and wage related issues. International Labor Organization (ILO) has continuously emphasized upon the work life balance of the workers. Therefore, a critical consideration is needed for work schedule and work place layout in order to ensure well-being and productivity of the workers (**Fasanya, 2020**). Women workers in Home-based bangle manufacturing units also contribute to the country's overall economy therefore they should be recognized and entitled with social, legal, health and safety provisions for their welfare and protection of their rights. There is a necessity to address the concerns of exploitation, exclusion and discrimination of women workers in Home-based bangle manufacturing units in Firozabad city.

## OPERATIONAL DEFINITION

- **Working environment:** The Home-based working set up or surrounding where any of the glass bangle manufacturing processes takes. It includes crowd, sanitation, ventilation, drainage, availability of clean drinking water and safety measures at the work place.
- **Health:** "A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (WHO, 1948). It is termed as the sound physical and mental status of women workers in Home-based bangle manufacturing units.

- **Women workers:** Women who has reached the age of 18 years and engaged in any type of the process of glass bangle manufacturing like Sadai, Judai, Cuttai, Mudai, Coloring and Beads decoration at Home-based bangle manufacturing units.
- **Home-based bangle manufacturing units:** The working space where the process of glass bangle manufacturing like Sadai, Judai, Cuttai, Mudai, Coloring and Beads decoration are performed by the women especially at their homes.
- **Unorganized Sector:** A sector that has no job security, undefined working conditions, absence of occupational and safety measures and not protected under any social security net. The women workers in Home-based bangle manufacturing units are not listed and recorded under any legislation or regulation of official data of District Industry Centre, Firozabad.

## REVIEW OF LITERATURE

**Saleh et al. (2023)** highlighted that women face burden of dual responsibilities of performing domestic responsibilities, caregiving duties and meeting the work targets. Women Home-based workers face health issues and stress induced from overburdened tasks and lack of support from their family members. The overlapping of working and living environment of women workers led to the increase of physical and mental health challenges among them. They face difficulty in creating a distinct boundary between work and personal life.

**Sanghmitra and Athira (2021)** found in their study that 96 % of women are prevalent in the unorganized sector. This sector features the lack of formal employment safeguards which affects the health and safety of women workers accompanied by harsh working conditions, dual burden of responsibilities, exploitation and occupational diseases.

**Yasir et al. (2021)** revealed in the survey titled “Punjab Home-based Workers Survey, 2016” that women normally work in the unhealthy conditions and they are unaware about the risks regarding their health and safety. They are not provided the adequate health care, safety and fringe benefits from the government due to the informal nature of their work. The dominant factors which affect the health of women Home-based workers are improper lighting and incorrect working postures resulting in the eyesight issues and musculoskeletal pains.

**Sivasubramanian et al. (2020)** found that women workers are paid poorly for their work and they are not sheltered under any social security provision. They are compelled to work with the low wages, delayed payments, insecure and irregular work. Severe occupational health issues like back pain, joints pain, skin infections and respiratory problems encountered by the women workers.

**Sorensen et al. (2019)** revealed in their study that working conditions at the workplace significantly affects health and well-being of the workers.

**Hassan and Azman (2014)** found in their study that majority of women workers are living in very small and congested houses occupying one room along with a small veranda. Activities like cooking and their work are done at the same place. They have no specific space for the sleeping. In addition to their jobs, women workers are overburdened with household duties which affect their psychological well-being. Working conditions such as longer working hours, contact with dangerous work materials and uncomfortable and unhygienic working environment multiplied their health and safety risks.

**Huq et al. (2014)** reported in their study that Female workers work in unsatisfactory working conditions like congested machine rooms and narrow packing areas which increase the risks of accidents at the workplace and physical strains. These incidents necessitate an improved workplace design and

availability of safety measures at the work place. They receive very poor pay as it can be linked with the fact that 59.1 % of women workers reported with the Chronic Energy Deficiencies (CED) which indicates serious nutritional status among them and also 60.7 % of the women workers are adhere to the personal hygiene practices. Therefore, there is a need to create awareness and training in regard to improve hygienic standards among these women workers.

