

ORIGINALRESEARCH

Work and Health: A Review of Methodologies

Trabajo y salud: una reseña de metodologías

Sonu Pandey. School of Development, Azim Premji University, Bengaluru, Karnataka- 562125, India.
Email: sonu.pandey@apu.edu.in, <https://orcid.org/0009-0006-8104-7696>

Received: February 5, 2025.

Accepted: February 24, 2025.

Conflicts of interest: None.

DOI: <https://doi.org/10.71164/socialmedicine.v18i3.2025.2007>

Abstract

Considering the significance of work, not merely as an isolated determinant, but also in relation to other axes of vulnerability, it is crucial to examine our current understanding of how working conditions impact health and how these effects manifest. To explore this, a review of 52 studies conducted in low- and middle-income countries (LMICs) after the 1990s was carried out. This review aimed to assess the methodologies used to explore the relationship between working conditions and health, as well as identify potential directions for future research. Forty percent (n=25) of the studies included in this review focused on the working conditions and health status of garment factory workers, the majority of whom were women. Of these, most studies (n=21) employed a cross-sectional design and utilized quantitative data collection methods. The health outcomes measured included the prevalence of mental health issues such as depression, stress, and anxiety, as well as occupational accidents and musculoskeletal disorders (MSDs). These MSDs were characterized by physical symptoms such as pain, stiffness, aching, burning, tingling, numbness, allergies, upset stomach, weakness, fatigue, exhaustion, hearing problems, respiratory issues, and hypertension, among others. Studies using qualitative research methods are scarce. Given the complex relationship between health and work, it is crucial to generate everyday knowledge about health, grounded in the interactions and interpretations of individuals within their social context. Therefore, more qualitative studies are needed to explore how different aspects of work influence workers' health. Additionally, these studies can help clarify the intricate relationship between working conditions and health outcomes

Key words: Working conditions, work, health and well-being, methodology, and tools.

Resumen

Tomando en cuenta la importancia del trabajo, no solo como determinante aislado, sino también en relación con otros factores de vulnerabilidad, es crucial examinar nuestra comprensión actual de cómo las condiciones laborales impactan sobre la salud y cómo se manifiestan sus efectos. Para abordar esta temática, se hizo una revisión de 52 estudios realizados a partir de la década de 1990, en países de ingresos bajos y medianos (PIBM). Esta revisión tuvo como objetivo evaluar las metodologías utilizadas para explorar la relación entre las condiciones laborales y de salud, así como identificar posibles líneas de investigación futuras. Cuarenta por ciento (n = 25) de los estudios incluidos en esta revisión se centró en las condiciones laborales y el estado de salud de las y los trabajadores en fábricas de textiles, la mayoría de los cuales eran mujeres. De este universo, la mayoría (n = 21) emplearon un diseño transversal y métodos cuantitativos de recolección de datos. Los efectos sobre la salud medidos incluyeron: la prevalencia de problemas de salud mental como depresión, estrés y ansiedad, así como accidentes laborales y trastornos musculoesqueléticos (TME), estos últimos se expresaron mediante síntomas físicos, como dolor, rigidez, molestias, ardor, hormigueo, entumecimiento, alergias, malestar estomacal, debilidad, fatiga, agotamiento, problemas auditivos, problemas respiratorios e hipertensión, entre otros. Los estudios que utilizan métodos de investigación cualitativos son escasos. Dada la compleja relación entre la salud y el trabajo, es crucial generar conocimiento cotidiano sobre la primera, con base en las interacciones e interpretaciones de las personas en su contexto social. Por tanto, se necesita más información cualitativa para explorar cómo los diferentes aspectos del trabajo influyen sobre la salud de las y los trabajadores. Además, estos estudios pueden ayudar a esclarecer la intrincada relación entre las condiciones laborales y sus efectos en materia de salud.

Palabras clave: Condiciones de trabajo, trabajo, salud y bienestar, metodología y herramientas.



Introduction and Background

Work and working conditions are key determinants of social inequalities in health, both within and across generations.¹ This recognition dates back to Rudolf Virchow's 1848 investigation of typhus among coal miners, which laid the foundation for social medicine and occupational health.² However, this field remains a neglected one within public health. For many years, issues related to work and health were primarily framed in terms of occupational safety and hazards.² Over time, this focus evolved into a more technical and applied field,² driven largely by the biomedical model of health,³ which emphasizes identifying and eliminating biological, physical, and chemical hazards in the workplace. While this framework provides the means to secure safe working environment and mitigate work related diseases, it remains too narrow. Farmer termed this limitation the "desocialization" of scientific inquiry, which focuses only on biological aspects of what is indeed a biosocial phenomenon.³ It does not account for larger structural changes, such as urbanization and globalization, which have induced shifts in labor markets (e.g., flexible labor markets, informalization, casualization, and precarious employment) and changes in employment relations (e.g., self-employment, casual, and piece-rate work). The evolving patterns and severity of occupational risks are closely linked to these shifts in work and employment structures within the global economy, as well as the control of labor processes. Additionally, immigration has become a critical determinant of health. While migration itself is not a direct risk factor, the marginalization of migrant workers is particularly severe.⁴ This marginalization translates into heightened volatility and risk at the macro level, which in turn affects workers through increased job strain, job insecurity, and anxiety, ultimately impacting their physical, economic, and psychosocial well-being.

