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Work and Health: A Situational Analysis of Factory Workers

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Abstract - One-third of India's population (nearly a billion people) is working class. Around 5000 of the more than 2 million registered factories are categorized as chemical industry, with more than 5 million workers. The human body may be adversely affected by a broad variety of conditions during work, including inappropriate working practices, environmental dangers, and hazardous chemicals. Emerging occupational health hazards are a consequence of globalization and fast industrial expansion over the last several years. As a result, there is a strong desire to expose the working conditions of factory workers. Workers at an ordnance manufacturing encounter a number of challenges, including their socioeconomic situation, working circumstances, and health. This research investigates how these workers might overcome these challenges.

Keywords - Work; Health; Nutritional Status; BMI; Physical Activity

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INTRODUCTION

The major focus of occupational health and safety is on preventing workplace dangers before they occur. Workers' health is affected by a variety of elements, such as occupational risks for cancer, accidents, musculoskeletal diseases and disorders, respiratory illnesses, hearing loss, circulatory diseases and other ailments, as well as stress-related health issues and infectious infections. It is vital to consider factors such as working hours, salary, workplace rules on maternity leave and health promotion benefits and protection provisions, among others, while evaluating employment in both the official and informal sector. Productivity, economic growth, and social progress are all benefited when employees' health and safety are taken care of. Preventative measures should be an integral element of all economic activity. Safety and health standards are just as vital as corporate performance, earnings, and the bottom line when it comes to ensuring long-term economic prosperity. Workers' health is connected to public health and health systems development, which is why WHO is addressing all variables affecting workers' health, including the risk of illness and injury in the workplace, social and individual factors, and access to health services. The World Health Assembly's Global Plan of Action on Workers' Health 2008-2017 guides WHO's efforts on occupational health.

Specialized occupational health treatments are available to barely 15 percent of the world's workforce as of the present day. Preventing workplace hazards, monitoring employee health, teaching safe working practices, providing first aid, and counseling employers on all things relating to worker safety and health are the primary responsibilities of these professionals. Workplace health and safety regulations in India are based on constitutional principles. The state has a responsibility to develop rules that promote worker health and safety. Silicosis, musculoskeletal injuries, coal miners' pneumoconiosis, chronic obstructive lung illnesses, asbestosis, byssinosis, pesticide poisoning, and noise-induced hearing loss are among the most common occupational disorders in India. Government of India's Ministry of Labor is responsible for the Directorate General of Factory Advisory Services and Labor Institutes (DGFASLI). Ministry officials use it to help formulate national policies on occupational safety and health in factories and docks, as a technical arm of the ministry It also provides guidance to businesses on issues relating to the health, safety, and productivity of their workers as well as their general well-being.

LITERATURE REVIEW

Ramaswamy, Krishna. (2019) For the period from 2004-05 to 2015-16, the geographical distribution of manufacturing in India's states is examined. There has been a rise in the concentration of industrial activity since 2004-05, according to our findings. When it comes to manufacturing production, factories, and employees, more industrialized states (such as Maharashtra, Gujarat, and Tamil Nadu) have maintained their supremacy. There is evidence to suggest that they have taken a larger proportion of

the incremental expansion in factories and employees. Because of agglomeration economies, they have a competitive advantage. The net admission of factories (and employees) into the registered and unregistered divisions of manufacturing is varied in various Indian states. Agglomeration at the sectoral level is consistent with the estimated net entrance of firms in five chosen industrial groups in registered manufacturing. Abstract For the period from 2004-05 to 2015-16, the geographical distribution of manufacturing in India's states is examined. We discovered a rise in the geographic concentration of industrial activity since 2004-05. Maharashtra, Gujarat, and Tamil Nadu are among the most industrialized states in India, and their proportion of production, factories, and manufacturing employees continues to rise. Increased factory and workforce expansion has been shown to be more evenly split between them and their competitors. Because of agglomeration economies, they have a competitive advantage. In both the registered and unregistered categories of manufacturing, there are differences in the net entrance of factories (and employees) across the various Indian states.

