

Occupational Health Hazards in Female Agricultural Workers in India–A Narrative Review

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ABSTRACT

According to ancient texts, India's heritage of agriculture sector development transcends back to the Indus valley civilization. India is second in the domain of agricultural productivity. Farming employed more significant than 50% of India's workers and generated about 18% of the nation's revenue. However, provided the severity of underlying urgent issues which surround the field and the country, both agriculture communities and the agricultural industry overall have seen a great deal of turmoil and the medical industry has neatly overlooked it. According to research, hypersensitivity to grains soot, fungal allergens, cereal pollen grains, animal hair, including mites enhance the incidence of respiratory problems and immunological disorders in agricultural laborers. Another typical occurrence is farmer's lungs, an immunologic mediated pneumonitis brought on by fungi via rotten grass and grains. Additionally, zoonotic illnesses afflict the population of agricultural laborers and appropriate measures are needed to address these issues.

Women are substantial contributors to the Indian GDP, particularly in agribusiness. Their importance and commitment to the economic prosperity of the country are generally, not widely acknowledged. Women are kept reliant and susceptible by ingrained societal and religious standards, which characterize a female as inferior and submissive. These traditions also allow the victimization; of women who work in agriculture as laborers. Focusing on improving occupational wellness, which concentrates on the physiological, psychological and cultural wellbeing of employees, is crucial for development of the country. Throughout India, the occupational health of female agricultural workers is a community safety concern that requires prompt action.

The aim of the article is to investigate the relationship between farming and their well-being; the workplace risks and occupational health problems experienced by female agricultural laborers, agriculture related health hazards, suggestions to improve the environment for female agrarian workers and the relevant regulatory framework in India.

Key words: Agricultural, Health hazards, Occupational illnesses, Farmers, Women workers.

HOW TO CITE THIS ARTICLE: Piyush Kathane, Shiv Joshi, Occupational Health Hazards in Female Agricultural Workers in India–A Narrative Review, J Res Med Dent Sci, 2023, 11 (01): 011-016.

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Received: 01-Nov-2022, Manuscript No. JRMDS-23-77329;

Editor assigned: 03-Nov-2022, PreQC No. JRMDS-23-77329 (PQ);

Reviewed: 15-Nov-2022 QC No. JRMDS-23-77329;

Revised: 02-Jan-2023, Manuscript No. JRMDS-23-77329 (R);

Published: 09-Jan-2023

INTRODUCTION

Nearly 1/3rd of the world's agricultural workers comprise women, including roughly 48% of agricultural producers who work for themselves, although their labor has not been generally well compensated. A woman; performs maximum straining and taxing jobs in households, farms and veterinary care. In complement to traditional household responsibilities, village women actively participate in farming and other farming related activities. Moreover, particularly in more affluent, resourced countryside areas, the administration and engagement of Indian women within agricultural enterprises have

increased recently [1]. This unorganized sector mainly includes farming and this is what women in the village throughout India look. The unstructured element is a particular area of the economic growth, including farming, enterprises, trade, transportation, information exchange, assistance, health care, schooling and strengthening and building design, that lacks an official organization certification, acknowledgement or service from whatever authorized public or personal body because of its identification [2]. Due to their low levels of education and also the routine chores of mothers related to their kids and other family members, women are more likely to find employment in the unorganized financial sector. However, because there are no work related wellness and security architectures for women working in this sector, they are subject to additional risks [3].

Agricultural employees include individuals who perform paid labor upon other people's property. As in aggregate, agricultural field workers lack stable occupation,

workplace stability, predictable earnings and socio cultural welfare insurance. The national commission on self-employed women and women in the informal industry investigated the extent of occupational related medical issues among women and discovered a raised incidence of several sicknesses, which include postural problems, issues with interaction with dangerous chemicals, constant function, an absence of rest, a shortage of protection mechanisms and strongly unfavorable workplace culture [4]. Women inside the farming industry experience illnesses like generalized muscle pain, cough, sensitivities to the airways, accidents, poisoning, plus various connected issues [5]. These multitudes of problems need to be explored to develop feasible solutions.