Therefore, while studies associating certain health ailments with specific occupational groups exist, very few illuminate how work processes impact health.⁵ The existing literature on dignity and labor, and more specifically on gender, has highlighted the fragility of working conditions.⁵

However, its relevance to health and health inequalities is peripheral.⁵

Although the interaction between working conditions and health was long neglected by public health researchers, it gained considerable attention following the publication of the WHO's 2008 report on Social Determinants of Health.⁶ The social determinants of health approach has been fundamental in encouraging us to explore the complex relationship between work and health. It highlights the social aspects of occupational injuries, as well as the broader impacts on health and well-being. Additionally, distinguishing between work-related and non-work-related injuries and health conditions helps differentiate the approaches of community health and occupational health and safety.² The social determinants of health paradigm posits that an individual's work significantly influences other aspects of their life, emphasizing a public health-oriented, holistic approach to understanding workers' health. Therefore, combining occupational health with the social determinants of health framework provides a powerful lens to explore the intersection of migration, work, and health. This approach allows us to examine how the nature of work and work processes affect health, particularly in the context of the unequal distribution of occupational injuries and resulting health conditions across social groups.

Considering the significance of work, not as an isolated determinant but possibly intersecting with other axes of vulnerability, it is important to examine our understanding of how working conditions impact health. The methodology becomes particularly important when we are exploring these connections. Therefore, this review includes 52 studies conducted in LMICs after the 1990s which, to the best of our knowledge, describe the methodologies in detail. Since we were interested in methodologies, we have used cross-references from these published articles. A summary of this review, including details on region, occupation, sources, year of publication, research design, unit of analysis, tools, outcomes measured, results, and data types, is provided in the figures in the following sections of the paper.

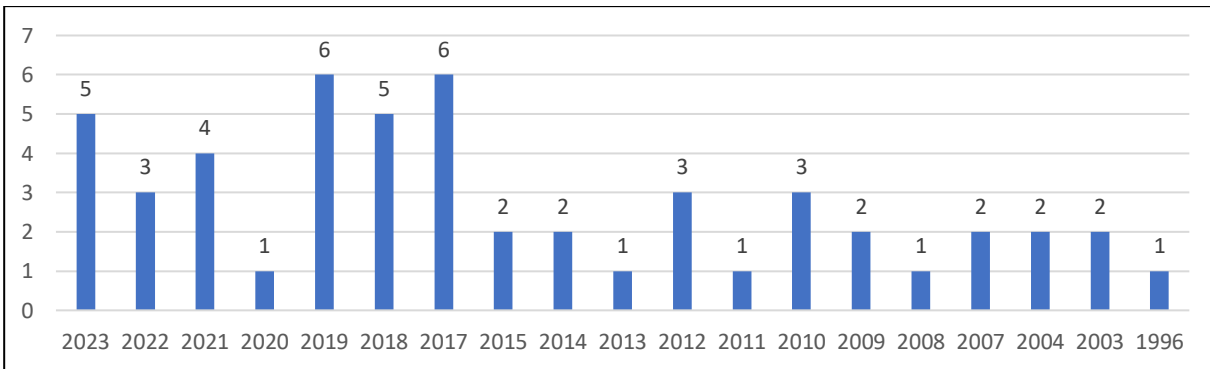
Results

Study Characteristics

The year of publication of the studies reviewed (Fig.1) reveals that the frequency of publication has increased after the year 2015 with maximum studies conducted in the year 2017, 2018, 2019, and 2023. In terms of geographic coverage, most of the studies (n=13) has been conducted in Bangladesh followed by India (n=12). Collectively these two countries account for almost half of the studies included in the review. Out of the total 12 studies conducted in India, Karnataka accounts for seven, out of which six are conducted in Bangalore followed by three studies in Tamil Nadu (Chennai).

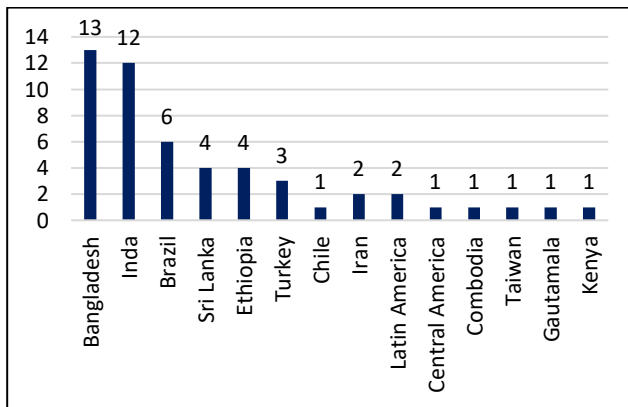
A majority of the studies conducted in India, Bangladesh and Sri Lanka focused on the health of garment factory workers, particularly women. Some studies examined the way the ESI scheme is mitigating the health needs of workers in India. One study compared the health status of workers in OSH compliant and non-compliant factories in Bangladesh. Furthermore, the review encompassed a diverse range of occupational categories. Research carried out in Iran focussed on health and working conditions of nursing personnel, as well as ergonomic issues in agriculture. Studies in Brazil covered a wide range of occupational groups, including system analysts, university professors, technical staff, community health workers, and nursing personnel. One study also analyzed the health of individuals living in households with people in precarious work situations.