## OBJECTIVES

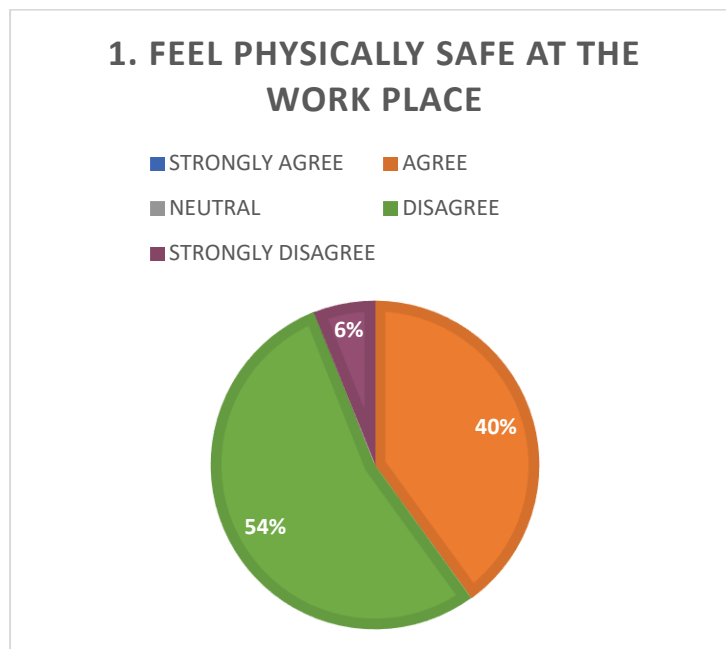
- To study the working environment of Women workers in Home-based bangle manufacturing units of Firozabad city.
- To know about the health challenges faced by women workers in Home-based bangle manufacturing units of Firozabad city.
- To propose some solutions for addressing the issues with regard to working conditions and health challenges.

## RESEARCH METHODOLOGY

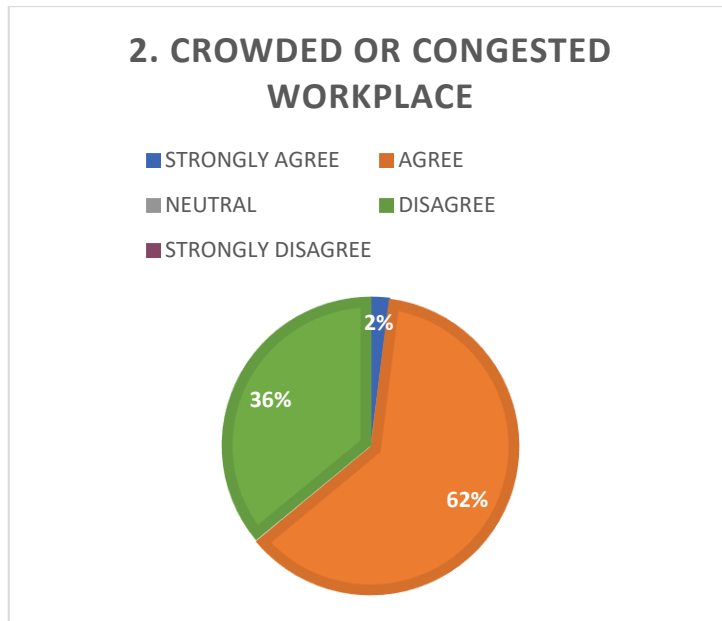
This study is Descriptive in nature consisting sample of 50 women workers in Home-based bangle manufacturing units of Firozabad city, selected by using Purposive sampling. The primary information is gathered by Field observations and Interview Schedule. The data collected is analyzed by Percentage method and depicted in the form of Pie charts.

