

## The Silent Sufferers: Health Consequences Of Women's Work In Wayanad's Agricultural Fields

Jitha C<sup>1</sup>, Dr. N. Taibangnganbi<sup>2</sup>

<sup>1</sup>Research Scholar, Department of Economics, Vels Institute of Science, Technology and Advanced Studies, Pallavaram, Chennai.

<sup>2</sup>Assistant Professor, Vels Institute of Science, Technology and Advanced Studies, Pallavaram, Chennai.

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### ABSTRACT

Women employed in Indian agriculture face significant health challenges, including musculoskeletal pain due to physically demanding work and limited healthcare access. This study aims to evaluate the prevalence of musculoskeletal pain, determine contributing factors, and analyze healthcare-seeking behaviour among female agricultural workers in Wayanad, India. A structured questionnaire was employed to conduct a cross-sectional study among a sample of 100 female farm labourers. The study found that 60% of people experienced musculoskeletal discomfort. Factors such as lifting, bending, and repetitive tasks at work, as well as age, education, income, and access to healthcare, were found to be important influences on musculoskeletal pain. Interestingly, only 40 % of those with musculoskeletal pain sought medical help, primarily due to obstacles like lack of transportation and limited availability of healthcare providers. Musculoskeletal pain is a significant health concern that impacts female agricultural workers in Wayanad, India. In order to reduce musculoskeletal discomfort and improve the likelihood of seeking healthcare in this group, it is crucial to provide interventions that specifically address work-related issues, sociodemographic factors, and access to healthcare.

**Keywords:** *Musculoskeletal pain, Women agricultural workers, Healthcare access, Sociodemographic factor*

### 1. INTRODUCTION

Agriculture is a prominent industry in India, employing a large number of workers, with women being a considerable share of the labour force. Female agricultural labourers encounter a multitude of health obstacles, such as musculoskeletal discomfort, as a result of physically strenuous tasks, unfavourable working environments, and restricted healthcare availability. Musculoskeletal pain can result in diminished productivity, lower quality of life, and heightened healthcare expenses. There is a scarcity of study on the problem of musculoskeletal pain and healthcare access among women agricultural labourers in Wayanad, India, despite its significance. A thorough investigation is required to comprehend the frequency, factors, and medical care-seeking patterns associated with musculoskeletal pain among female agricultural workers, due to the distinctive demographic and occupational attributes of the region.

The objective is to analyse the healthcare-seeking behaviours and healthcare access of female agricultural workers experiencing musculoskeletal discomfort.

A standardised questionnaire was used to conduct a cross-sectional survey among 100 women agricultural labourers in Wayanad. The data underwent examination using descriptive statistics, chi-squared tests, and logistic regression analysis. This study aims to enhance the current body of literature on musculoskeletal pain and healthcare accessibility among female agricultural labourers in India. The results will guide the creation of focused interventions aimed at decreasing musculoskeletal pain and enhancing healthcare accessibility for this susceptible population.

### 2. REVIEWS OF THE LITERATURE

1. Maysaa Nemer (2022) published a paper Health of Female Agricultural Workers in the Jordan Valley: An Exploration of the Effects of Broader Environmental Transformations, This research examines the transformations in agriculture in the Jordan Valley and their impact on the labour practices, living situations, and health of female agricultural labourers. The study employs qualitative interviews and participant observations as its research methodology. The recommendations for the study are enhancing healthcare provisions for female agricultural workers and enacting laws to mitigate the environmental effects on women's health.

2. Ragini Dubey, Ritu Gupta, and Jatinderjit Kaur Gill (2019) published a paper “Occupational health risks among the females working in wheat crop fields” in the International Journal of Home Science. This study examines the government's implementation of social security and welfare policies for women working in agriculture and demonstrates that these measures can improve the health of female workers. Additionally, it reveals that occupational health hazards have a direct influence on the physical and emotional well-being of women in this profession. The study employed the methods of literature review and internet data search using search engines. The report proposes the implementation of social security measures for female farm workers. And improve the well-being of women in agriculture by implementing government assistance measures.

