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Research Article

Explorative Research of Musculoskeletal Injuries of Burundi People Musculoskeletal Disorders in Burundi

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Abstract

Background: Musculoskeletal disorders are the common injuries which affect the main sectors of human life. They have negative impact on the athlete's performance, on health, economic, social, development, students' achievement and mental health. **The research aims** were exploration of relationship between work and human health. **This is an explorative research** with qualitative and quantitative approaches. The study sample were 131 subjects taken by random and they were from in the whole party of Burundi. The subjects were aged between 16-75 years, from in many various sectors jobs. The data collection technique was Google form, interview, and literature review. Data were analyzed with descriptive statistic. **The result** showed that 53,43% (70 subjects) from the surveyed population have have neck muscle pain, 49, muscle pain, 6,10% (8 subjects) have head muscle pain, 4,58% (6 subjects) have palme arm muscle pain.61% (65 subjects) have upper back muscle pain, 54,96% (72) have middle back muscle pain, 30,53% (40 subjects) have cheest muscle pain, 14,50% (19 participants) have abdominal muscle pain, 31,29% (41 persons) have low back muscle pain, 12,97% (17 subjects) have hips muscle pain, 19,84% (26 persons) have quadriceps muscle pain, 16,03% (21 subjects) have hamstring muscle injuried, 7,63% (10subjects) have soleus muscle pain, 10,68% (14 subjects) have gastrocnemius muscle injured, 3,81% (5 subjects) have ankle injured like sprain and strain; 5,34% (7 subjects) have underfoot muscle pain, 2,29% (3 subjects) have metatars muscle pain, 7,63% (10 subjects) have upper foot. **In conclusion** MSDs related to the work still in high level in Burundi.

Key words: musculoskeletal disorders (MSDs), upper extremity, low extremity

Introduction

Problems related to pathologies of the whole body can be examined in more than 150 examinations which affect the human locomotion system this is done on muscles, bones, ligements, neurons, and joints. (Jones, 2015). The limitation of the mobility of the joints, the generalized pain decreases the power of the men of working age which makes a weight drop in productivity. The problems of the body are classified according to their severity and duration of persistence. Fractures, sprains, and strains do not last the same time. (Campbell, 2017). The brittleness of the bones combined by osteoarthritis, back pain, neck pain, in general pain in the spine are much more common in older people but in people who work more than 8 hours a day with positions that do not allow comfort of health (Luan et al., 2018).

We can cite some traumas that are commonly localized on the human body such as: joint problem, osteoarthritis, polyarthritic disease, rheumatoid problem, psoriatic arthritis, next to that we will mention the problems related to the spine , pain in the neck, shoulder, elbow, wrist. The hips are used a lot by musculoskeletal problems because it is the most used part of the body during household activities. Knee problems for some people are a major challenge for human health (Jatinder Singh et al., 2020).

Problems with muscles, ligaments, bones, joints, and neurons can attack anyone young or old, in general physical disorders of the body can accompany a man if he does not take care of his own health. health to avoid the causes of physical aggressors of the locomotor system. At the same time the population grew more musculoskeletal problems. This is more common in developing countries because working and living conditions are not comfortable. it has been observed that the nature of the work, the environment, the long working time are the main causes of musculoskeletal disorders(Punchihewa & Gyi, 2016).

In 1997, the National Institute for Occupational Safety and Health (NIOSH) of the Centers for Disease Control and Prevention (CDC) discovered that housework like puffball, office work, mechanics, the small bolts that support people were the basis of musculoskeletal disorder. The study showed that the most common problems are back pain, neck, wrist, shoulder, elbow, hips, knees, and ankles. Muscle trauma is associated with higher costs resulting in huge drops in productivity in different areas of everyday life. Many studies have shown that repeated work should be avoided to ensure the maintenance of good physical and mental conditioning. (Rueckl et al., 2019).

In 2001, MSDs concerned a median of eight days away from work in contrast with 6 days for all nonfatal injury and illness cases (e.g., listening to loss, occupational pores and skin ailments such as dermatitis, eczema, or rash). Three age agencies (25–34 yr olds, 35–44 yr olds, and 45–54 12 months olds) accounted for 79% of cases. More male than female employees have been affected, as were extra white, non-Hispanic workers, Operators, fabricators, and laborers; and men and women in technical, sales, and administrative help occupations accounted for 58% of the MSD cases, The manufacturing and services enterprise sectors together accounted for about half of of all MSD cases (Xu et al., 2019). Musculoskeletal problems account for almost 70 million health practitioner workplace visits in the United States annually, and an estimated a hundred thirty million total fitness care encounters together with outpatient, hospital, and emergency room visits. In 1999, almost 1 million people took time away from work to treat and recover from work-related musculoskeletal pain or impairment of feature in the low again or top extremities (National Research Council and Institute of Medicine, 2001). The Institute in Medicine estimates the financial burden of WMSDs as measured by using compensation costs, misplaced wages, and misplaced productivity, are between $45 and $54 billion annually. According to Liberty Mutual, the largest workers' compensation insurance plan issuer in the United States, overexertion injuries-lifting, pushing, pulling, holding, carrying or throwing an object—cost employers $13.4 billion each and every year.