## DATA ANALYSIS AND INTERPRETATION

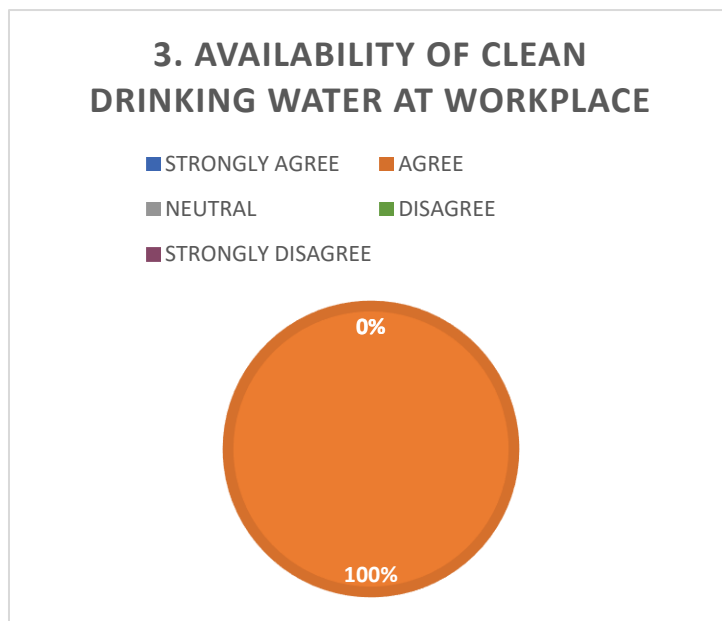
- **Working conditions:**



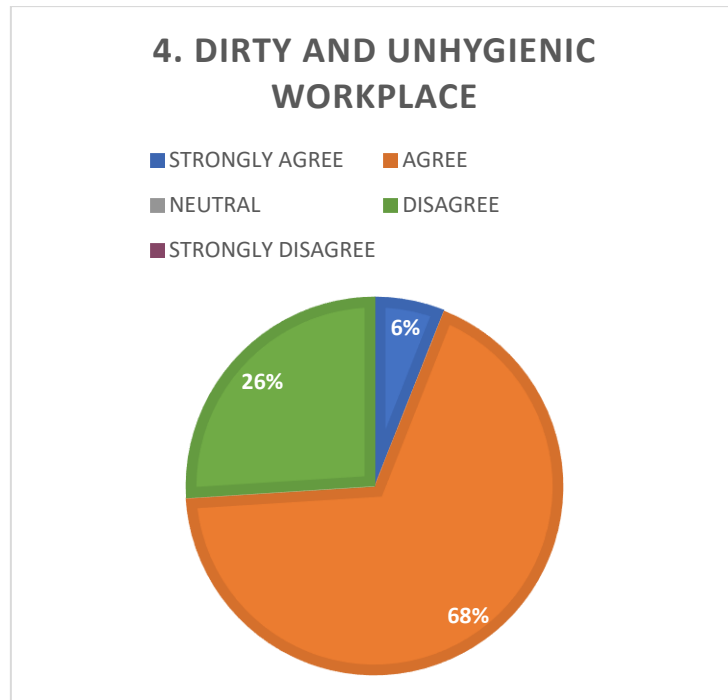
54 % of the women workers feel physically unsafe at the work place due to the presence of flammable materials like gas cylinder, kerosene, fire flames whereas 40 % of women found themselves physically safe while working at the work place and 6 % of the women strongly disagreed that they feel physically safe at the work place. They have the fear of occupational hazards risks such as gas leakage, cylinder blast, getting burn marks on the body.



