

A study on socio demographic factors and work related health problems among women construction workers in Western Tamilnadu

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Abstract

The construction industry is one of the largest employers of women next to agriculture in India. It has employed more than 20 million construction workers in India at present. Construction work is often described as a dirty, difficult and dangerous job. They are subjected to air pollution due to dust, heat, humidity and noise. In addition, especially the women construction workers are sometimes subjected to certain level of discomfort from male coworkers. In many construction areas personal protection equipments like gloves are not properly used. Job stress prevails among women construction workers. The research study has pondered over the work related environmental parameters of women construction workers and how they are affecting the work life of women workers. The study has focused on the impact of environmental parameters on women construction workers in terms of their occupational health problems, work stress and injuries. The impact of various physical exposures and psychosocial exposures on perceived work stress was studied for women construction workers. The study has been carried out in western part of the state of Tamilnadu.

Keywords: occupational health, construction worker, workplace safety, harassment, socio demographic factor

1. INTRODUCTION

The world labor force has around 7.5% of construction workers and construction industry is a stable growing industry in the world. In India, it is the major contributor to GDP next to agriculture and is highly labor-intensive consisting of nearly 45% of the total unorganized urban work force. This work force consists of around 55% out of unskilled work force and the rest belongs to skilled workers and technical and support staff. They are subjected to three groups of environmental agent namely physical, chemical and biological factors. These factors lead to many health problems. The problems include injury to body parts, problems relating to respiration, skin disease, visionary problems, muscle and

skeletal related disorders and gastro-intestinal diseases. Construction women workers suffer with even more health issues due to the nature of the work. So the study was undertaken to explore work place health issues among women construction workers in Western Tamilnadu.

2. Literature Review

International:

There are a few literatures on how construction workers perform their activities in an unsafe environment and problems faced by them during the work and also after effect in personal and family life. According to the ILO report (2001), the following points can be noted

which are relevant for the study. It has become common in Malaysia that accidents on construction sites are unavoidable feature of the industry. They are many reasons such as the casual terms of employment, employing foreign workers illegally and unavailability of insurance cover for them. In the Philippines, it was found in a research that no formal training had been given to workers and that had led to accidents in construction sites. Occupational accidents occur more among unskilled workers. ILO report (2001) also noted that sharp increase in deaths of construction workers on building sites of Rio de Janeiro was attributed to the absence of preventive measures and informal sector subcontracting.

One of the well known trade unions in Hong Kong, the Confederation of Trade Unions has reported in 2001 that there is a lack of legal provision to quit from jobs from dangerous working condition after taking up the job in main land. As they could not refuse dangerous work, a high rate of industrial accidents and diseases had occurred. There are also some select articles which further emphasize the importance of a study on the occupational safety of construction workers.

Yu, et al (2002) has stated that the main cause for higher rates of injuries and health hazards in workplace were poor occupational health and safety measures. Gervais (2003) in his research has mentioned that the health issues among the construction workers can be avoided by meticulous planning, training and better work place management practice. Further biomechanical hazards could be minimized with suitable working conditions. Van Der Molen, et al (2004) in their research has written that women construction workers work for long hours daily. Risks of lower back pain, arms and legs pain in addition to psychological stress were noted among the workers of construction industry. Bentley, et al (2005) have done a study on causes for fatal falls in construction industry and found that some of the workers are working at high level, improper use of PPE, unguarded openings, and lack of risk management.

Harold (2013) has reported that the health issues such as intense back pain, and shoulder pain were high among construction workers in Nigeria. Kadiri, et al (2014) have identified that negligence in the construction sites was the major cause for the fatal accidents. The authors have suggested adopting good safety practice and creating safe workplace environment to reduce accidents in construction sites. Tadesse et al (2016) have stated that improper use of PPEs, less work experience, pan chewing were the root causes for work place accidents and injury.

Allison (2017) in a study has concluded that construction workers experienced the highest workplace injury and death rates in the United States. Improper comprehension of safety precautions was found to be one of the reasons. It was found that worker demographics such as language affect safety communication in small work groups. Peng (2019) in his study on predicting safety behaviors among older construction workers has found that psychological factors play a mediating role. Meng et al (2020) have stated that female construction workers have lesser safety consciousness and safety citizenship behavior compared to their male counterparts. Antonio et al (2021) have established the association of socio demographic factors with the risk of accident in construction industry.