Many researches have been done in different pays to assess the effect of MSDs on the performance, health, product, economy, social and environment. Based on the result above and the observations done in the country of Burundi: (1)The prevalence of absent is very high in the different fields of jobs, (2) in some sectors aera there is a remarque of dropping productivity, (3) The high prevalence of people who visit the hospital is very remarked , (4) there no one research done, related to the impact of MSDs on the work in Burundi the reason why an Explorative Research of Musculoskeletal Injuries of Burundi People is very needed to be done in order to evaluate the level or the relationship which exist between MSDs and Works.

Methods

This is an explorative research with mix method qualitative and quantitative study. The sample of this study were 131 subjects taken by random and they were from in the whole party of Burundi Country. The subjects were aged between 16-75 years, they were from in many various sectors of jobs. The data collection technique was Google form, interview, and literature review. Data were analyzed with descriptive statistic.

Procedure

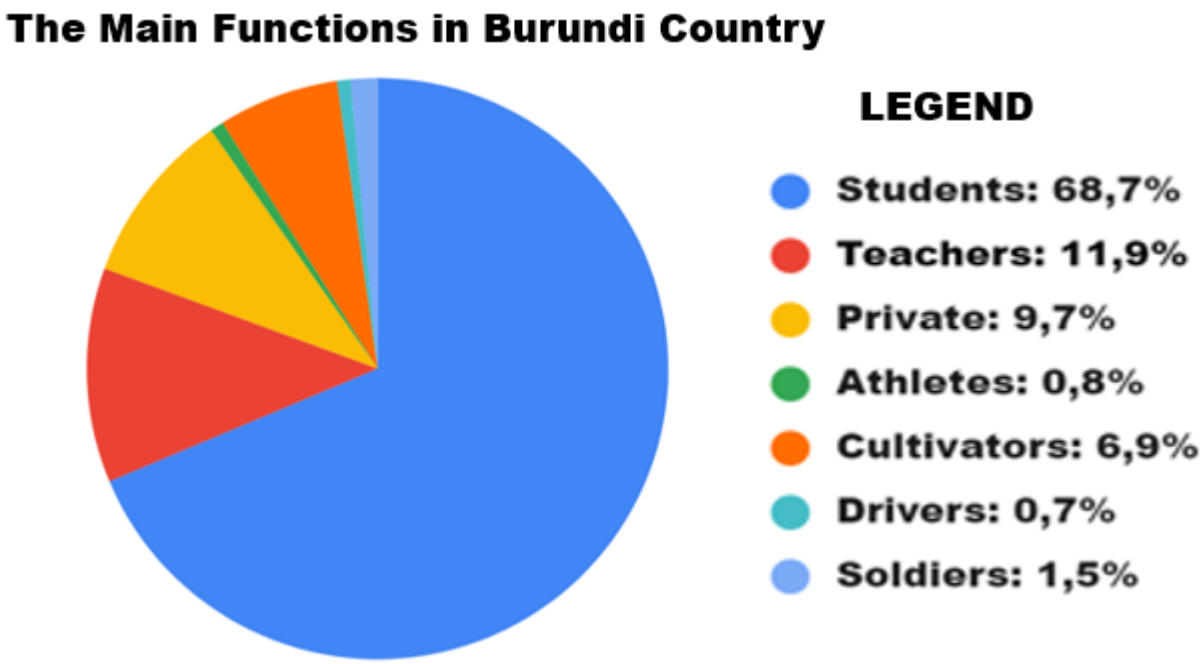
To assess the level or impact of work on the health, a Google form questions were conducted to know the connection or relationship between work and daily activity. People have to fulfill the questionnaire related to link between musculoskeletal and job, an interview of some of the subject was been conducted to rich more information about the effect of daily activity on health.