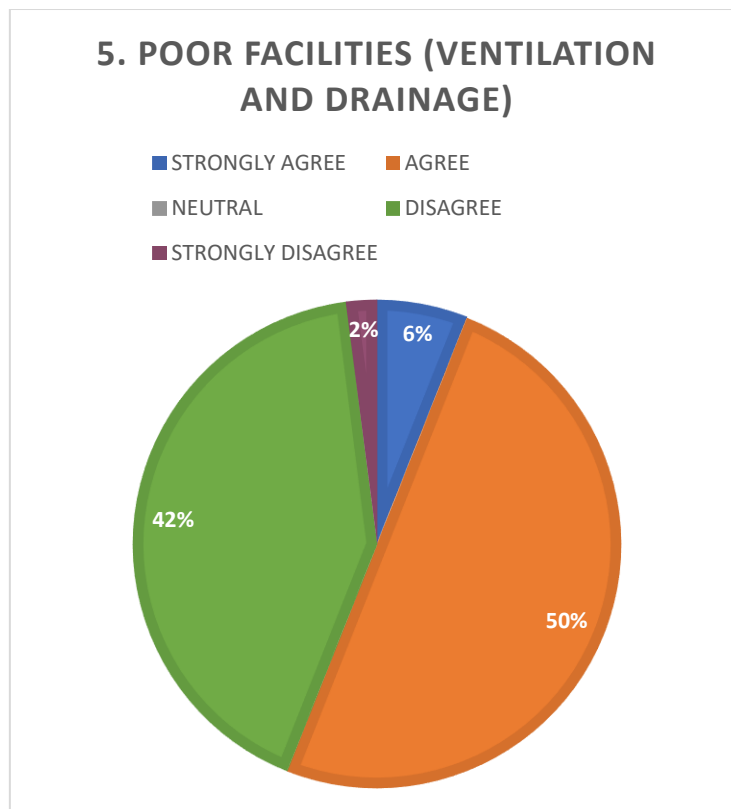
The workplace of 62 % of the women workers found as crowded or congested means that they work in uncomfortable spaces whereas the working space of 36 % of women workers is not crowded or congested and 2 % of women workers strongly agreed that their work place is crowded or congested. There is no separation between the working and living spaces at the homes of women workers.



All the women workers have clean drinking water at their workplace i.e. 100 %.

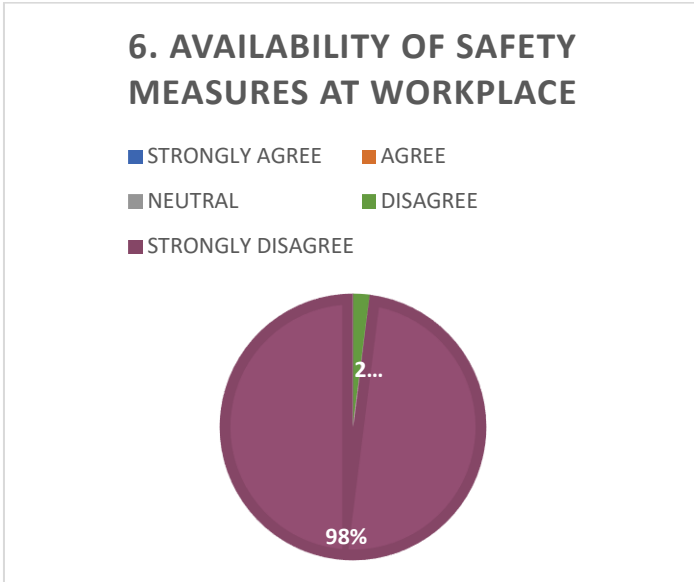


The work place of 68 % of women workers is found dirty and unhygienic and 6 % of women workers strongly agreed that they work in dirty and unhygienic spaces whereas 26 % of women stated that their working environment is clean and hygienic. There is a constant risk of origination of the severe diseases from the dirty and unhygienic working environments.

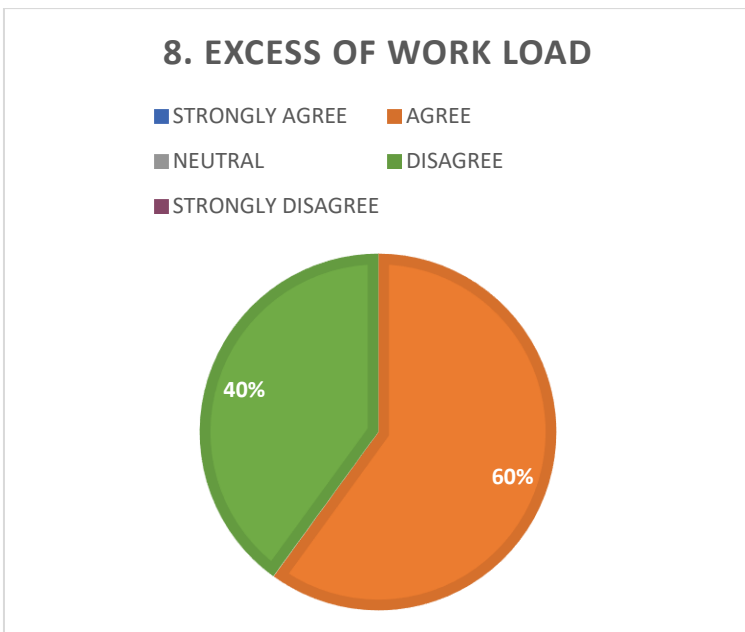


5. Working spaces which have poor ventilation and drainage facilities are found to be 50 % and 6 % of women workers strongly agreed that their work place have poor facilities related to ventilation and drainage whereas 42 % of the work places have good ventilation and drainage facilities. They work in