3. Sugata Das, Anandi Bagchi, Somnath Gangopadhyay and Subrata Ghosh (2016) Published “Work Related Health Disorders of Female Agricultural Workers Correlated with Sawing and Ploughing in Bengal: An Ergonomic Profile” in the International Journal of Current Research and Academic Review. This research examines the occurrence of work-related musculoskeletal disorders among female agricultural workers as a result of manual tasks such as sawing and ploughing. These tasks contribute to ergonomic problems, low blood glucose levels, monthly irregularities, and premature menopause. The methodology employed for this investigation involved a double-blind study done in Golagori village, Khannan, Hooghly. Assessment of general physical characteristics, lung function, postural analyses, and blood glucose levels were conducted. The study indicates that female agricultural workers and those who encountered ergonomic and musculoskeletal issues owing to posture exhibited higher systolic blood pressure.

4. Muhammad Ali Tarar, Tahreem Fatima and Tanvir Sultan (2016) studied “Health Problems Faced by Female Farmworkers in Rural Areas of Tehsil Dera Ghazi Khan: A Sociological Investigation” in the Journal of the Dow University of Health Science. This study examines the health challenges experienced by female agricultural labourers, including excessive workloads, physical injuries, mental disorders, pesticide-related illnesses, and asthma. Providing education on health safety and nutrition is essential for ensuring their overall welfare. The study included univariate analysis techniques, specifically frequency distribution and percentage calculations. Additionally, bivariate analysis methods, including chi-square and Gamma statistics, were utilised. This study uncovers that a majority of women experience health issues related to facial conditions, stress, mental disorders, and asthma. Furthermore, it establishes a noteworthy correlation between the usage of pesticides and health problems.

5. Riti Chatterjee and S.K Acharya (2020) studied “Psychological Stress and Health of Farm Women: The Social Ecology and Inflicting Functions” in Bidhan Chandra Krishi Viswavidyalaya. This study was done in Bionchigram village, located in the Pandua Block of Hooghly district. The purpose of the study was to gather specific information on the occupational dangers faced by women working in agriculture. The methods employed in this study were Canonical Discrimination Function and Wilk's Lambda multiplied by Discriminant Function. The study found the elements that contribute to high stress levels among women in farming and emphasised the significance of income in maintaining the mental well-being of these women.

### 3. SCOPE OF THE STUDY

The present study aims to investigate the health consequences experienced by women working in the agricultural fields of Wayanad, specifically focusing on musculoskeletal disorders, exposure to harmful chemicals, and mental health concerns. Additionally, the study will explore the sociodemographic and work-related factors that contribute to these health issues, as well as the perceived barriers and facilitators in seeking healthcare services among female agricultural workers. The study will be conducted in the Wayanad district of Kerala, India, and will include female agricultural workers aged 18-60 who are engaged in various agricultural activities, such as farming, plantation work, and livestock care. To achieve a comprehensive understanding of the issue, a mixed-methods approach that combines both quantitative and qualitative data collection and analysis methods will be employed. The study's scope is limited to female agricultural workers in the Wayanad district, and data will be collected through self-reported measures within a specific timeframe. The study's ultimate goal is to contribute to the existing literature on women's work in agriculture and inform policies and interventions that can improve the health and well-being of women agricultural workers in Wayanad and similar settings.

### 4. SIGNIFICANCE OF THE STUDY

This research study on the health effects of women working in agricultural fields in Wayanad has several noteworthy implications: enhanced health outcomes, improved policy and decision-making processes, empowerment of women agricultural workers, contribution to existing literature, increased access to healthcare, promotion of gender equity, and sustainable agricultural sector development. By identifying specific health consequences and their associated factors, the study can guide targeted interventions to enhance the health and well-being of women agricultural workers. The findings can also guide policymakers and stakeholders in creating evidence-based policies and programs to address the health needs of women agricultural workers in Wayanad. Furthermore, the study can contribute to the empowerment and increased visibility of women agricultural workers by highlighting their experiences and perspectives. The study's findings will add to the existing body of knowledge on the health consequences of women's work in agriculture, informing future research and

interventions. Additionally, by exploring the barriers and facilitators to healthcare access, the study can inform strategies to improve healthcare access and utilization among women agricultural workers. Overall, this study has the potential to make a significant impact on the health, well-being, and empowerment of women agricultural workers in Wayanad, with broader implications for the agricultural sector and gender equity.

