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**Demographic Variable and the Incidents of Occupational Injury**

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**BY**

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**ABSTRACT**

*The study sought to assess demographic variables and the incidence of occupational injury. The study observed that "occupation" is a general term that refers to the field or industry you are a part of or the work you are interested in. It can also refer to your role within an organization. Stating your occupation in an interview holds implications for you, your job, your profession, and your career in a single answer. Many occupations are hazardous and have rendered many workers useless and sent to their graves earlier than expected. These occupational injuries have cut across workers of various age ranges, irrespective of gender, educational status, occupation, work location, and many more. It is on this ground that this study was carried out to assess the demographic variables and the incidents of occupational injury. The researchers concluded in this study that occupational injury is associated with older age. This discrepancy could be due to older workers' being more likely to report injuries for compensation purposes, even after the same scenario. The relationship between age and injury at work probably varies depending upon occupational conditions. Thus, older workers may find themselves in a difficult financial situation when deciding whether to remain in the workforce. One of the recommendations made in this study was that, as far as the specific area of safety educational training is concerned, it is very imperative to give continuous education to older workers on how to cope with risk factors escalating occupational injury for safety purposes.*

**KEYWORDS: Demographic Variable, Incidents, and Occupational Injury**

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**INTRODUCTION**

An occupational injury is any physical injury that affects a labor worker while working (Aderaw, Engdaw, and Tadesse, 2011). Occupational accidents, work injuries, work-related injuries, work accidents, and work-related accidents are synonymous phrases for occupational injury (Gebretsadik, Kumie, and Gebremichael, 2017). Globally, occupational injury is becoming a public health emergency, killing more than 300,000 workers every year and causing many cases of disability (Concha-Barrientos, Nelson, Fingerhut, Driscoll, and Leigh, 2005). Health at work and healthy work environments are inputs to the national economies via improved productivity, product quality, work motivation, job satisfaction, and overall quality of the worker's life and society (Abugad, 2009). Though preventable, occupational injury has become one of the major public health problems, causing an estimated economic loss of 5–10% of national product in addition to the increased risk of fatality and morbidity rates (Smith and DeJoy, 2012), with 14 deaths per 100,000 workers reported (Uehli, Mehta, Miedinger, Hug, Schindler, Holsboer-Trachsler, Leuppi, and Künzli,

2014). Reporting information on occupational injuries is essential to assess the extent to which workers are protected from work-related hazards and risks (International Labour Organization, 2008).

Occupational injuries are one of the major public health problems in the world. This is because the total consequence of occupational injury extends well beyond direct physical injury and includes a wide array of social and economic burdens (Smith and DeJoy, 2012). Work-related injuries are an important cause of morbidity and mortality, and much of the work-related injury burden can be found in industries requiring heavy manual work (Lee, 2012). Reports show that developing countries have the highest injury fatality rate, with 14 deaths per 100,000 workers due to occupational injuries (Uehli, 2014). This results in a loss of about 4% of the world's gross national product, and the impact is estimated to be 10–20 times more in developing countries (Yiha and Kumie, 2010). Several studies and theories have been employed to explain the factors that influence occupational injuries. Generally, the constraint-response accident model has been widely used in the construction literature (Suraji, Duff, and Peckitt, 2002). The theory suggests that each individual in the workplace plays a unique role and, in the course of executing those roles, is constrained by certain factors. Their response to these constraints also creates an additional set of constraints for other participants who depend on the formal's actions to act (Haslam, Hide, Gibb, Gyi, Atkinson, Pavitt, Duff, and Suraji, 2003). In particular, occupational injury is seen as a product of the interaction between management, organizational, and operational features. This theory is explained by two main constructs, namely proximal and distal factors. It argued that certain deficiencies in institutional activities could trigger an employee's action that could lead directly or indirectly to the occurrence of an accident and eventually to injury (Amissah, Agyei-Baffour, Badu, Agyeman, and Badu, 2019). Those deficient factors that directly increase an individual's risk of an accident are known as the proximal factors.

