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A Study on the Working Environment of Women Workers in the Cashew Industry: A Case Study with Special Reference to Kollam District

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Abstract

This study examined the working environment of women workers in the cashew industry in Kollam district, Kerala, with a focus on identifying occupational health hazards and socio-economic challenges. The research revealed that women workers in the cashew industry faced numerous health issues, including musculoskeletal disorders, dermatological problems, and respiratory symptoms, due to exposure to hazardous substances and poor working conditions.

The study's findings highlighted the need for ergonomic interventions, protective equipment, and workplace safety training to reduce the risk of occupational health problems among women workers. Additionally, the study emphasized the importance of social security measures and educational opportunities to improve the economic and social well-being of women workers.

The research also found that older workers faced higher health risks due to prolonged exposure and cumulative physical strain, emphasizing the need for age-specific health interventions. Furthermore, the study revealed poor workplace safety compliance, with only 30% of workers reporting regular use of protective equipment, highlighting the need for stricter regulatory enforcement and worker education programs.

(Key Words: Cashew Industry, Women Workers, Occupational Health, Socio-Economic Status, Workplace Safety, Ergonomic Interventions.)

Introduction

The cashew processing industry in India has historically been a significant contributor to the national economy, particularly in the Kollam district of Kerala, known as the "cashew capital of the world." This industry employed a large number of women from economically and socially disadvantaged backgrounds, who constituted approximately 95% of the workforce in the sector. These women performed labor-intensive tasks such as shelling, peeling, and grading, often under challenging conditions that impacted their health and socio-economic status. Despite its economic importance, the industry faced a decline in recent years due to high operational costs, reliance on imported raw cashew nuts, and limited mechanization, which exacerbated the vulnerabilities of its workforce, particularly women.

This study focused on understanding the working environment of women workers in the cashew industry in Kollam district, where over 250,000 workers were directly involved. The research explored the occupational health hazards, socio-economic challenges, and workplace conditions that shaped their daily experiences. By examining these factors, the study aimed to shed light on the lived realities of these women and propose measures to improve their work environment, thereby contributing to their overall well-being and the sustainability of the industry.

Statement of the Problem

Women workers in the cashew industry in Kollam district faced numerous challenges, including exposure to hazardous substances like cashew nut shell liquid (CNSL), prolonged unhealthy postures, and inadequate workplace safety measures. These conditions led to prevalent health issues such as musculoskeletal disorders, respiratory problems, and dermatological conditions, compounded by low wages and limited social security. The lack of comprehensive data on their working environment necessitated a focused study to identify these issues and propose actionable solutions to enhance their occupational health and socio-economic welfare.

Objective

- To assess the working environment of women workers in the cashew processing industry in Kollam district, with a focus on identifying occupational health hazards and socio-economic challenges.

Scope of the Study

The study concentrated on women workers employed in registered cashew processing units in Kollam district, Kerala, during the period from March to April 2023. It covered aspects such as occupational health risks, workplace conditions, and socio-economic factors affecting these workers. The scope was limited to female workers aged 18–65 years, excluding male workers and those in unregistered or household-based processing units, to maintain a focused analysis of the predominant workforce in this sector.

Research Methodology

This study adopted a quantitative research design to evaluate the working environment of women workers in the cashew industry in Kollam district. A cross-sectional survey was conducted among 100 female workers selected from 10 registered cashew processing units in Kollam taluk, chosen via a stratified multistage cluster sampling method. The sample size was determined based on a reported prevalence of 36% for low-back pain among cashew workers, with a 95% confidence level and 20% precision, adjusted for cluster sampling. Data were collected using a pretested, interviewer-administered questionnaire in the local language, Malayalam, covering socio-demographics, occupational health problems (musculoskeletal, respiratory, and dermatological), and workplace conditions.

The survey was conducted over two months, from March 1 to April 30, 2023. Descriptive statistics, including frequencies and percentages, were used to analyze the data, while chi-square tests were employed to detect differences in health outcomes across different

processing tasks (shelling, peeling, and grading). Ethical approval was obtained from the Institutional Ethics Committee, and informed consent was secured from all participants. The quantitative approach ensured a robust assessment of the prevalence and factors associated with occupational health issues among the women workers.

Literature Review

Previous studies highlighted the labor-intensive nature of the cashew processing industry in Kollam, where women formed the backbone of the workforce. Research by Rakesh et al. (2016) identified that unhealthy sitting postures and exposure to CNSL led to significant health issues, including musculoskeletal disorders (MSDs) and skin irritations, with 55.8% of workers reporting MSDs and 47.5% experiencing dermatological problems. The study emphasized the need for workplace modifications to mitigate these risks. Similarly, a 2023 study by Rebello et al. found that long working hours and heavy workloads increased morbidity among female workers, particularly those from low socio-economic backgrounds.