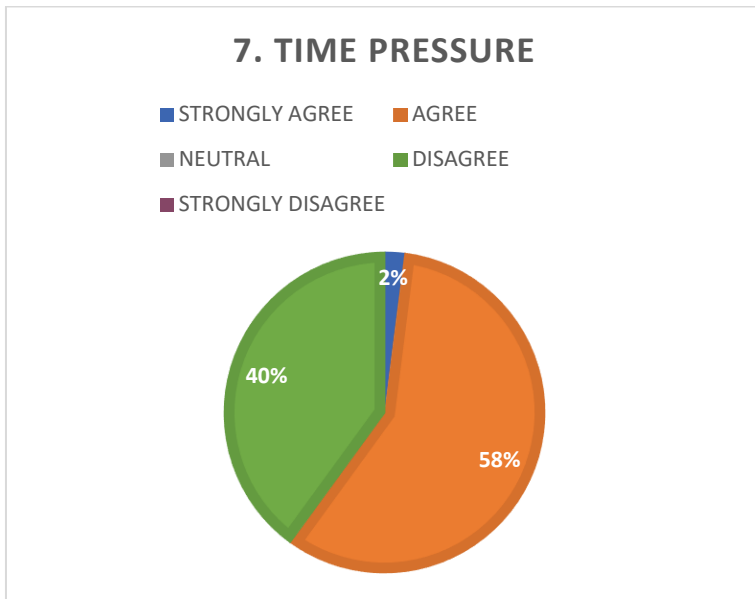
front of the fire flames which emits heat resulting in the suffocation at the work place which might result in the respiratory disorders and absence of proper drainage system at the work place give rise to the water borne diseases among the women workers.



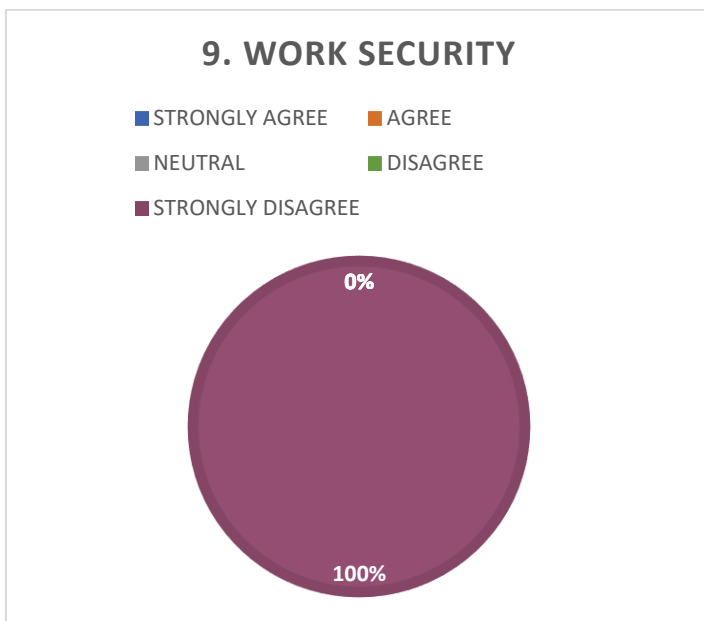
6. There is unavailability of safety measures for the women workers at 98 % of the workplaces while 2 % of women workers said that they use safety measures while working at the workplace. The entire Bangle production involves dangerous processes like Sadai, Judai, Mudai. Women are always vulnerable to health and safety risks as they operate without taking any safety precautions under these hazardous processes in the Home-based units.



8. There are 60 % of women workers who have excess of work load on them at the work place whereas 40 % of women workers do not have excess work load as they manage the amount of work load with ease. Women have to perform dual responsibilities in daily life as they manage the bangle work at on hand and domestic and caregiving responsibilities on the other hand.