Objective

The aim of the article is to investigate the relationship between farming and healthcare, risks at the workplace and health issues experienced by female agricultural laborers, various health hazards, suggestions to improve the environment for female agrarian workers and the relevant regulatory framework in India.

LITERATURE REVIEW

Methodology

The research has been done utilizing internet search engines and thorough literary and information research has been conducted. Information from PubMed database and references from economic and political weekly were included in this research. The data was gathered from reports published by the Indian government, which consists of the publications by the ministry of agriculture and farmer’s welfare, ministry of justice, ministry of women and child development and ministry of labor and employees. The search was conducted using keywords like “agricultural hazards,” “agricultural health care,” “occupational hazards,” “female farmer’s policies,” “gender related agricultural hazards” and “female health concerns.” A total of 120 articles were found, out of which 31 were used for writing this narrative review.

Agricultural health hazards for female workers in India

Women make up a sizeable share of the labor workforce in the Indian economy (Tables 1 and 2) [6].

Table 1: Details of population between the rural area and urban area.

Details of population	Results (in millions)
India's total population	1210.85
Population in the rural area	833.7
Population in the urban area	377.1

Table 2: Details of population between the total workers and full workers.

Details of population	Results (in percentage)
Participation in work	39.8%
Participation of females in total workers	24%
Females working in the agricultural sector out of full workers	41.1%

Most women employed in the farming industry in the highly segregated Indian culture remain at the lowest level of the societal hierarchy and lack access to essential healthcare services. The foundation for farming output is the health of the female laborers and occupational wellness in farming has a significant influence on yield. If societal protection and empowerment policies are implemented well, they may have a substantial impact on improving the wellness of the agricultural industry [7]. Farming related risks are due to the equipment used in farming, weather conditions, toxic substances, animal or snake bites, dust, sun rays and mental pressure brought

on by social and financial issues. The discovery of illnesses and their effects on the wellness, production and pay of women who participate in farming is made possible by work related risks [8].

Farming impacts healthcare in precisely the same way healthcare impacts agriculture, demonstrating the reciprocal relationship between these two. Female wellness is closely related to economic, political, social and environmental factors. Women who serve in farming seem much more likely to experience serious medical concerns because of their working schedules,

undernourishment, occupational dangers, physical difficulties caused by using agricultural equipment, using chemicals, maltreatment and pressure from both work and personal lives [9]. Overall, the protection and wellbeing of employees boost output and thus have a favorable effect on financial and societal prosperity. Occupational wellness represents a very crucial part of the overall country's architecture. Sickness patterns of female farm laborer show how their illnesses seemed much more closely related to their employment and level of income compared to the overall fashion of living. In an addition to unemployment and suffering, the lack of compassion in medical programs also contributes to the poor wellness of farming women. The complete spectrum of physiological, biochemical and medical risks with which employees are being confronted must indeed be covered by modernized; legislation. Females who operate in farming place the lowest value on safety and wellness at working because their ability to support themselves *via* employment is more significant to individuals than the standard of their jobs. The National Institute for Occupational Health (NIOH) defines occupational wellness as a continuous effort to promote and maintain the maximum physiological, psychological and cultural wellbeing of employees throughout every profession.

Anything that could harm people if something is poorly regulated is a danger. It is an unanticipated, uncontrollable or unforeseeable occurrence that typically has adverse outcomes. This additionally relates to possible healthcare and protection hazards for people performing activities within and beyond the house. Agricultural women seem particularly susceptible to this since they are usually involved in all domestic and agricultural duties. All the interior and outside environments are accessible to them. The various dangers are described beneath [10].

Physical dangers

Physical characteristics related to occupation that could harm wellness, include loudness, vibrations; dim lighting, ionizing and non-ionizing; radioactivity and micro climate changes. One of the more significant common occupational healthcare impacts in industrialiser and evolving nations is noise induced auditory impairment. Health could be impacted by interaction with wild and toxic creatures, such as insects, spiders, scorpions, snakes and some wildlife mammals [11].

Some examples of physical dangers are: prolonged movements, having to handle massive loads of substances, exposure to high temperatures, moisture content, sunlight, low temperature, loud sounds, vibration, poor lighting, repetitious movements for job, aggressive movements, musculo skeletal alterations, bowing body position, wrists and toes immersed in water consistently, trip hazards and collapses in slippery areas, interaction with land, dirt, debris, water and fertilizer, interaction with pests, interaction with scorpions, serpents and other toxic living creatures and interaction with feral animals.