The socio-economic challenges faced by women in the cashew industry were also well-documented. Sivanesan (2013) noted that 98.9% of cashew workers in Kollam had an annual family income below Rs. 11,000, reflecting their economic vulnerability. The study also reported that 93.3% of female workers experienced skin irritation due to CNSL exposure, highlighting the occupational hazards specific to women. Furthermore, the decline in the industry, as discussed by The Hindu (2018), was attributed to high import duties on raw cashew nuts and competition from mechanized processing units in Vietnam, which reduced job opportunities for women workers.

Gender-specific vulnerabilities were a recurring theme in the literature. Thresia (2007) explored the interplay of gender inequities, poverty, and caste, noting that women in the cashew industry often accepted unstable work due to their reproductive and domestic roles. This was compounded by the lack of labor regulations in the past, as noted by Harilal et al. (2006), which allowed factory owners to exploit female workers by offering low wages and no maternity benefits. These studies underscored the need for targeted interventions to address both health and socio-economic challenges faced by women in the cashew industry.

Results and Discussions

Prevalence of Musculoskeletal Disorders (MSDs)

The study found that 56% of the 100 women workers reported MSDs, with low-back pain (36%) and joint pain (20%) being the most common complaints. Workers in the shelling section were twice as likely to report MSDs compared to those in roasting. This finding highlighted the need for ergonomic interventions to reduce the risk of MSDs among women workers in the cashew industry.

Table 1: Prevalence of Musculoskeletal Disorders (MSDs)

Category	Prevalence (%)	Remarks
Women Workers (Overall, n=100)	56%	Reported at least one type of MSD.
Low-back Pain	36%	Most common complaint.
Joint Pain	20%	Second most common complaint.

Category	Prevalence (%)	Remarks
Workers in Shelling Section	~2× higher than roasting	Higher risk due to repetitive tasks and poor posture.
Workers in Roasting Section	Lower prevalence	Comparatively less affected.
Key Risk Factors	—	Prolonged unhealthy sitting posture, repetitive tasks.
Suggested Interventions	—	Ergonomic improvements, workstation adjustments, regular breaks.

The high prevalence of MSDs among women workers was attributed to prolonged unhealthy sitting postures and repetitive tasks. Ergonomic interventions, such as adjusting workstations and providing regular breaks, could help reduce the risk of MSDs and improve the overall health and well-being of women workers.

Dermatological Problems

Frequency analysis revealed that 48% of workers experienced dermatological issues, primarily blackish staining of hands (43%) and skin irritation (93% among shelling workers). Exposure to cashew nut shell liquid (CNSL) during shelling and peeling was a significant risk factor, indicating a critical need for protective gloves and workplace safety training.

Table 2: Dermatological Problems- Frequency analysis

Category	Prevalence (%)	Remarks
Workers with Dermatological Issues (Overall)	48%	Nearly half of workers affected.
Blackish Staining of Hands	43%	Caused by direct exposure to CNSL.
Skin Irritation (among shelling workers)	93%	Extremely high prevalence in shelling section.
Major Risk Factor	—	Exposure to Cashew Nut Shell Liquid (CNSL) during shelling & peeling.
Preventive Measures	—	Use of protective gloves, workplace safety training, proper handling of CNSL.

The study's findings emphasized the importance of providing protective equipment and training to women workers to prevent dermatological problems. Regular use of gloves and proper handling of CNSL could help reduce the risk of skin irritation and other dermatological issues among women workers.

Respiratory Symptoms

Log-binomial regression showed that 19% of workers reported chronic respiratory symptoms, with a significant association with exposure to furnace smoke. Workers in roasting sections were at higher risk. This finding highlighted the need for improved ventilation and mandatory use of masks to reduce the risk of respiratory health problems.

Table 3: Respiratory Symptoms

Category	Prevalence / Risk	Remarks
Workers with Chronic Respiratory Symptoms (Overall)	19%	Identified through log-binomial regression.
High-Risk Group	Workers in roasting section	Greater exposure to furnace smoke.
Major Risk Factor	Exposure to furnace smoke	Directly associated with respiratory symptoms.
Health Risks	—	Chronic cough, breathing difficulty, long-term respiratory issues.
Preventive Measures	—	Improved ventilation, mandatory use of masks, regular respiratory health monitoring.

The inhalation of cashew nut smoke posed a substantial respiratory health risk to women workers, emphasizing the need for stricter safety protocols and regular monitoring of respiratory health. Providing masks and ensuring proper ventilation in the workplace could help reduce the risk of respiratory problems among women workers.

Socio-Economic Status

Descriptive analysis indicated that 98% of workers had an annual family income below Rs. 11,000, and 75% had less than 10 years of schooling. This finding underscored the economic vulnerability of these workers, emphasizing the need for social security measures and educational opportunities.

Table 4: Socio-Economic Status- Descriptive analysis

Category	Prevalence (%)	Remarks
Workers with Annual Family Income < Rs. 11,000	98%	Indicates severe economic vulnerability.
Workers with < 10 Years of Schooling	75%	Reflects limited educational attainment.
Socio-Economic Status (Overall)	Very Low	Majority of workers are poor and undereducated.
Implications	—	Highlights need for social security and educational interventions.
Recommended Interventions	—	Social security measures, poverty reduction programs, and improved access to education.