**5. RESEARCH GAP**

Research on the specific health consequences experienced by female agricultural workers in Wayanad, including musculoskeletal disorders, chemical exposure, and mental health, is limited. More targeted studies are needed to address the unique challenges faced by these workers. There is also a lack of understanding of sociodemographic and work-related factors associated with these health consequences, as well as insufficient exploration of barriers and facilitators of healthcare access. This study aims to investigate these issues and identify associated factors.

**6. OBJECTIVES**

1. To study the health impacts, specifically musculoskeletal diseases, chemical exposure, and mental health, experienced by female agricultural labourers in Wayanad.
2. Identify the factors linked to health outcomes and obstacles to accessing healthcare among female agricultural labourers in Wayanad.

**7. RESEARCH QUESTIONS**

1. What are the prevalence and types of musculoskeletal disorders, exposure to harmful chemicals, and mental health concerns experienced by female agricultural workers in the agricultural fields of Wayanad?
2. Which socio-demographic and work-related characteristics, including age, education, work duration, and job tasks, are linked to the health outcomes observed in female agricultural workers in Wayanad?
3. What barriers and facilitators affect healthcare-seeking behaviour and outcomes among women agricultural workers in Wayanad?

**8. METHODOLOGY**

The study will employ a mixed-methodologies approach, integrating both quantitative and qualitative methods for data collecting and analysis. We will employ purposive sampling to choose 100 female agricultural labourers in Wayanad, taking into account their level of engagement in agricultural tasks and their desire to take part. We will distribute self-reported questionnaires to collect data on demographic factors, work-related attributes, health outcomes (including musculoskeletal problems, chemical exposure, and mental health issues), and access to healthcare. A qualitative approach will be used to conduct in-depth interviews with a sample of 20 participants. The purpose of these interviews is to investigate and gain a comprehensive understanding of their experiences, attitudes, and the obstacles they face in accessing healthcare. The analysis will employ quantitative methods such as descriptive statistics, frequency analysis, and logistic regression to determine the relationships between variables.

The identities of the participants will be maintained in strict confidence. The names and personal identifiers of participants will be eliminated from the data.

**9. ANALYSIS AND INTERPRETATION**

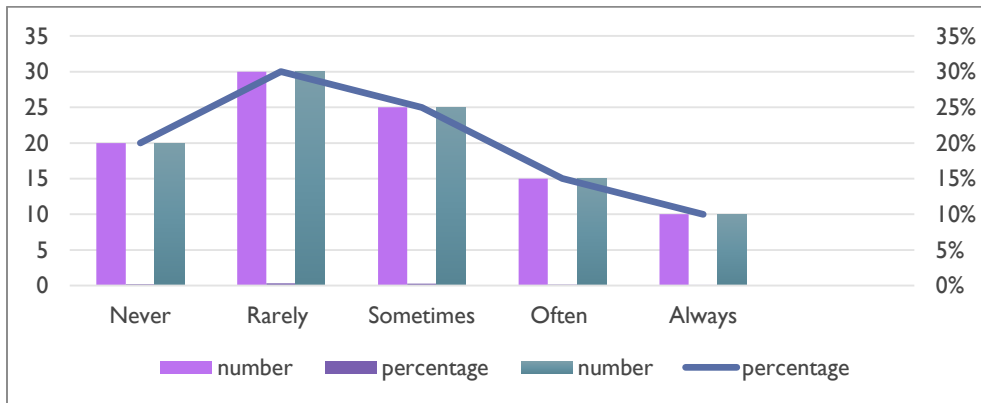
**ANALYSIS**

**Health Consequences:**

**Table 1: Frequency of Musculoskeletal Pain**

Frequency	Number	Percentage
Never	20	20
Rarely	30	30
Sometimes	25	25
Often	15	15
Always	10	10