National:

Jayakrishnan (2013) in his study carried out in Kerala has stated that construction workers have higher risk of developing health issues than workers in other type of industries. These construction workers are exposed to many environmental factors that create various health problems. Some of the health issues found in Keralite construction workers are body pain, respiratory problems, skin disease, musculo-skeletal disorders and acute intestinal diseases.

The work is mostly physical in nature like breaking bricks and stones, carrying bricks, preparing concrete mix which they perform often under adverse weather conditions. The type of work, duration, lesser wages, poor

living conditions, staying away from family, insecurity about job and lack of access to private and public health services make the work mentally and physically still harder to perform.

Women construction workers often get degenerative disorders due to poor ergonomic work place arrangement. Further, the workers in most of the construction sites are unorganized in nature and are unaware of the health and welfare measures for the workers and hence are not getting free or subsidized care.

Many construction workers are either inter-state or intra-state migrants from interior villages. They are mostly educated up to matriculation and not serious about available preventive measures. The inter-state migrants have poor vernacular language skills that prevent them from understanding the safety precautions given and to express their problems. In the construction sites health and safety precautions are also neglected. Further, accident and occupational disease statistics are not accurately available as they are not recorded in most of the cases.

3. Research framework

3.1 Identification of Research gap:

On careful examination of the literature published on Indian and international contexts, it is evident that construction work is one of the most hazardous sectors for women workers. Health risks arise due to various reasons like non-compliance of safety norms, dusts, noise, chemicals, manual handling, excessive head loads, and lack of safety awareness. Higher rates of workplace injuries are reported among the illiterate, women and inexperienced construction workers. The construction industry is mostly unorganized and much needs to be done on regulating the industry.

The present study will have implications for policy and program formulation for women construction workers' concerns and issues in construction work. The

present study is to be undertaken with the following objectives:

1. To understand the factors both environmental and manmade factors that are prevalent in the work sites for female construction workers.
2. To assess the extent to which these factors have affected the female workers in terms of health issues and work stress.

3.2 Framework and methods:

The study is conducted among the women construction workers of Western Tamilnadu. The districts include Salem, Erode, Tirupur, Coimbatore and Nilgiris. A purposive sampling design was adopted to select the study area, construction sites and women construction workers. Only those construction sites where women workers get employed were considered. A sizable number of 567 women construction workers form the sample elements. The data is collected with the help of pre-tested interview schedule. Women construction workers are the key respondents and lack in English knowledge and hence data are collected by interaction in vernacular language. Personal interview is adopted in order to understand the problems faced by the women workers in construction industry at micro level.

4. Findings of the study

4.1 Demographic profile of the respondents:

	Age(Years)	Education Level	Family Size
Total Number	567	567	567
Missing	0	0	0
Mean	35.07	1.65	3.56
Median	35.00	2.00	3.00
Mode	38	1	3
Std. Deviation	3.079	.638	.623

Interpretation:

The study has shown that the average age of women construction workers in the western regional of Tamilnadu is 35 years. Average education level of women construction workers

are 8th standard level and their average family size was 3.

4.2 Analysis of the Type of working environment of Respondents:

Nature of working environment	Frequency	Percent	Percent	Cumulative Percent
Individual works	277	48.9	48.9	48.9
Company based local works	212	37.4	37.4	86.2
Company based Industrial works	19	3.4	3.4	89.6
Company based Government works	59	10.4	10.4	100.0
Total	567	100.0	100.0	

Interpretation:

From this table we can infer that 48.9 % of women workers belong to Individual works category followed by company based local works with 37.4%.

4.3 Analysis of Migrants in Respondents:

	Frequency	Percent	Percent	Cumulative Percent
Yes	73	12.9	12.9	12.9
No	494	87.1	87.1	100.0
Total	567	100.0	100.0	

Interpretation:

From this table we can identify that 87.1% i.e., 494 respondents are not migrants and they belong to the same region and the rest are intra-state migrants from different parts of Tamilnadu.

4.4 Respondents' addiction to tobacco and alcohol

Addiction	Frequency	Percent
Tobacco	176	31.0%
Alcohol	48	8.5%

Interpretation:

In the sample, around 31% of the women construction workers are addict to tobacco products and 8.5% consume alcohol.