Fig. 1. Year of Publication



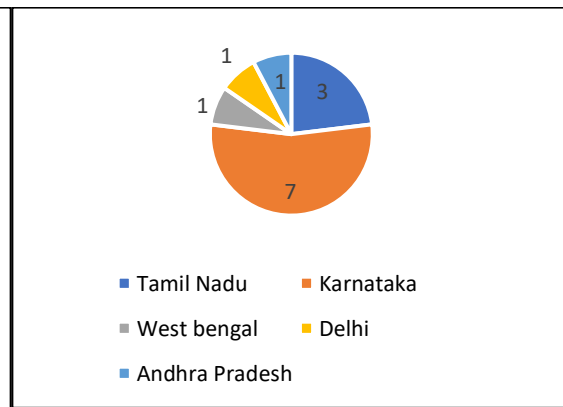
Source: Data compiled by the researcher

Fig. 2. Geographic Coverage



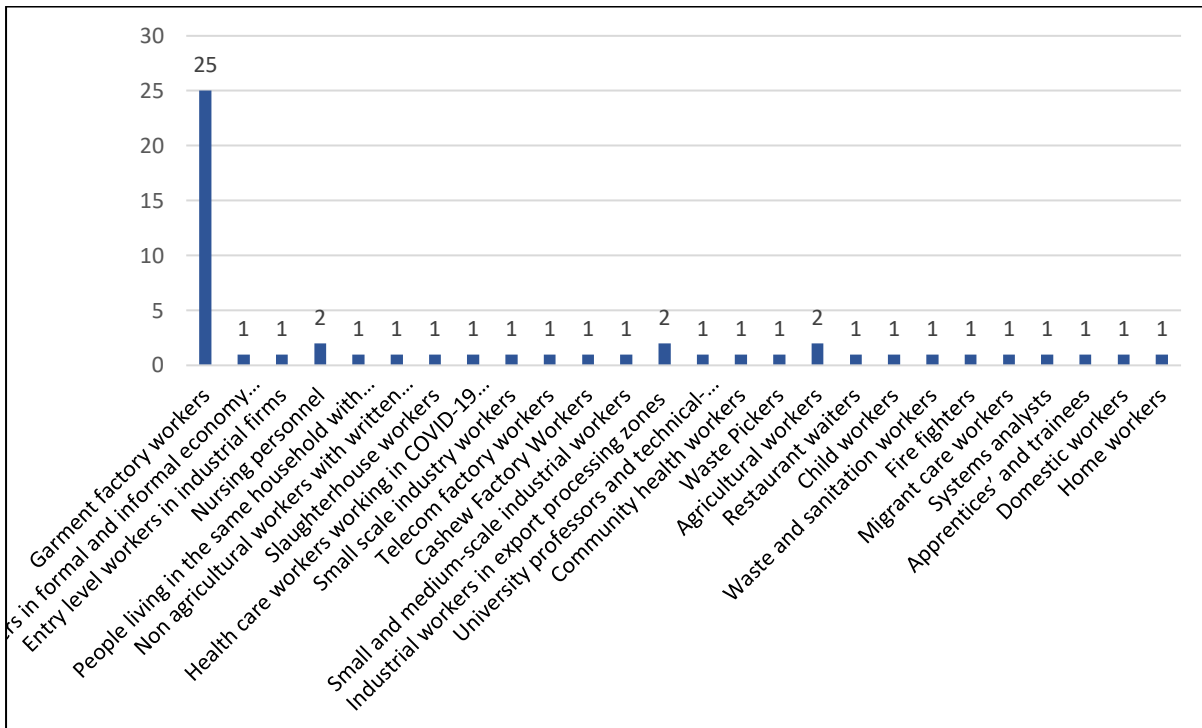
Source: Data compiled by the researcher

Fig. 3. Studies in Indian States



Source: Data compiled by the researcher

Fig. 4. Occupational Groups Covered in Studies



Source: Data compiled by the researcher

In Kenya, the working conditions of slaughterhouses and the impacts on health of workers and consumers was assessed. A study in Guatemala focused on the health of firefighters. Research in Turkey focused on health of child workers enrolled at an occupational training centre, and in Ethiopia a study examined the health of restaurant waiters. Employment status, with or without a written contract, is a crucial determinant when analysing working conditions and health. Regarding this, an experimental study in Ethiopia analysed the benefits and risks associated with different categories of employment by randomly assigning one third of the applicants to a job offer, a third to an entrepreneurship program, and a third to a control group. Further, a study in Latin America (Colombia, Argentina, Chile, Central America and Uruguay) analysed the the working conditions and health of non-agricultural workers with a written contract across occupational categories.