## CONCEPTUAL REVIEW

### Concept of Occupation

An occupation is a broad term that describes a field of career interest. An "occupation" is a general term that refers to the field or industry you are a part of or the work you are interested in. It can also refer to your role within an organization. Stating your occupation in an interview holds implications for you, your job, your profession, and your career in a single answer (Indeed Editorial Team 2021). An occupation is a work situation had by a person who has a specific field of interest and distinct skills that benefit that field. An occupation refers to an activity in which one engages the principals of business in their lives. Occupation refers to paid work. Occupational therapists recognize occupation in a broader sense. Crepeau et al. (2003) stated that occupation refers to the day-to-day activities that enable people to sustain themselves, to contribute to the lives of their families, and to participate in the broader society.

Whiteford, (2004) Occupations are fundamental to human health and well-being because they provide meaning, identity, and structure to people's lives and reflect society's values and culture. Because humans are occupational beings, occupations have therapeutic potential (Townsend & Polatajko, 2007). Occupation refers to the function of the fit or lack of fit among the person's skills and abilities, the demands of a particular occupation, and the environment in which the occupation is performed (Law & McColl, 2010). Occupation is defined as the pursuit of meaningful work that contributes to one's personal health and well-

being (Hasselkus, 2011). Occupation may be a way through which individuals interpret their lives and find a reason for their existence.

### **Concept of Occupational Injury**

An occupational injury refers to any personal injury, disease, or death resulting from an occupational accident. An occupational injury is therefore distinct from an occupational disease, which is a disease contracted as a result of exposure over a period of time to risk factors arising from work activity. An occupational injury is an injury that takes place in the course of a person's employment activities. It may be any kind of injury that results from the workplace, including illness or disease (Safeopedia 2019). Occupational injury refers to an unexpected and unplanned occurrence, including acts of violence, arising out of or in connection with work that results in one or more workers incurring a personal injury, disease, or death. Occupational accidents are to be considered travel, transport, or road traffic accidents in which workers are injured and which arise out of or in the course of work, i.e., while engaged in an economic activity, at work, or carrying on the business of the employer. The U.S. Bureau of Labor Statistics (2016) stated that occupational injury is any wound or damage to the body resulting from an event in the work environment. An occupational injury is the case of one worker incurring an occupational injury as a result of an occupational accident. An occupational injury could be fatal (as a result of occupational accidents and where death occurs within one year of the accident) or non-fatal with lost work time. According to Varacallo and Knoblauch (2021), occupational injury is any type of injury or illness that occurs to a patient as a result of his or her specific occupational demands or requirements. Occupational injuries or illnesses represent a substantial percentage of emergency department visits as well as primary care and subspecialty clinical practices.

An occupational injury is a personal injury, disease, or death that an employee suffers in the workplace. It is the result of an occupational accident. Put simply, it is an injury at work or resulting from working (MBN 2021). An occupational injury is not the same as an occupational disease. Occupational diseases are the result of exposure to risk factors arising from work activity over time. An occupational injury is bodily damage resulting from work. The most common organs involved are the spine, hands, the head, lungs, eyes, the skeleton, and skin. Occupational injuries can result from exposure to occupational hazards (physical, chemical, biological, or psychosocial), such as temperature, noise, insect or animal bites, blood-borne pathogens, aerosols, hazardous chemicals, radiation, and occupational burnout (CDC 2016). An occupational injury is any personal injury, disease, or death resulting from an occupational accident (Anonymous 2001). Occupational injury is when an employee is involved in a type of accident that results in physical harm, like an arm caught in an industrial lathe machine or a slip and fall on the workroom floor (Enjuris 2021). If a bodily injury can happen at a place of employment, then it can fall under this category.