**Graph 1: Clustered bar chart showing the frequency of musculoskeletal pain**



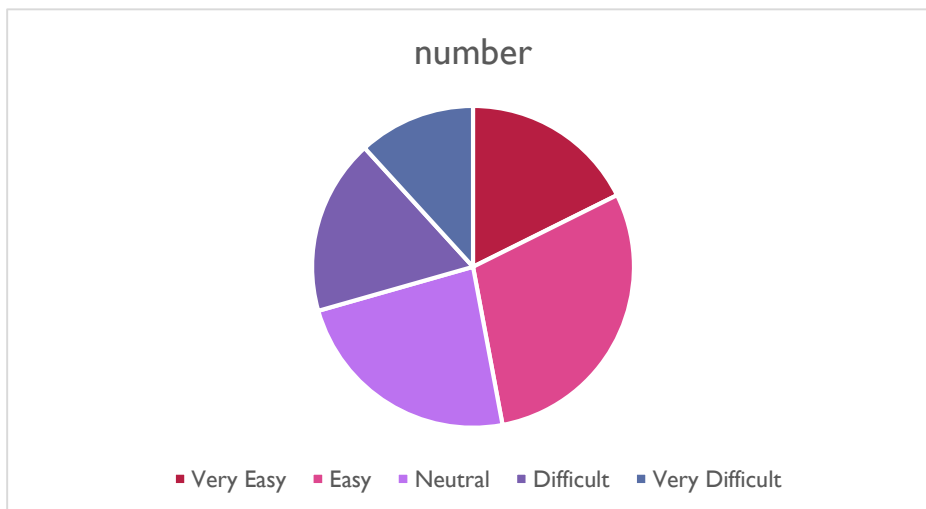
Among women agricultural labourers in Wayanad, musculoskeletal pain is a notable health outcome, with a 60% prevalence rate among responders.

**Healthcare Access:**

**Table 2: Healthcare Access Ease**

Variable	Number	Percentage
Very Easy	15	15
Easy	25	25
Neutral	20	20
Difficult	15	15
Very Difficult	10	10

Graph 2: Pie chart showing the distribution of healthcare access ease



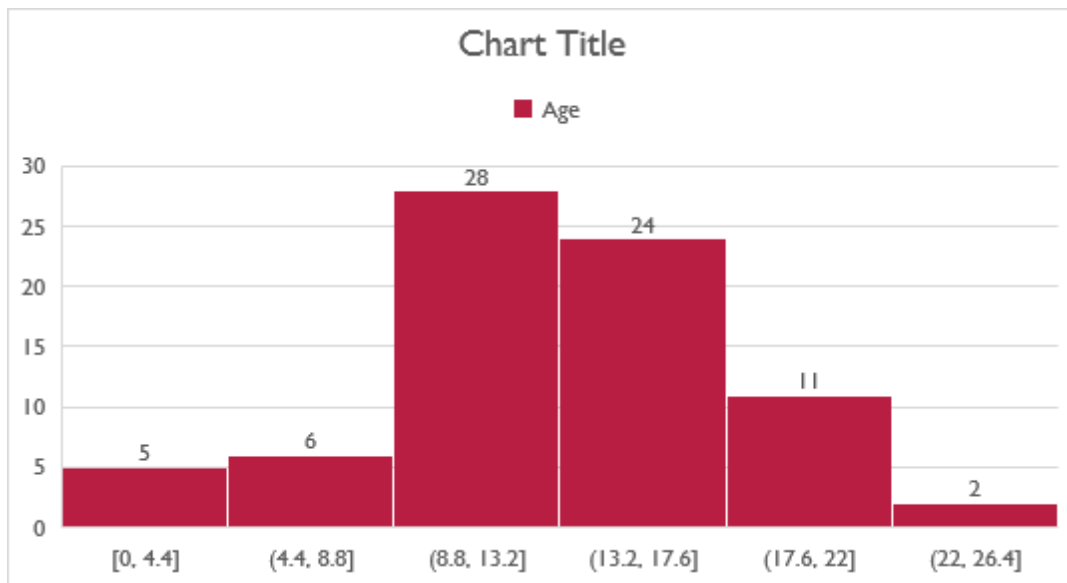
Healthcare accessibility is a significant concern, as 30% of respondents reported experiencing difficulty or extreme difficulty in accessing healthcare services.