Working conditions became extremely critical in treatment of COVID19, with adequate

precautionary measures needed to protect the health care personnel from getting infected. Turkey examined the working conditions and health of nursing personnel working in a COVID19 pandemic hospital. Another study conducted in Bangladesh studied the occupational safety among waste and sanitation workers during COVID19. Additionally, a study in Latin America examined the occupational and environmental risk among waste pickers.

Methodologies and Health Outcome Studied

The majority of the studies used a cross-sectional design, as shown in Fig. 5. These studies were primarily cross-sectional epidemiologic, comparative, institution-based, and included some with case study elements. Interestingly, one study employed a fact-finding design to understand the working conditions and health issues faced by workers during their protests outside the factory. Additionally, other studies used ethnographic, longitudinal retrospective, and feminist qualitative research designs.

Fig. 5. Research Design

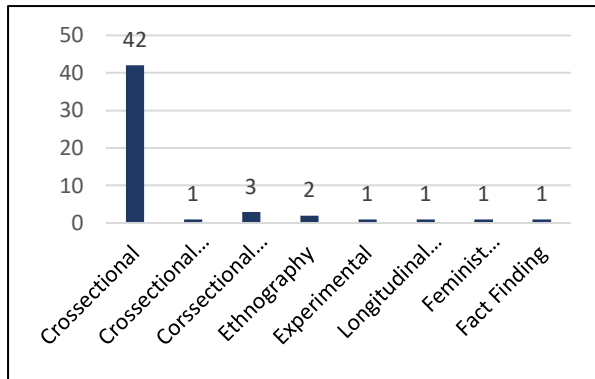


Fig. 6. Unit of Analysis

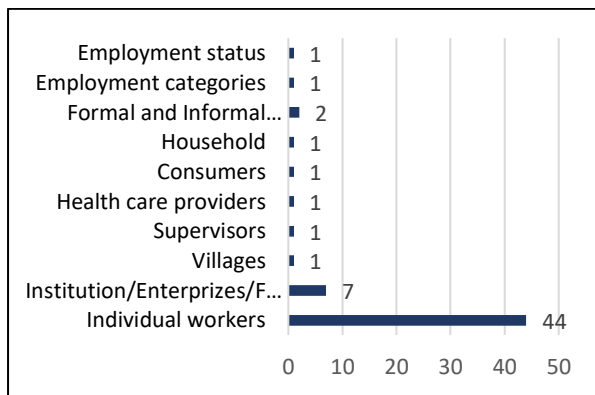
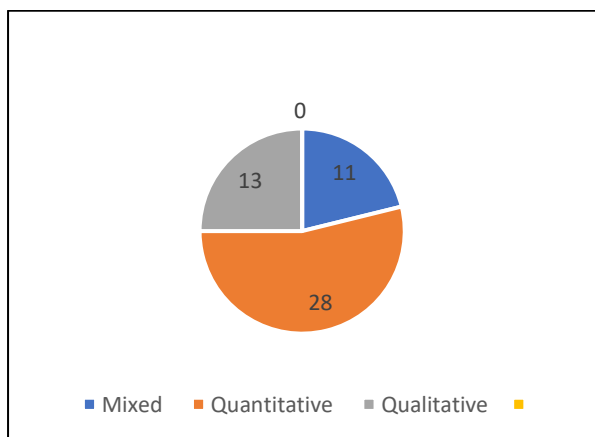


Fig. 7. Type of Data



Source: Data compiled by the researcher

Included here are studies analysing exclusively women (n=23), exclusively men (n=2) and both together (n=27). A majority of the studies (n=28)

collected quantitative data, followed by (n=13) with qualitative data, and (n=11) with mixed data involving both the quantitative and qualitative data collection tools.

Table 1. Health Outcomes Studied

Health Issues/Outcomes Measured	No. of Studies
General Health Issues- Visual fatigue, Pain (back pain)	6
Mental Health and Well-being- Distress, Anxiety, Depression, Social Dysfunction	12
Subjective Sleep Quality/Sleep Deprivation	2
Psychosocial Factors	3
MSD and Physical Health Symptoms	9
IPV, Workplace Violence (WPV) (Physical and verbal abuse, constant pressure, personal restriction, withholding of pay)	4
KAP Occupational Safety, Environmental Risk Factors and Work-Related Injuries/Health outcomes	11
Time-debt factor	1
Labour Laws/Rights, Dignity, and Self-worth (including various health provisions)	4
Abortion and Contraception Services	1
ESI Services and other Employee benefits	2
Pregnant Women Workers Health	1
Gendered Roles, Gender and Health (Discrimination, abuse, harassment at workplace)	7
Hair Cortisol Concentration (HCC)	1
Self- Rated Health (Self-reported health symptoms)	5
Health-Rated Quality of Life (HRQL)	1
Clinical Diagnosis Data/ Medical Examination by the Employer Data/Recent Health Events (by Doctor at Site)	4
Everyday Experiences, Life conditions, Women Perception of Work and Health, Lived Experiences of Illness and Health	6
Happiness	1
Nonpecuniary consequences	1
Biological Sampling for Disease Testing	1
Lifestyle Risk Factors	1
Ergonomic and Postural Issues	2
Communicable and non-communicable diseases	1