Olena S. Oliinyk, et.al. (2020) An investigation on the safety and health of manufacturing employees in Europe in the 19th century has been completed. The primary causes of industrial injury and occupational illness among manufacturing employees at that time have been studied and categorized in detail... We've identified the most harmful outcomes of using children as workers in industries. The age distribution of industrial injuries and occupational disorders is shown. The health of former industrial workers' ancestors has been linked to their working circumstances in the factories of the past. Organizational aspects for monitoring adherence to health and safety standards for employees are emphasized. Factory employees' safety and health, as well as child labor regulations (e.g., maximum working hours and conditions) in factories, are examined in this paper. Workplace accident and sickness compensation for manufacturing employees is examined, as well as the challenges surrounding its implementation at that time.

Adibe, M.O., et.al. (2014) The goal of this study is to determine the impact of work-related variables on the quality of life (QOL) of employees in the public and private sectors in southern Nigeria. Methods: Using convenient sampling, a total of 2025 Nigerians from five southern Nigerian states (including the federal government and non-governmental organizations) were chosen. In order to gauge the quality of respondents' lives and identify additional variables that influenced it, the Medical Outcomes Survey Short Form-36 (SF-36) and twenty closed items were given to each group. Results: Working in the non-governmental sector (r=0.209, p0.05) contributed substantially to low Physical Component Summary (PCS) yet working in a job that earns enough money for one's comfort had a favorable influence on PCS (r=0.228, p0.05). Governmental sector respondents were only affected negatively by their job stress (r=-0.225, P0.01), while having a job that exposes one to a lot of health risk (r=-0.269, p0.01), having an extremely demanding job (r=-0.206, p0.05), and believing that there are spiritual forces responsible for the challenges one is facing (r=-0.249, p0.05) all contributed to a decrease in MCS of respondents i.e., those in the Governmental sector. The quality of life of workers in the non-government sector was much worse than that of those in the government sector.

Al-Qutop et.al. (2011) People's quality of life relates to how happy they are in terms of physical, mental, and emotional well-being. There are a number of factors that have an impact on one's overall well-being. Consequently, case studies are carried out in order to examine the reasons causing the quality of life. Data were gathered from 100 married men and women in the leather business in Vellore, Tamil Nadu, 50 each. Employees' health and the health of their families are affected by fifteen different factors, including workplace hazards and the physical work environment, as well as the care of dependents and children's education. Other factors include conflict arising from multiple roles and the pressures of the workplace, as well as rewards and recognition for hard work and achievement, as well as advancement in the workplace and the constitutional rights granted by the company. One of these constructs has been recognized as the most inciting factor of quality of life since it has been reported by 12 cases: occupational hazards and work environment. It has been suggested that safety management be used in order to prevent workplace hazards.

Renganathan, R., (2012) If a business wants to thrive in today's competitive marketplace, it must first understand its consumers. SERVQUAL and SERVPERF are two major instruments that may be used to assess service quality. The banking industry's level of customer service may be gauged using the BANKSERV model. In order to conduct this research, we solicited feedback from bank customers on their experiences with different services. Three hundred bank clients in Tamil Nadu and Pondicherry, India, were surveyed. Using structural equation modeling (SEM) for data analysis, the model was evaluated for the relationship between its variables. The results of the study suggest that the proposed model has an adequate fit, by meeting the specified values, based on absolute fit indices.

RESEARCH METHODOLOGY

For this research, a Tiruchirappalli ordnance plant in Tamil Nadu was chosen from which to interview a total of 200 personnel by following a systematic interview schedule. An anthropometric measurement, food pattern, health issues, physical activity, biochemical and biophysical evaluation and their attitude toward safety measures were among the items on the questionnaire. Weight, height, Body Mass Index, Waist Circumference, Hip

Circumference, Waist-Hip Ratio, and other anthropometric data were gathered for nutritional analyses. Additional biochemical and biophysical assessments (hemoglobin and blood pressure) were taken. The obtained data were analyzed (33 percent) and summarized (67 percent) in order to get at the general findings of employees earning up to Rs.20, 700/- and those earning up to Rs.50, 000/-, respectively.