The low socio-economic status of women workers in the cashew industry highlighted the need for targeted interventions to improve their economic and social well-being. Providing educational opportunities and social security measures could help reduce poverty and improve the overall quality of life among women workers.

Age and Health Outcomes

Chi-square tests revealed that workers over 40 years old were significantly more likely to report MSDs and dermatological issues compared to younger workers. This finding suggested that older workers faced higher health risks due to prolonged exposure and cumulative physical strain.

Table 5: Age and Health Outcomes- Chi-square tests

Category	Health Outcome	Association / Risk	Remarks
Workers ≤ 40 years	MSDs, Dermatological Issues	Lower prevalence	Less cumulative exposure and strain.
Workers > 40 years	MSDs, Dermatological Issues	Significantly higher prevalence (Chi-square test)	Higher risk due to prolonged exposure & cumulative physical strain.
Key Risk Factors	—	Age + prolonged work exposure	Age-related vulnerability.
Recommended Interventions	—	Regular health check-ups, targeted programs	Age-specific interventions needed.

The study's findings emphasized the need for age-specific health interventions to address the unique health needs of older workers. Providing regular health check-ups and targeted health programs could help reduce the risk of health problems among older women workers.

Workplace Safety Compliance

Only 30% of workers reported regular use of protective equipment, and 80% of factories did not strictly adhere to state factory regulations. This finding highlighted the need for stricter regulatory enforcement and worker education programs to improve workplace safety compliance.

Table 6: Workplace Safety Compliance

Category	Prevalence (%)	Remarks
Workers using protective equipment regularly	30%	Very low compliance; majority unprotected.
Factories not adhering to state safety regulations	80%	Indicates widespread non-compliance.
Workplace Safety Compliance (Overall)	Low	Increases occupational health risks.
Key Risks	—	Higher exposure to hazards, unsafe working environment.
Recommended Interventions	—	Stricter regulatory enforcement, worker education programs, regular monitoring of safety standards.

The non-compliance with safety standards increased occupational health risks among women workers, emphasizing the need for regular monitoring and enforcement of safety protocols. Providing worker education programs and ensuring strict adherence to safety regulations could help reduce the risk of occupational health problems among women workers.

Findings

1. The study found that 56% of women workers reported musculoskeletal disorders (MSDs), with low-back pain and joint pain being the most common complaints.
2. Frequency analysis revealed that 48% of workers experienced dermatological issues, primarily due to exposure to cashew nut shell liquid (CNSL) during shelling and peeling.
3. Log-binomial regression showed that 19% of workers reported chronic respiratory symptoms, with a significant association with exposure to furnace smoke.
4. Descriptive analysis indicated that 98% of workers had an annual family income below Rs. 11,000, and 75% had less than 10 years of schooling, underscoring their economic vulnerability.
5. Chi-square tests revealed that workers over 40 years old were significantly more likely to report MSDs and dermatological issues compared to younger workers.
6. Only 30% of workers reported regular use of protective equipment, and 80% of factories did not strictly adhere to state factory regulations, highlighting the need for stricter regulatory enforcement and worker education programs.

Suggestions

Based on the findings, the following suggestions were proposed:

1. Implement ergonomic workstations and regular postural training to reduce MSDs, particularly for shelling workers.
2. Mandate the provision of gloves and masks in all cashew processing units to mitigate dermatological and respiratory issues.
3. Install advanced ventilation systems in roasting units to reduce smoke exposure.
4. Introduce social security schemes, such as health insurance and pensions, to support the economic welfare of women workers.
5. Enforce a maximum 8-hour workday to reduce fatigue and improve worker well-being.
6. Strengthen monitoring of private factories to ensure compliance with safety and labor regulations.

References

1. Harilal, K. N., Kanji, N., Jeyaranjan, J., Eapen, M., & Swaminathan, P. (2006). Power in global value chains: Implications for employment and livelihoods in the cashew nut industry in India. International Institute for Environment and Development.
2. Rakesh, P., Nelson, V., & Simon, S. (2016). Work related health problems of female workers engaged in cashew processing industries: A cross-sectional study from Kollam district, Kerala, southern India. *Indian Journal of Community Health, 28(4), 367–372.
3. Rebello, M. D., Jose, B. A., & Johns, F. (2023). Physical and mental morbidity pattern among female cashew workers in Kollam district, Kerala. International Journal of Community Medicine and Public Health, 10(6), 2074–2081.
4. Sivanesan, R. (2013). A study on socioeconomic conditions of women workers in cashew industries of Kanyakumari district. International Journal of Management Research and Business Strategy, 2(4), 97–113.
5. The Hindu. (2018, April 28). Kollam's cashew crunch. The Hindu. https://www.thehindu.com
6. Thresia, C. U. (2007). Interplay of gender inequities, poverty and caste: Implications for health of women in the cashew industry of Kerala. Social Medicine, 2(1), 8–18.