Source: Data compiled by the researcher

Thematic Analysis of the Findings

Forty percent (n=25) of the studies included in this review examined the working conditions and health status of garment factory workers. Most of these studies (n=21) employed a cross-sectional design with quantitative data collection tools. The

health outcomes measured included the prevalence of mental health issues such as depression, stress, and anxiety, as well as occupational accidents and musculoskeletal disorders (MSDs). These MSDs were characterized by physical symptoms such as pain, aching, stiffness, burning, numbness, or tingling in areas like the neck, shoulders, elbows, forearms, wrists, hands, back, and knees. Other symptoms included headaches, allergies, upset stomach, weakness, fatigue, exhaustion, hearing problems, respiratory issues, and hypertension.

Some studies specifically focused on the impact of gender on health. These included issues of violence in the workplace in the form of physical and verbal abuse, gender discrimination, sexual harassment, constant pressure, withholding of pay and other personal restrictions. Can³⁹ illuminates the relationship between the discursive and material dimensions of reproduction, sexuality, and capitalist work. Parvin *et al.*³⁴ analyzes the relationship between depression, intimate partner violence (IPV), and workplace violence (WPV). Additionally, Dreher *et al.*³⁸ analyzes the association between workplace stressors, resources, and hair cortisol concentration. Akhter, Rutherford, and Chu³² examine pregnant workers' health risks and access to quality antenatal care, and Zele *et al.*³⁵ use one-year records of workers' clinical diagnoses to explore their association with work-related and personal factors.

Cruvinel *et al.*⁴⁸ studied the occupational and environmental risk factors to which waste pickers are exposed in Latin America. It used a cross-sectional epidemiological design with structured-questionnaires, laboratory analysis, and examinations as tools. It also analysed the prevalence of chronic diseases and communicable and non-communicable diseases.

Qualitative Approach to the Inquiry

In order to capture everyday experiences, life conditions, and labour practices, as well as to analyse how workers perceive these conditions to affect their health, Mishra *et al.*⁵ used a cross-sectional design, with case study elements and a predominantly qualitative approach to the inquiry. This study also explores the everyday health vulnerabilities of women workers, and how the

work impacts their physical and mental well-being, which manifests in somatic symptoms.

Jenkins and Blyton²⁴ using a cross-sectional design with qualitative methodology, analysed 'time-debt' and 'comp-off' as tools of managerial control. They show that by using 'time-debt' or a 'time-bank' as a tool, value is extracted from labour. Managers pay the workers for time lost but construct individual accounts of 'time-debt' comprising the hours paid but not yet worked. Eventually, the debt becomes so large that workers are unlikely ever to be able to work back the hours in addition to the normal working week's labour. These tools are used to create conditions of dependency and control in a new industrial setting.

Dutta²¹ examines the issues of disposability, dignity, and self-worth by documenting life stories using a longitudinal-retrospective design. This study delves deeper into the roles of women, questions of how women organize, and which conditions encourage women to protest and change their abusive working conditions.

Garimella²³ provides a more comprehensive understanding of women's work and health experiences through an ethnographic design that highlights the complex, lived realities of women workers. The study examines how these women's identities are both shaped and constrained by pervasive power dynamics and entrenched patriarchal values. Garimella discusses several key issues, including chronic anxiety, loss of intimacy, invisibility within the healthcare system, and the struggle to fulfill familial obligations while dealing with chronic illness.

Asia Floor Wage Alliance⁴⁵ used a fact finding approach to understand the relationship between abusive and unsafe working conditions, labour rights, and health.

Swaminathan⁵⁶ examined the relationship between the health and working conditions of women factory and agricultural workers, using a cross-sectional design and narratives as tools. She emphasizes how women's lives are made extremely stressful by the conditions in which they work in factories, and in which they perform household chores. The issue is made worse by the

absence of essential infrastructure, such as drinking water and sanitary facilities. The women in the study emphasized that well-being is directly related to self-worth and living with dignity.

Attanapola³¹ investigates the health of industrial women workers in Sri Lankan export processing zones, using a feminist qualitative research design. It analyses their lived experiences of illness and health by identifying the social, economic and political constraints. In order to comprehend shifting gender roles and the resulting health effects, the study examines life histories and in-depth interviews.