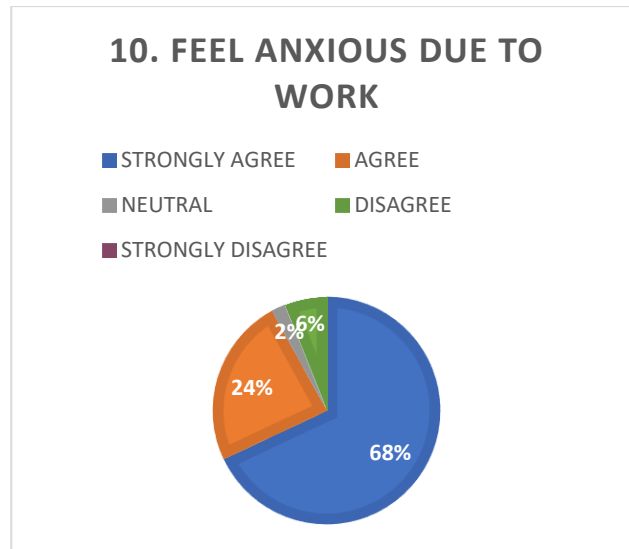
7. It is found that 58 % of the women workers felt time pressure on them and 2 % of women are strongly agreed that they have excessive time pressure whereas 40 % of the women workers do not have time pressure on them. Women workers have to submit the assigned task to the contractor within the time allotted by him otherwise they won't receive the new task to do and their payment will be cut down or delayed.



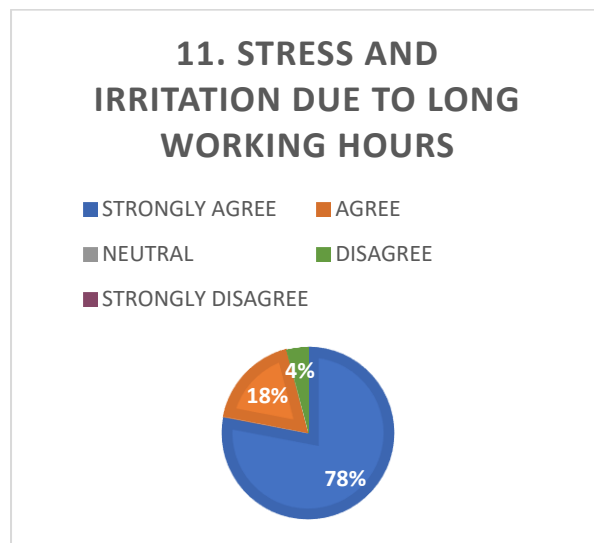
9. All the respondents responded that there is no work security at the work place. There is complete insecurity of the work/ job in these Home-based Bangle women workers. They may be left without work opportunities at any time if the job is interrupted or discontinued.