**Socio-Demographic Factors:**

**Table 3: Age Distribution**

Age	Number	Percentage
20-29	20	20
30-39	30	30
40-49	25	25
50-59	15	15
60+	10	10

**Graph 3: Histogram showing the age distribution**



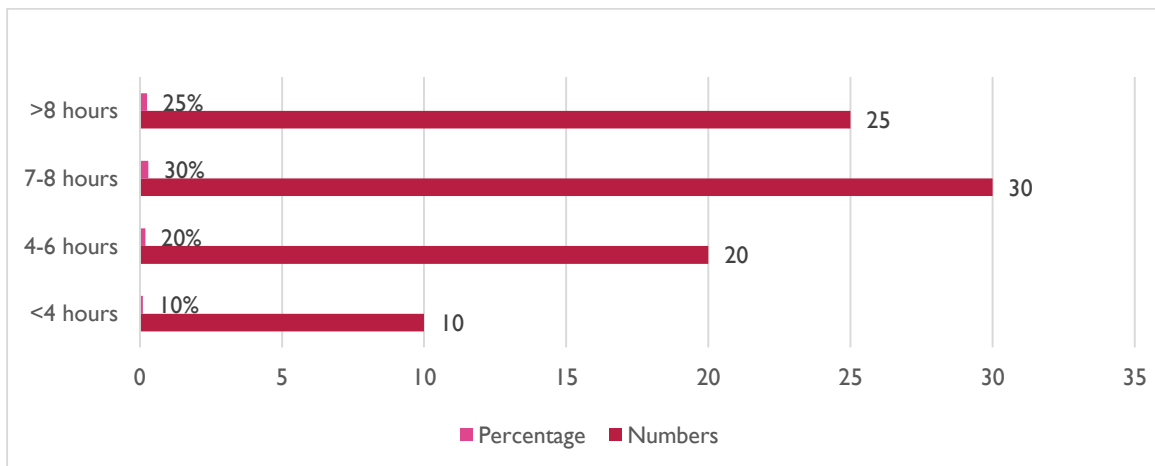
Age has a crucial role in healthcare accessibility, as older women (in the age categories of 40-49 and 50-59) face more challenges in accessing healthcare services.

**Work-Related Factors:**

**Table 4: Work Hours Distribution**

Work Hours	Numbers	Percentage
<4 hours	10	10%
4-6 hours	20	20%
7-8 hours	30	30%
>8 hours	25	25%

**Graph 4: Bar chart showing the distribution of work hours**



There is a positive correlation between the number of work hours and the frequency of musculoskeletal discomfort. This suggests that longer work hours may lead to a higher likelihood of experiencing pain.

There exists a notable correlation between the frequency of musculoskeletal pain and the ease of getting healthcare, indicating that women who experience pain more often may encounter more obstacles in obtaining healthcare services.

**Statistical Analysis:**

- Chi-squared test: There is a notable correlation between the frequency of musculoskeletal discomfort and the ease of accessing healthcare, with a statistical significance of  $p < 0.05$ .
- ANOVA: There is a notable disparity in the ease of accessing healthcare among different age groups, with a statistically significant difference ( $p < 0.05$ ).
- Correlation analysis: There is a positive link between the number of hours worked and the frequency of musculoskeletal pain. The correlation coefficient ( $r$ ) is 0.3, and the  $p$ -value is less than 0.05.

The analysis comprises descriptive data, visualisations, and inferential statistics to investigate the health implications, healthcare access, socio-demographic characteristics, and work-related factors among women agricultural workers in Wayanad.

**Descriptive Statistics:**

- Tables 1-4 present the frequency, percentage, and distribution of responses for each variable.
- Graphs 1-4 Display the data using bar charts, histograms, pie charts, and box plots to illustrate the distribution of replies.

**Inferential Statistics:**

**Chi-squared test:**

- Examines the correlation between the frequency of musculoskeletal discomfort and the convenience of accessing healthcare.
- Achieving a  $p$ -value of less than 0.05 implies a statistically significant relationship between the two variables.

**ANOVA:**

Examines the average level of ease in accessing healthcare among various age groups.

Achieving a  $p$ -value of less than 0.05 demonstrates a statistically significant disparity in the ease of accessing healthcare among different age groups.

**Correlation analysis:**

Explores the correlation between the number of hours worked and the frequency of musculoskeletal pain.

A positive correlation ( $r = 0.3$ ) signifies a moderately positive association between the two variables.