Discussion

The review clearly shows that the majority of studies conducted in LMICs used a cross-sectional design and primarily relied on quantitative data collection methods to examine the relationship between working conditions and health across various occupational groups. Garment factory workers, predominantly women, make up a significant portion of these studies. The tools used to gather quantitative data included self-administered questionnaires, the Job Stress Scale, the 36-item Effort-Reward Imbalance (ERI) and Medical Outcomes Study, the Short-Form Health Survey (SF-36), as well as structured and semi-structured questionnaires, which were employed to assess physical and psychosocial working conditions and work-related health outcomes.

Studies using qualitative research methods are scarce. Given the understanding of health as not an isolated determinant but one that intersects with other axes of vulnerability, it is essential to generate knowledge based on individuals' interactions and interpretations of their social reality. People make sense of their experiences by relating them to the world in which they live and work, attributing subjective meaning to their daily lives. To better understand the relationship between work and health, we must examine how individuals interpret their daily experiences, connect their current circumstances to their past lives, and derive meaning from them. Furthermore, documenting individuals' understanding of their lives within their social context and explaining the complexity of these

situations is crucial. It is imperative that we conduct more studies using qualitative approaches to generate evidence that explains how different dimensions of work affect workers' health, and to uncover the intricate relationship between working conditions and health.

Acknowledgement- The author is grateful to Prof. Arima Mishra (Professor Public health, Director School of Development, Azim Premji University) for reviewing the paper and for her comments, and feedback.

References

1. Burgard, S. A., & Lin, K. Y. (2013). Bad jobs, bad health? How work and working conditions contribute to health disparities. *American Behavioral Scientist*, 57(8), 1105-1127.
2. Flynn, M. A. (2018). Im/migration, work, and health: anthropology and the occupational health of laborim/migrants. *Anthropology of work review: AWR*, 39(2), 116.
3. Farmer PE, Nizeye B, Stulac S, Keshavjee S. (2006). Structural Violence and Clinical Medicine. *PLoS Med* 3(10): e449. <https://doi.org/10.1371/journal.pmed.0030449>
4. Mantouvalou, V. (2016). Workers without Rights as Citizens at the Margins. In *The Margins of Citizenship* (pp. 48-64). Routledge.
5. Mishra, A., Joseph, R., Gangadhara, M., & Lobo, R. (2023). Body as machine: Health vulnerability of women garment factory workers in India. *SSM- Qualitative Research in Health*, 4, 100301.
6. Commission on Social Determinants of Health. (2008). *Closing the gap in a generation: health equity through action on the social determinants of health: final report of the commission on social determinants of health*. World Health Organization.
7. Benavides FG, Wesseling C, Delclos GL, Felknor S, Pinilla J, Rodrigo F. Working conditions and health in Central America: a survey of 12 024 workers in six countries. *Occupational and environmental medicine*. 2014 Jul 1;71(7):459-65.
8. Blattman C, Dercon S. The impacts of industrial and entrepreneurial work on income and health: Experimental evidence from Ethiopia. *American Economic Journal: Applied Economics*. 2018 Jul 1;10(3):1-38.
9. Arsalani N, Fallahi-Khoshknab M, Ghaffari M, Josephson M, Lagerstrom M. Adaptation of questionnaire measuring working conditions and health problems among Iranian nursing personnel. *Asian nursing research*. 2011 Sep 1;5(3):177-82.