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- **Health challenges:**

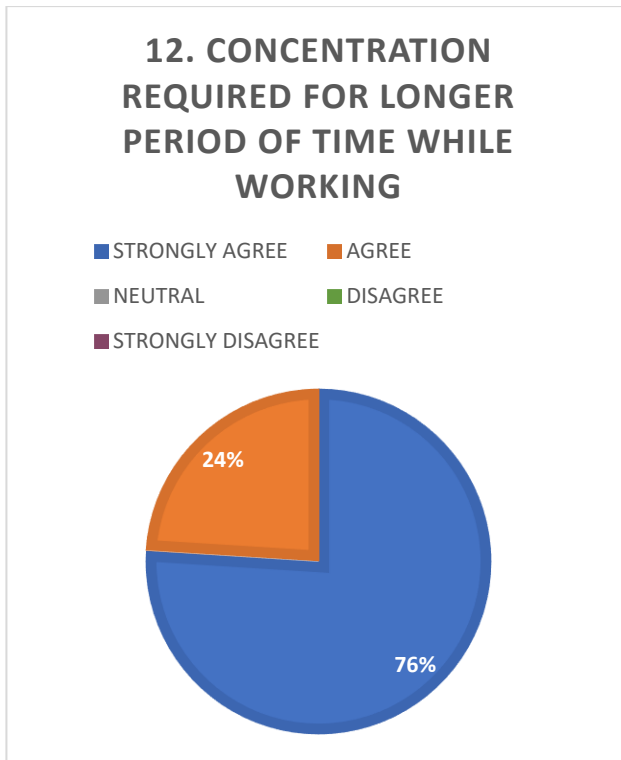




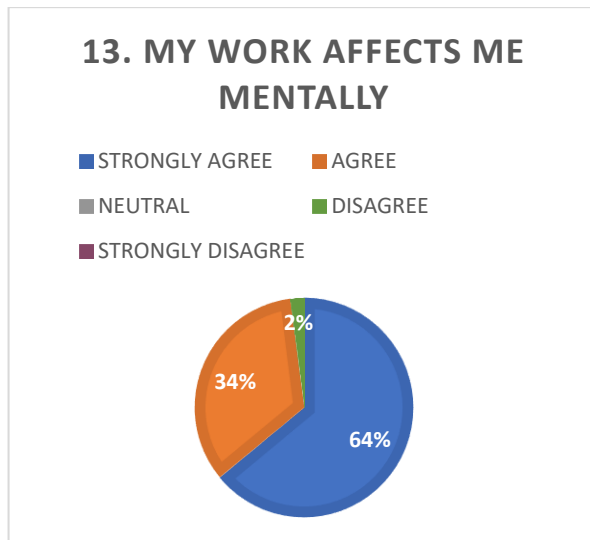
10. While working at the workplace, 68 % of the women workers strongly agreed and 24 % agreed upon that they feel anxious due to work. Whereas 6 % of women disagreed that they feel anxious due to work. Women workers work in suffocating conditions arise due to heating emissions of the fire flames.



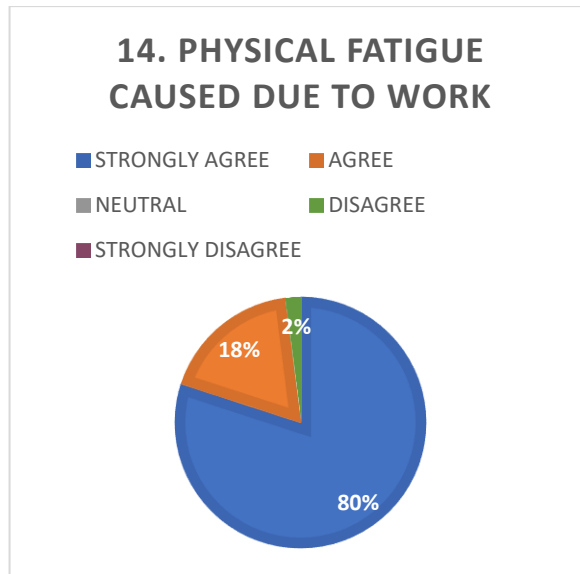
11. Due to long working hours, 78 % of women workers are strongly agreed and 18 % of women are agreed that they go through stress and irritation whereas 4 % of them denied on facing any stress and irritation while working for longer hours. They work by sitting in bad posture for longer hours.



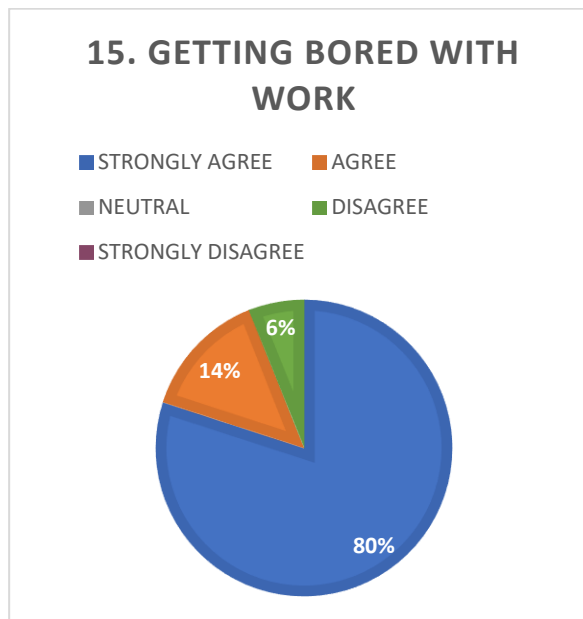
12. 76 % of the women workers strongly agreed and 24 % agreed that they require concentration for longer period of time while working. In the processes of Bangle making, meticulous work is done which require lots of concentration for longer period of time while working. This scenario can result in occurrence of the problems like weak eyesight and finger burns.