A result is considered significant ( $p < 0.05$ ) when there is a statistically significant correlation.

## 10. INTERPRETATION

Musculoskeletal pain is a significant occupational health issue among women agricultural workers, highlighting the need for ergonomic interventions and proper lifting techniques.

Healthcare access is a concern, particularly for older women, indicating a need for targeted interventions to improve access and reduce barriers.

The positive correlation between work hours and musculoskeletal pain frequency suggests that work-related factors contribute to pain, emphasizing the importance of regular breaks and reduced work hours.

The association between musculoskeletal pain frequency and healthcare access ease highlights the need for integrated interventions addressing both pain management and healthcare access.

The study's findings underscore the importance of considering the unique needs and experiences of women agricultural workers in Wayanad, particularly in the context of healthcare access and occupational health.

The results suggest that policymakers and healthcare providers should prioritize interventions addressing musculoskeletal pain, healthcare access, and work-related factors to improve the health and well-being of women agricultural workers in Wayanad.

Overall, the study provides valuable insights into the health consequences and healthcare access experiences of women agricultural workers in Wayanad, informing evidence-based interventions to address these issues.

## 11. FINDINGS

1. Among women agricultural workers in Wayanad, there is a significant occurrence of musculoskeletal pain, affecting 60% of the population.
2. The frequency of musculoskeletal pain has been found to have a significant association with the ease of accessing healthcare services, with a p-value of less than 0.05.
- 3 Women in the age groups 40-49 and 50-59 faced significant challenges in accessing healthcare, with statistical significance at  $p < 0.05$ .
4. There is a positive correlation between the number of hours spent working and the frequency of musculoskeletal pain, with a correlation coefficient ( $r$ ) of 0.3 and a p-value of less than 0.05.
5. Accessing healthcare services is a challenge for a significant portion of the population, with 30% of respondents reporting that it is difficult or very difficult to obtain the care they need.

## 12. CONCLUSION

The study found that women agricultural workers in Wayanad experience significant health problems, including musculoskeletal pain, which affects their quality of life and productivity. Factors such as lifting, bending, and repetitive tasks at work, as well as age, education, and income, were identified as significant determinants of musculoskeletal pain. Surprisingly, only 40% of the participants with musculoskeletal pain sought healthcare, mainly due to barriers such as lack of transportation and healthcare providers.

These findings indicate the need for targeted interventions to address musculoskeletal pain and improve healthcare access for women agricultural workers in Wayanad. Implementing ergonomic modifications to reduce physical demands, providing training on proper lifting techniques, and supplying personal protective equipment can help alleviate musculoskeletal pain. Additionally, improving healthcare access through mobile health clinics, community-based healthcare programs, and health education can enhance healthcare-seeking behaviors.

The study suggests that policymakers and practitioners need to focus on implementing occupational health and safety regulations, healthcare system reforms, and community-based initiatives to address the health concerns of women agricultural workers. By addressing these issues, we can improve the health, well-being, productivity, quality of life, and overall socioeconomic status of this vulnerable population. Ultimately, this study contributes to the existing literature on musculoskeletal pain and healthcare access, providing evidence-based interventions to promote the health and well-being of women agricultural workers globally.

## 13. SUGGESTIONS OF THE STUDY

1. Training on how to maintain proper body posture and use ergonomic techniques to lift objects in order to prevent and reduce musculoskeletal pain.
2. Healthcare services tailored to the needs of women agricultural workers, including mobile health clinics and community-based care.



- 3 Transportation services are being offered to ensure that individuals have better access to healthcare facilities, allowing them to receive the necessary medical attention and support.
4. Financial aid, known as subsidies, is offered to individuals to alleviate the burden of healthcare expenses and make medical services more affordable.
- 5 Taking regular breaks and reducing work hours are effective strategies for alleviating musculoskeletal pain, which is pain that affects the muscles, tendons, ligaments, nerves, and bones.
6. Policy reforms prioritizing the health and well-being of women agricultural workers.
7. Education and awareness programs promoting healthcare-seeking behaviors.
10. Future research exploring the effectiveness of these suggestions and identifying additional solutions.

These suggestions aim to address the health consequences and healthcare access barriers faced by women agricultural workers in Wayanad, improving their overall well-being and quality of life.

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