### **Prevalence of Occupational Injuries**

In 2011, United States hospitals recorded 253,700 work related injuries and illnesses even more than the construction and manufacturing industries, two industries that are traditionally thought to be hazardous, according to the Bureau of Labour Statistics (BLS, 2014b). An estimated 100,000 people die from occupational illnesses while about 400,000 are diagnosed every year (Ajayi, et. al., 2006). From the 2014 reports of employee – reported injuries and illnesses, healthcare and social assistance sector recorded 612,500 injuries with a rate of 4.5 per 100 employees. In this report, the highest cause of injury was identified to be contact with

objects (23.8 per 10,000) followed by falls (18.8 per 10,000) and then over-exertion in lifting (11.0 per 10,000). Musculoskeletal injuries accounted for 32% of all employee reported injuries and illnesses in 2014 (BLS 2014a). In 2010, nursing aides, orderlies, and attendants had the highest rates of musculoskeletal disorders of all occupations, with an incidence rate of 249 per 10,000 workers as compared to an average rate of 34 per 10,000 for all workers in 2010 (OSHA, 2013a).

According to the Bureau of Labor Statistics (BLS), 27 out of 100 fatalities in healthcare & social settings that occurred in 2013 were assault & violent acts. Between 2011 and 2013, workplace assaults ranged from 23,540 and 25,630 annually, with 70 to 74% occurring in healthcare & social settings. For healthcare workers, assault comprises 10-11% of workplace injuries involving days away from work, as compared to 3% of injuries of all private sector employees. The workplace violence rates highlighted by BLS are corroborated by NCVS, which estimates that between 1993 and 2009 healthcare workers had a 20% (6.5 per 1000) overall higher rates of workplace violence than all other workers (5.1 per 1000). (3) Workplace violence in Medical occupations represents 10.2% of all workplace violence incidents. Studies have shown that workplace violence is under reported. Risk factors that may cause workplace violence to Healthcare Worker include but are not limited to the following according to NIOSH;

- Working directly with people who have a history of violence, abuse drugs or alcohol, gang members and relatives of patient.
- Transporting patients and clients
- Working alone in a facility
- Poor environmental design of workplace that blocks escape from a violent incident
- Poorly lit corridors, rooms, parking lots.
- Lack of means of emergency communication
- Prevalence of firearms, knives & other weapons among patients
- Working in neighborhood with high crime rates
- Working when understaffed
- Inadequate security

In 2011, United States hospitals recorded 58,860 work-related injuries and illnesses that caused employees to loss work, also workers in hospitals had incidence rate of 6.8 non-fatal occupation injuries & illnesses per 100 full-time workers in same year, compared to 3.5 per 100 in all United States industries combined. In the hospitals, injuries among nursing aides, orderlies and attendants were four times higher than other healthcare workers. Nearly 50% of reported injuries & illnesses among nurses and nursing support staff in 2011 were musculoskeletal disorders. According to a national survey with about 1000 hospitals in all 50 states in the United States, patient handling injuries accounted for 25% of all worker's compensation claims. Patient handling injuries are among the most expensive type of hospital worker injuries, in terms of wage replacement. An average hospital loses \$0.78 for every \$100 of payroll because workers' compensation must cover lost wages and medical costs. This amounts to about \$2 billion annually.

### **Age and Occupational Injury**

According to von Nordheim (2004) and Walker (2008), the ageing of the workforce has implications for the burden of work-related injury. Epidemiological research on work-related injuries has generally documented that the risk of injury decreases with age, in particular

among men (Centers for Disease Control and Prevention, 2010). Similarly, self-reported injury data shows an increased risk of injury associated with younger age (Safe Work Australia, 2012). However, analyses of the relationship between age and workplace injury using compensation claims records in the Australian state of Victoria show an increased risk associated with older age (Berecki-Gisolf, Clay, Collie, and McClure, 2012). This discrepancy could be due to older workers being more likely to report injuries for compensation purposes, even after the same injury (Schwatka, Butler and Rosecrance, 2013), to older workers having more severe work injuries (Smith, Bielecky and Mustard, 2013) or to older workers taking longer to recover from injury compared with their younger counterparts. The relationship between age and injury at work probably varies depending upon occupational conditions (Breslin and Smith, 2006). When certain occupational conditions are present, the excess risk among younger workers either may not be present or may be reversed. For example, a study of workers within the first month of employment in Ontario, Canada, reported that older workers had a slightly higher risk of lost-time injury than younger workers; although younger workers were at higher risk of injury after employment for more than 1 year (Breslin and Smith, 2006).