13. At the workplace, 64 % of the Women workers strongly agreed and 34 % of them agreed that they got affected mentally by their work. Performing the same task for longer hours make the women workers mentally exhausted.



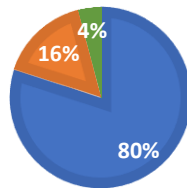
14. 80 % of Women workers responded that feel physical fatigue caused due to work and a significant portion of 18 % women workers agree with this statement whereas 2 % of them disagree indicating that they do not feel physical fatigue while working. Women workers have to work in sitting postures for longer period of time without bodily movements which make them physically tired.



15. Majority of the women workers i.e. 80 % strongly agreed and a significant portion of 14 % agreed that they get bored with work while 6 % of women workers responded that they do not get bored with the work. The repetition of the same work on daily basis for longer hours make them feeling bored with the work. There is absence of appropriate alternatives for the income generation apart from Bangle manufacturing work in the city which compel them to engage in this job only. Therefore, the opportunities for women workers in the city is limited.

### 16. FACING HEALTH ISSUES LIKE HEADACHE, EYE STRAIN, MUSCULOSKELETON PAIN

■ STRONGLY AGREE    ■ AGREE  
■ NEUTRAL            ■ DISAGREE  
■ STRONGLY DISAGREE



16. It is reported that 80 % of the women workers strongly agree and 16 % of them agree that they face health issues like Headache, eye strain, Musculo skeleton pain due to the work. The harsh and contaminated working conditions result in severe psychological challenges like stress, anxiety, irritation, boredom and mental fatigue etc. and physical outcomes like back pain, joints pain, skin infections and other respiratory problems.

## CONCLUSION

The study draws attention to various important issues faced by women workers in Home based bangle manufacturing units. They are surrounded by the intersection of health, safety and socio-economic challenges. There is absence of separation between the working and living spaces Their working spaces are congested and crowded making them constantly vulnerable to risks and hazards while working. Women workers work in the exposure to hazardous conditions like heat emissions, gas leaks, burns which lead to the jeopardy in their overall well-being. They work in the Bangle making processes without using safety precautions making them more susceptible to injuries and health risks. An improper ventilation and drainage facility along with unhygienic conditions at the workplace exacerbates the risks of respiratory disorders, water borne diseases and other severe health complications. Women Home based worker perform repetitive task for longer hours contributing to severe mental issues like stress, anxiety and mental fatigue. They experience physical fatigue, joints pain, back pain as they work in single posture for longer period of time and also severe skin infections and irritation occurred due to harsh working conditions. Women workers have the dual burden of managing domestic responsibilities and Bangle work which add to their strain leading to the mental exhaustion and physical fatigue. Insecurity of work and pressure to complete the assigned task timely intensify their risky and unjustified situations leaving them with limited options to earn their livelihood. There is an urgent need for the systemic change to improve the working conditions of the women Home-based bangle workers. In order to improve their quality of life and their empowerment, it is necessary to implement safety measures at the workplace, provide access to the healthcare facilities and explore other livelihood opportunities.

## SUGGESTIONS

- There should be made a separate policy especially for the women home based bangle workers and implementation of mandatory safety regulations should be done for home-based bangle production.
- Personal protection equipment should be provided by the employer to the Home-based women workers to mitigate the risks related to gas leaks, burns and other occupational hazards.
- Proper ventilation and sanitation facilities should be available at the workplace to settings to reduce the risks of respiratory disorders and water borne diseases caused by unhygienic conditions.
- Initiatives should be created that provide access to healthcare services to women workers focusing on preventive care and work-related health issues.
- Policies related to job security and fair compensation should be made so that women workers can be protected from the arbitrary task assignments and payment delays. This would lessen the anxiety and stress related to job insecurity.

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