10. Giatti L, Barreto SM, César CC. Household context and self-rated health: the effect of unemployment and informal work. *Journal of Epidemiology & Community Health*. 2008 Dec 1;62(12):1079-85.
11. Silva AA, Souza JM, Borges FN, Fischer FM. Health-related quality of life and working conditions among nursing providers. *Revista de Saúde Pública*. 2010;44:718-25.
12. Merino-Salazar P, Artazcoz L, Cornelio C, Iñiguez MJ, Rojas M, Martínez-Iñigo D, Vives A, Funcasta L, Benavides FG. Work and health in Latin America: results from the working conditions surveys of Colombia, Argentina, Chile, Central America and Uruguay. *Occupational and environmental medicine*. 2017 Jun 1;74(6):432-9.
13. Cook EA, de Glanville WA, Thomas LF, Kariuki S, Bronsvort BM, Fèvre EM. Working conditions and public health risks in slaughterhouses in western Kenya. *BMC public health*. 2017 Dec;17:1-2.
14. Bostan S, Akbolat M, Kaya A, Ozata M, Gunes D. Assessments of anxiety levels and working conditions of health employees working in COVID-19 pandemic hospitals. 2020.
15. Ruiz ME, Vives A, Martínez-Solanas È, Julià M, Benach J. How does informal employment impact population health? Lessons from the Chilean employment conditions survey. *Safety science*. 2017 Dec 1;100:57-65.
16. Akhter S, Rutherford S, Chu C. Sewing shirts with injured fingers and tears: exploring the experience of female garment workers health problems in Bangladesh. *BMC international health and human rights*. 2019 Dec;19:1-9.
17. Akhter S, Rutherford S, Chu C. Sufferings in silence: Violence against female workers in the ready-made garment industry in Bangladesh: A qualitative exploration. *Women's Health*. 2019 Dec;15:1745506519891302.
18. Lombardo SR, Vijitha de Silva P, Lipscomb HJ, Østbye T. Musculoskeletal symptoms among female garment factory workers in Sri Lanka. *International journal of occupational and environmental health*. 2012 Jan 1;18(3):210-9.
19. Suraweera IK, Wijesinghe SD, Senanayake SJ, Herath HD, Jayalal TA. Occupational health issues in small-scale industries in Sri Lanka: An underreported burden. *Work*. 2016 Oct 17;55(2):263-9.
20. Singh S. Richer Bosses, Poorer Workers, Bangalore's Garment Industry. Published by CIVIDEP and SOMO. 2009 Jul.
21. Dutta M. 'Becoming' Factory Workers: understanding women's geographies of work through life stories in Tamil Nadu, India. *Gender, Place & Culture*. 2019 Jun 3;26(6):888-904.
22. Dutta M. Becoming 'active labour protestors': women workers organizing in India's garment export factories. *Globalizations*. 2021 Nov 17;18(8):1420-35.
23. Garimella S. *Agency and contingency: working women in Delhi, India* (Doctoral dissertation, University of Melbourne, Faculty of Medicine, Dentistry and Health Sciences). 2009.
24. Jenkins J, Blyton P. In debt to the time-bank: the manipulation of working time in Indian garment factories and 'working dead horse'. *Work, employment and society*. 2017 Feb;31(1):90-105.
25. Shazzad MN, Ahmed S, Haq SA, Islam MN, Abu Shahin M, Choudhury MR, Hasan AT, Abdal SJ, Rasker JJ. Musculoskeletal symptoms and disorders among 350 garment workers in Bangladesh: A cross-sectional pilot study. *International journal of rheumatic diseases*. 2018 Dec;21(12):2063-70.
26. Girish N, Ramachandra K, Arun G M, Asha K. Prevalence of musculoskeletal disorders among cashew factory workers. *Archives of environmental & occupational health*. 2012 Jan 1;67(1):37-42.
27. Nabi MH, Kongtip P, Woskie S, Nankongnab N, Sujirarat D, Chantanakul S. Factors associated with musculoskeletal disorders among female readymade garment workers in Bangladesh: a comparative study between OSH compliant and non-compliant factories. *Risk management and healthcare policy*. 2021 Mar 15:1119-27.
28. Khan NR, Dipti TR, Ferdousi SK, Hossain MZ, Ferdousi S, Sony SA, Zafrin N, Paul N, Islam MS. Occupational health hazards among workers of garment factories in Dhaka City, Bangladesh. *Journal of Dhaka Medical College*. 2015;24(1):36-43.
29. Tadesse T, Kumie A. Prevalence and factors affecting work-related injury among workers engaged in Small and Medium-scale industries in Gondar wereda, North Gondor zone, Amhara Regional State, Ethiopia. *Ethiopian journal of health development*. 2007 Sep 13;21(1):25-34.
30. Attanapola CT. Multiple voices, multiple realities: female industrial workers' health in Sri Lanka. *NorskGeografiskTidsskrift-Norwegian Journal of Geography*. 2003 Jan 1;57(3):154-63.
31. Attanapola CT. Changing gender roles and health impacts among female workers in export-processing industries in Sri Lanka. *Social science & medicine*. 2004 Jun 1;58(11):2301-12.
32. Akhter S, Rutherford S, Chu C. What makes pregnant workers sick: why, when, where and how? An exploratory study in the ready-made garment industry in Bangladesh. *Reproductive health*. 2017 Dec;14:1-9.
33. Paul-Majumder P. Health impact of women's wage employment: a case study of the garment industry of