4.5 Analysis of Respondents subjected to health issue in past one year:

Health issue	Frequency	Percent
Fever	257	45.3%
Respiratory diseases	223	39.3%
Skin diseases	252	44.4%
Eye disease	140	24.7%

Musculo-skeletal disorders	27	4.8%
Malaria	40	7.1%
TB	12	2.1%
Jaundice	22	3.9%
Typhoid	14	2.5%
Hospitalization	65	11.5%

* Multi response data

Interpretation:

The above table shows that respondents are subjected to various health disorders, fever is very common and 44% of respondents are affected by skin disease followed by respirational issues.

4.6 Usage percentage of Personal Protective Equipments provided at jobsite:

	Frequency	Cover-all	Helmet	Gloves
No	193	34.0	36.2	32.3
Sometimes	178	31.4	31.9	30.5
Yes	196	34.6	31.9	37.2
Total	567	100.0	100.0	100.0

Interpretation:

The study shows that around one-third of the sample respondents are not at all using the Personal Protective Equipments like Cover-all, helmet or gloves.

4.7 Analysis of Work environment of Respondents:

	Near dust or welding fumes	Near Chemicals/Acids/ Solvents	High Noisy environment	Near Traffic/ Moving Vehicles	Work at 4 feet or higher without barrier
Never	36.2	20.8	19.2	20.1	21.3
Rarely	-	19.0	22.8	19.9	17.5
Sometimes	32.5	20.5	17.3	16.8	22.2
Often	31.4	19.6	20.5	19.6	20.5
Very Often	-	20.1	20.3	23.6	18.5

Interpretation:

It is inferred that only 36 % of respondents are not exposed to dust or welding fumes, 21% to noisy environment, 19% to chemicals, 20% to moving vehicles and 21% to unsafe heights. The remaining workers are some way exposed to dangerous work environment either to physical hazards or mental stress.

4.8 Gender discrimination at workplace

	Frequency	Percent
Yes	108	19.0
No	461	81.0
Total	567	100.0

Interpretation:

It is noted that 19% of women construction workers feel that they are discriminated because of gender in the workplace.

4.9 Bullying at the workplace during the last six months

	Percent	Cumulative Percent
No	61.3	61.3
Rarely	33.6	94.9
Frequently	5.1	100
Total	100.0	

Interpretation:

The study shows that around 61% of the women construction workers have reported that there is no bullying in workplace.

5. Findings

The study has resulted in the following findings which are to be considered for scope for future work.

1. The average age of women construction workers in the western regional of Tamilnadu is 35 years. Average education level of women construction workers are 8th

standard level and their average family size was 3.

2. Almost half of the respondents search and take up construction work i.e. 48.9 % of women workers belongs to Individual works category followed by company based local works with 37.4%.

3. Around 87% of the respondents are not migrants and they belong to the same region and the rest are intra-state migrants from different parts of Tamilnadu.

4. Around 31% of the women construction workers are addict to tobacco products and 9% consume alcohol.

5. Women construction workers are subjected to various health disorders, fever is very common and 44% of respondents are affected by skin disease followed by respirational issues.

6. Around one-third of the sample respondents are not at all using the Personal Protective Equipments like Cover-all, helmet or gloves.

7. Only 36 % of respondents are not exposed to dust or welding fumes, 21% to noisy environment, 19% to chemicals, 20% to moving vehicles and 21% to unsafe heights. The remaining workers are some way exposed to dangerous work environment either to physical hazards or mental stress.

8. 19% of women construction workers feel that they are discriminated because of gender in the workplace.

9. Around 61% of the women construction workers have reported that there is no bullying in workplace.

6. Conclusion

The study reveals that due to work nature consumption of tobacco products and alcohol is prevalent among women construction workers. This would not only impact their health but also affect their children. There is a hesitation among the segment in wearing the Personal Protective Equipments (PPE) such as gloves, etc. Awareness programmes are to be conducted to change their mindset and make them wear PPEs at work place. The study also reveals that in the western region gender discrimination prevails to an extent of 19% in the construction sites. Further only a small proportion of construction workers are subjected to bullying which is a good sign but even that has to be eliminated by strict measures by the real estate companies or by some government measures. Unsafe work environment could be found in many cases and further study on these areas can be conducted.

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