Biological dangers

During working, employees might be vulnerable to parasites and illnesses. Those who handle animal by-products and those who function in agriculture seem to be liable to become prone to microbiological dangers [12].

Some examples of biological dangers are: bacterial, viral, parasitic and fungal, including coping with cattle related infectious diseases.

Chemical dangers

In today's surroundings, there exist around 1 lakh specific chemical items which are in use, plus the figure is constantly rising. Contamination might vary considerably. The negative physiological impacts include the destruction of the liver and central nervous system (induced by chemical exposures), pesticide toxicity, skin and pulmonary infections, dermatomes, malignancies and fertility issues. Women who are subjected to toluene have claimed experienced irregular menstruation, abrupt miscarriages and menstruation irregularities more frequently. When exposed to quantities over the cutoff limitation level, hazardous substances that are acidic, allergic and cancerous manifest their effects locally, through breathing and through ingesting.

Some examples of chemical dangers are: Utilizing; chemical compounds to remediate soil includes using insecticides, herbicides, pesticides, bio pesticides, fumigants and antimicrobials [13].

Ergonomic dangers

Climate, instrument, workplace, purpose and organization are all factors in foldable principles. It aims to decrease the number of Muscular and Skeletal Diseases (MSDs) employees acquire at the workplace. Injury, or illness to the musculature, neurons, tendons, ligaments, joints or spinal discs is referred to as MSD musculo skeletal; discomfort and tingling in the hands, hips, wrists, shoulders, knees, toes and back or neck ache are typical indications of MSDs Inflammatory pain or oedema is frequent. Danger characteristics include uncomfortable position, regular movements, excessive flexibility of activities and stable body position [14].

Mechanical dangers

Throughout farming, there exist many different job related musculo skeletal illnesses which have been recorded. Overall, women are physically shorter and weaker; their vital capability is 11% lower; their hemoglobin is around 20% lower; their epidermal surface is higher than overall circulatory volumes and females possess more bodily obesity. They are more tolerant of low temperatures and less susceptible to high temperatures. They are therefore especially vulnerable to physical risks. Lumbar, cervical, tendon and shoulder illnesses, repeated trauma condition, continuous movement disease and carpal tunnel

syndrome are a few of them [15]. The most significant common occupational dangers in advanced and constructing nations include robotic risks, unprotected equipment, hazardous industrial architecture and harmful equipment. A bulky physical burden, bad operating conditions, heavy hauling and transporting of big objects or repeated mechanical duties can be experienced by about 30% of the population in industrialized; nations and 50% and 70% among undeveloped countries. This could result in orthopedic issues and fatalities. These illnesses constitute the primary reason for all temporary and long term employment impairment, which results in financial damages. Industry specific; physical risks are primarily related to equipment, projecting and mechanical components and similar things. Approximately 10% of workplace fatalities result from technological issues [16].

Psychosocial diseases

Considering a gendered standpoint, indeed, one of the most significant issues is workplace pressure. Over the last ten years, tension brought on by schedule constraints and professional demands has increased [17]. Negative mental impacts could likewise result from repetitious jobs, employment that demands continual attentiveness, inconsistent operating patterns and scheduled labor, including seasonal labor. Insomnia, exhaustion disorders, sadness and high blood pressure have all proved linked to mental strain and overloading [18]. Cultural aspects of the working location, including gender related breakdown, occupation segmentation and working environment fairness, generate questions regarding tension in the working environment. In an addition to farming, farm women perform home tasks also. The laborer's inability to adjust to strange mental surroundings is the cause of this. Laborer's physiological and psychological wellness might have been harmed by irritation, an absence of occupational fulfillment, instability, harmful interpersonal interactions and sentimental strain, among other psychosocial issues [19].