A more recent study from France reported that the impact of self-reported physical job demands on self-reported injury was greatest among workers aged 45 and older and lowest among workers aged under 30, suggesting an interplay between physical demands and age on the risk of injury (Chau, Bhattacharjee and Kunar, 2009). Benjamin, Pransky and Savageau, (2008) contend that older workers may not be able to reduce their work hours or switch to less physically demanding work without risking the loss of or a reduction in their pension and/or health benefits. Thus, older workers may find themselves in a difficult financial situation when deciding whether to remain in the workforce. If they continue working for financial reasons, they may be unable to perform the same tasks as well as or as safely as their younger counterparts. In addition, recent studies have reported that the relationship between age and risk of injury differs according to the nature of injury, with workers over 25 having a higher risk of musculoskeletal injury (Okunribido, Wynn and Lewis, 2012) as opposed to the more common pattern of higher overall injury risk among younger workers. Overall, the aging process can involve significant physical changes that challenge a worker's ability to perform physically demanding tasks without incurring injury.

### **Education and Occupational Injury**

It is well established that higher levels of education attainment improve chances of labour force participation and receiving higher income from labour force participation (Laplagne, Glover and Shomos, 2007). Studies have also investigated the need for those who sustain an injury to change their mindset and expectations of employment, and understanding of the importance of employment (Shaw, Segal, Polatajko and Harburn, 2002). As far as the specific area of safety educational training is concerned, research on its effects seems to have almost always focused on behavioural criteria or directly on the reduction of injuries (Bell and Grushecky, 2006). A number of studies have used a longitudinal design and compared the rate of injury or the frequency of prevention behaviours adopted by workers before and after a training program (Becker and Morawetz, 2004; Dong, Entzel, Men, Chowdhury and Scheneider, 2004). Others have conducted cross-sectional studies to compare the frequency of occupational injuries or unsafe behaviours of workers that have attended an educational training program with the same indicators measured for workers who have not had access to the same interventions (Materna et al., 2002; Spangenberg et al., 2003). Studies that have investigated the direct association between worker training and occupational injuries rates

(Bell and Grushecky, 2006; Dong et al., 2004; Johnson and Ruppe, 2002; Spangenberg et al., 2003) showed a real reduction in the latter as a result of the attendance. Only Bell and Grushecky (2006) found no difference in the number of injuries (calculated based on the number of compensation requests made to employers following an injury) before and after an educational training program involving a group of American wood cutters. The authors interpreted this lack of effect as possibly due to the high turnover among workers, which may have annulled the beneficial effects of the training. What consistently emerged in the studies that analyzed the effects of training on workers' occupational injury (Lingard, 2002; Materna et al., 2002) was a real correlation that showed that participation in educational training course reduces the frequency of occupational injuries (Becker and Morawetz, 2004).

## CONCLUSION

The study concludes that occupational injury is associated with advancing age. This discrepancy could be due to older workers' being more likely to report injuries for compensation purposes, even after the same injury. The relationship between age and injury at work probably varies depending upon occupational conditions. Thus, older workers may find themselves in a difficult financial situation when deciding whether to remain in the workforce.

## RECOMMENDATIONS

1. As far as the specific area of safety educational training is concerned, it is very imperative to give continuous education to older workers on how to cope with risk factors escalating occupational injury for safety purposes.
2. Any occupational injury should be given quick emergency response e.g first aid treatment before looking forward for further medication.

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