DATA ANALYSIS

Social Status

In order to have a better sense of the social position of the employees, their sex, age, religious affiliation, caste group, educational status, marital status, family type, and home size were all taken into consideration. In the ordnance plant, the vast majority of workers were men (93.5 percent). 73.5 percent of them were in the age range of 41 to 50 when they were grouped according to their age. As a group, they are all 43.9 years old. This is seen in Figure 1.

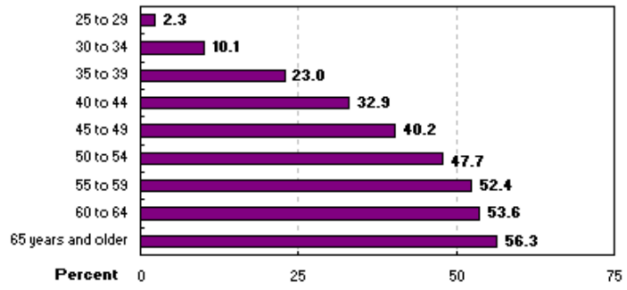

Figure 1 Age-Group of the Employees

In January 2008, 32 percent of all wage and salary employees aged 25 and older had worked for the same firm for at least 10 years. It's according to Bureau of Labor Statistics statistics issued by the US Department of Labor. Most employees aged 55 and older in January 2008 had worked for the same company for at least ten years. In contrast, just 10% of individuals between the ages of 30 and 34 had worked for their present employment for at least 10 years.

There are noticeable patterns in the working hours and vocations of people in the United States. Sales employees (5%), other service workers (5%), and personal service workers (5%) are more likely than other jobs to work continually fluctuating part-time hours and routinely work 1-8 hours, 9-18 hours, and 19-35 hours per week, respectively (Fig 3.7). In comparison to other job categories, managers (4%) are more likely to work continually changeable full-time hours than are associate professionals (4%) and plant operatives (5%). Managers, associate professionals, plant operatives, and craft workers are also more likely to work more than 35 hours a week on a regular basis. Figure 2 shows how they function.

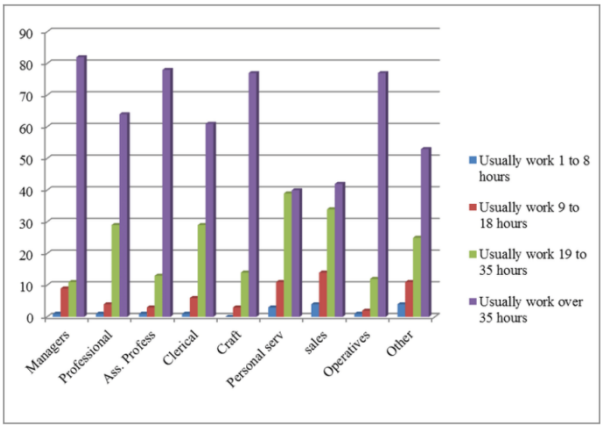

Figure 2: Employees' Working Pattern

30% of employees earn less than Rs.20. 7001- a month, while 67% earn more than Rs.50, GOV- per month. For an average of 14.7 years, they were phrasing. Among the service perks accessible to them, dearness seaward and medical help (58.5%), dearness allowance, bonus, and medical aid (40%) are the most common (1.5 percent). However, according to them, safety equipment such as masks, gloves, shoes, helmets, and ear plugs isn't up to snuff. Three-fifths (59%) use two-wheelers to go to work, while 30% use forklifts.

Keeping a regular exercise routine is an important part of your daily routine. Health and Illnesses Faced Non-vegetarians make up 59% of the workforce, vegetarians 35%, and ova-vegetarians 3%. (6 percent). Most of them eat three times a day (71.5 percent) and two times (285 percent); the majority of them miss breakfast (79 percent) and lunch (both 28 percent) (12.3 percent). and supper, too (8.7 percent). The average day's salary for an employee was 1282 caiones.