DISCUSSION

Although women appear to benefit greatest from automation in farming, most of the instruments and gear were created with males in mind. This; offers all advantages and disadvantages. Massive, thick, weighty and challenging to maintain and handle are typical characteristics of farming machinery, techniques, or instruments used for field treatment, ridging and plucking, grain processing, culinary burners and freshwater conveyance particularly in Asia [20]. Using; the wrong instruments might result in a poor position, back and orthopedic health, or even terrible catastrophes involving bodily harm. The; construction specifications for agricultural implements for women focused upon ergonomic concepts ought to be examined. Several; farming labor sites throughout India are without suitable restrooms and drinkable water, including showers; thus, women utilize; outdoor fields or riverbeds instead. The absence; of essential amenities, such as first aid,

transportation, a dirty worksite and cleaning equipment, exacerbates existing occupational healthcare problems [21]. Because of the use of pesticides, females' sexual wellness is impacted significantly, which has an impact on overall physiological and psychological health. The relationship between fitness, performance and earnings is such that when one's bodily or psychological well-being; is compromised, profitability and pay are also inevitably impacted [22].

Suggestions for improving the health status of female agricultural workers

- To improve frame policies and systems, provincial level information regarding overall healthcare problems and workplace dangers experienced among farming women laborers must be constructed [23].
- To give economic aid to women farming laborers, society level financial (banking) services should be implemented in village areas.
- A healthy approach must be linked to countryside advancement initiatives to manage occupational healthcare in farming, including overall assistance of governmental policy [24].
- Additional occupational healthcare education and refresher must be offered to relevant mortal assets such as healthcare professionals, paramedics, physiotherapists, socioeconomic professionals and counselors.
- Our administration must mandate each n every firm to supply protective equipment, including appropriate shoes, mittens, masks and skull coverings, to minimize occupational healthcare risks significantly [25].
- This must be inexpensive to undertake all necessary steps to develop instruments and apparatus with female's physiological bodily positions in mind.
- The administration must make investments in occupational safety, including essential labor laws and public assistance initiatives which might result in advancements [26].
- Regarding simple financing options and taxation advantages, establishing companies throughout village regions to manufacture gas phase and liquefied fuels using bioenergy must be promoted [27].
- To educate women employees regarding their privileges, official programs, and laws, public education campaigns must be held [28].
- Women employees need to have healthcare knowledge and understanding for them to cooperate toward everyone's benefit.
- Governmental funding could be used to launch programs regarding agricultural and environmental healthcare throughout the top educational and professional institutes [29].

Requirements for legal provisions

Although India possesses numerous legislation and programs concerning the overall wellbeing of its citizens,

the government has barely devoted adequate consideration to the general medical needs of women who operate in agriculture. It remains challenging to discover any indication of the 8–10 crore Indian females participating in farming during the last 20 years in legislation [30]. The lack of public solid safety provisions for female farm laborers makes them more vulnerable to sickness and old age. To guarantee that workplace healthcare regulations encompass every employee, especially individuals in both unorganized; industries and individuals involved in farming, substantial legislative changes and changes within India's workplace wellness and security infrastructures are essential [31].

CONCLUSION

Since females make up 1/3rd of the country's natural personnel resources, the wellness of women working in farming serves as an essential foundation for the country's growth. Since manufacturing and economics are closely related the above research is vital for the general welfare and financial gain of any country. Despite becoming a vastly agricultural country, India did lack an adequate legislative foundation to manage the workplace healthcare challenges experienced by women who participate in agriculture. The authorities must establish a panel or project forces to develop a strategy regarding the healthcare problems and workplace dangers experienced by farming female employees. The main general populace wellness issue in India in the foreseeable future will be work related illnesses. Therefore, it is imperative that connectivity of stakeholders, including the authorities, the personal sector, non-profits and constitutional culture organizations; forced to improve the performance of living for agricultural women employees. Standing, posture, anterior leaning, excessive loading and hauling, crouching and vibrations in farming are all occupational hazard concerns. For female agricultural securities, this becomes extremely important to identify occupational healthcare risks and build procedures to assess, treat and reduce orthopedic danger variables and consequent diseases. The importance of women in farming is becoming better known and acknowledged. When making decisions regarding duties associated with farm duties, women have a significant influence. There exists a necessity to start agricultural study projects focusing on women. Because females diverge from males in terms of ergonomics, it is necessary to create instruments and apparatus accommodating to them. Workplaces could be adjusted so that women may undertake leisurely farming tasks.

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