- Bangladesh. The Bangladesh Development Studies. 1996 Mar 1;59-102.
34. Parvin K, Mamun MA, Gibbs A, Jewkes R, Naved RT. The pathways between female garment workers' experience of violence and development of depressive symptoms. *PloS one*. 2018 Nov 15;13(11):e0207485.
 35. Zele YT, Kumie A, Deressa W, Bråtveit M, Moen BE. Registered health problems and demographic profile of integrated textile factory workers in Ethiopia: a cross-sectional study. *BMC Public Health*. 2021 Dec;21:1-5.
 36. Absar SS. Health hazards and labour Laws in Bangladesh: a narrative-based study on women garment workers. *Asian Journal of Social Science*. 2003 Jan 1;31(3):452-77.
 37. Steinisch M, Yusuf R, Li J, Rahman O, Ashraf HM, Strümpell C, Fischer JE, Loerbroks A. Work stress: Its components and its association with self-reported health outcomes in a garment factory in Bangladesh—Findings from a cross-sectional study. *Health & place*. 2013 Nov 1;24:123-30.
 38. Dreher A, Yusuf R, Ashraf H, Ahmed SA, Gao W, Strümpell C, Loerbroks A. Workplace stressors and their association with hair cortisol concentrations among ready-made garment workers in Bangladesh: A cross-sectional study. *Journal of Occupational Health*. 2023 Jan;65(1):e12426.
 39. Can B. The gendered workplaces of women garment workers in Istanbul. *Reproductive Health Matters*. 2017 Oct 27;25(sup1):47-55.
 40. Mahmud MS, Mahmud R, Jahan M. Health Issues of Female Garment Workers: Evidence from Bangladesh. *Journal of Population & Social Studies*. 2018 Jul 1;26(3).
 41. Mani M, Prathibha R. Feminisation of work and health care: Occupational health needs and access to the ESI corporation for Karnataka garment workers. Institute of Public Policy, National Law School of India University. 2019.
 42. Saha TK, Dasgupta A, Butt A, Chattopadhyay O. Health status of workers engaged in the small-scale garment industry: how healthy are they?. *Indian Journal of Community Medicine*. 2010 Jan 1;35(1):179-82.
 43. Shanbhag D, Joseph B. Mental health status of female workers in private apparel manufacturing industry in Bangalore city, Karnataka, India. *International Journal of Collaborative Research on Internal Medicine & Public Health*. 2012 Dec 1;4(12):1893.
 44. Smith C, Sokhey L, Tijamo CF, McLaren M, Free C, Watkins J, Amra O, Masuda C, Oreglia E. Development of an intervention to support reproductive health of garment factory workers in Cambodia: a qualitative study. *BMJ open*. 2021 Nov 1;11(11):e049254.
 45. Asia Floor Wage Alliance. Fact-finding Report into Labour Violations at Shahi Factory, Kuppam, Andhra Pradesh, India. 2022.
 46. Borges LD, Motta GM, Garcia-Primo GM, Barros SC, Heleno CT. Working conditions and mental health in a Brazilian university. *International journal of environmental research and public health*. 2023 Jan 14;20(2):1536.
 47. Fernandes TF, Lima CC, Silva PL, Rossi-Barbosa LA, Pinho LD, Caldeira AP. Working conditions and mental health of community health workers in the COVID-19 pandemic. *Ciência&SaúdeColetiva*. 2023 Oct 23;28:2931-40.
 48. Cruvinel VR, Marques CP, Cardoso V, Novaes MR, Araújo WN, Angulo-Tuesta A, Escalda PM, Galato D, Brito P, Da Silva EN. Health conditions and occupational risks in a novel group: waste pickers in the largest open garbage dump in Latin America. *BMC public health*. 2019 Dec;19:1-5.
 49. Arabian A, Omidi L, Bakhshi E, Ghanbari A, Torabinassaj E, Zakerian SA. Assessment of occupational safety, health, and ergonomics issues in agriculture in some cities of Iran. *Work*. 2020 Jan 1;65(1):89-96.
 50. Yalew ES, Adem KS, Kibret AK, Gashaw M. Low back pain and its determinants among wait staff in Gondar town, north West Ethiopia: A cross-sectional study. *Frontiers in Pain Research*. 2022 Sep 6;3:964297.
 51. Caglayan C, Hamzaoglu O, Yavuz CI, Yüksel S. Working conditions and health status of child workers: Cross-sectional study of the students at an apprenticeship school in Kocaeli. *Pediatrics International*. 2010 Feb;52(1):6-12.
 52. Alam MU, Sharior F, Shoab DM, Hasan M, Tabassum KF, Ferdous S, Hasan M, Rahman M, Tidwell JB, Zaqout M, Farah M. Hygiene knowledge and practices and determinants of occupational safety among waste and sanitation workers in Bangladesh during the COVID-19 pandemic. *Hygiene and Environmental Health Advances*. 2022 Dec 1;4:100022.
 53. Pinto CM, Radon K, Van Dijk F. Violence at work and mental distress among firefighters in Guatemala. *Annals of global health*. 2018;84(3):532.
 54. Chen IM, Lin TY, Chien YL, Chen JY, Chan JH, Liao SC, Kuo PH, Chen HC. The associations between working conditions and subjective sleep quality among female migrant care workers. *Frontiers in Public Health*. 2023 Apr 14;11:1094513.
 55. Rocha LE, Debert-Ribeiro M. Working conditions, visual fatigue, and mental health among systems

- analysts in Sao Paulo, Brazil. *Occupational and Environmental Medicine*. 2004 Jan 1;61(1):24-32.
56. Swaminathan P. Precarious existence and deteriorating work conditions for women in India: Implications for health. *New Solutions: A Journal of Environmental and Occupational Health Policy*. 2007 Aug;17(2):57-69.
57. Da Luz AA, Vergueiro da Silva MC, Turte SL, Lopes MD, Fischer FM. Effects of working full-time and studying in the evening hours among young apprentices and trainees. *Human factors*. 2012 Dec;54(6):952-63.



Social Medicine

Health For All

ISSN: 1557-7112