In order to determine the overall health of the workforce BMI (Body Mass Index) (BMI). blood pressure, waist size, and waist-hip ratio. blood pressure and hemoglobin concentrations were evaluated. Half of my male colleagues were found to have normal BM (18.5-22.9), while another 26.7 percent were determined to be obese (23-24.9). Twenty-nine percent of the workforce was overweight or obese. In all, 53.3 percent of females were either overweight or obese, with just 46.2 percent of them being of a healthy weight. As a result, it's no surprise that the majority of COM workers are overweight or obese. Figure 3 depicts the BMI of the workers.

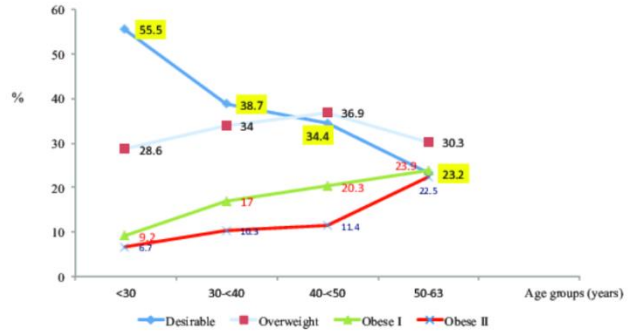

Figure 3: Employees' BodyMass index

Most of the workers, regardless of sex, had waist circumferences that put them at risk for abdominal obesity. 77 percent of women were at danger, compared to only 51 percent of men overall. A normal waist circumference was found in just 23.1% of females and 49.1% of men. Three-fifths (61.5 percent) of the female workers had a Waist-Hip Ratio at danger level, compared to 45.5% of the male employees. A healthy Waist-Hip Ratio was found in 38.4% of the female workforce and 54.5 percent of the male workforce. Of the workers, 51% had normal blood pressure, 27% had pre-hypertension, and the remaining 22% had Stage 1 hypertension, all of which were considered healthy. Hemoglobin levels among employees differ according to gender. Only 53.8% of female workers had normal hemoglobin levels, compared to almost all male employees (98.3%). Males accounted for 1.6% of those with mild anemia, whereas females accounted for 46.2% of those with mild anemia. Workers' health is shown in Table 1.

Table 1: Body Mass Index, Hemoglobin Level, and Waist Circumference

Body Mass Index	Sex	
	Male	Female
Underweight (<18.5>)	4 (2.1%)	-
Normal (18.5-22.9)	94 (50.3%)	6 (46.2%)
Overweight (23-29)	50 (26.7%)	4 (30.8%)
Obese (25 & above)	39 (20.9%)	3 (23%)
Total	**187 (100)**	**13 (100)**
Haemoglobin Level		
Normal	184 (98.3%)	7 (53.8%)
Mild Anaemic	3 (1.7%)	6 (46.2%)
Total	**187 (100)**	**13 (100)**
Waist Circumference		
Normal	92 (49.1)	3 (23)
At risk	95 (50.9)	10 (77)
Total	**187 (100)**	**13 (100)**

Anxiety, hypertension, and hypotension were the most common symptoms among the personnel. Other common complaints were severe headache and impaired vision as well as dermatological and hearing-related issues; trouble breathing; and bronchitis.

CONCLUSION

This research on ordnance plant personnel is coming to an end. To be clear, male dominance was found to be greater than female dominance in almost every field of employment. The majority of the men were middle-aged married families with an average of five members. Workers at an ordnance industry for almost a half-century were not given enough safety facilities while receiving subsidies from the government. Hypertension, headache, low back discomfort, and shoulder pain were among the many health issues they were dealing with. Most of the time, they engaged in a moderate level of physical exertion. Only a few people stuck to a healthy food plan. Few of them, both male and female, had anemia. The majority of them were found to be in the pre-hypertension stage and to be obese. This suggests that the factory's working environment be improved. As part of a global strategy to achieve occupational health for all, safety provisions such as masks, hand gloves, shoes, helmets, and ear plugs must be provided, as well as the strengthening of international policies for health at work and the development of policy tools: creating and maintaining healthy work environments; developing healthy work practices and healthy work environments: strengthening occupational health and support services for occupational health; and developing occupational health standards. in addition to setting up a registration and data system and providing specialists with information services. information dissemination and public awareness raising are both made possible by a more robust information infrastructure.

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