Result

The results were presented corresponding on the questions conducted in the google form in order to get the information about work and health. Thirst the researchers began to know the main function in Burundi Country. The result from the study showed the following:

a. The main function in Burundi Country

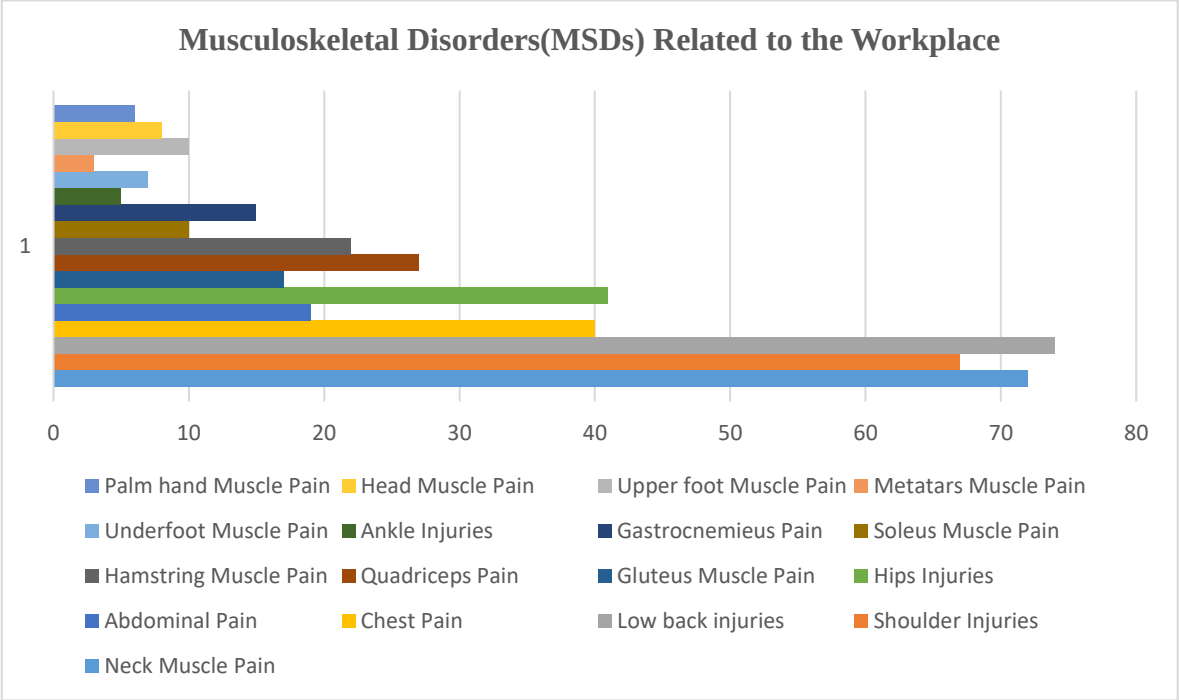
The below pie showed the main work in Burundi



According to the survey result, the study showed that the high prevalence of workers were students, these mains that in Burundi country most people still young and still at school, primary, secondary and different University of Burundi so 68,7% were students, 12,2% were teachers, 9,2% were private workers, 6,9% were cultivators, 1,5% were soldiers, 0,8% were athlete. The researchers investigated the main work in Burundi because they need to know the relationship between the work and health.

b. Musculoskeletal disorders caused by the work nature

The researchers did a survey lookup to assess the effect of the different sectors of work on human body health. The graphic bellowed illustrated the effect of work on the subject's health.



The result showed that 53,43% (70 subjects) from the surveyed population have have neck muscle pain, 6,10% (8 subjects) have head muscle pain, 4,58% (6 subjects) have palme arm muscle pain, 61% (65 subjects) have upper back muscle pain, 54,96% (72) have middle back muscle pain, 30,53% (40 subjects) have cheest muscle pain, 14,50% (19 participants) have abdominal muscle pain, 31,29% (41 persons) have low back muscle pain, 12,97% (17 subjects) have hips muscle pain, 19,84% (26 persons) have quadriceps muscle pain, 16,03% (21 subjects) have hamstring muscle injuried, 7,63% (10subjects) have soleus muscle pain, 10,68% (14 subjects) have gastrocnemius muscle injured, 3,81% (5 subjects) have ankle injured like sprain and strain; 5,34% (7 subjects) have underfoot muscle pain, 2,29% (3 subjects) have metatars muscle pain, 7,63% (10 subjects) have upper foot

Nevertheress the result showed that high prevalence of musculoskeletal disorders was found on neck muscle pain with 19,8% from the the whole musculoskeletal disorders of human body surveyed. It was at the same level with back muscle injured with 19,8%, precceed by scapula muscle pain (14,5%), next hips muscle pain with 12,2%, cheest muscle pain with 9,2% from the total of human body injured surveyed, the last was quadriceps muscle pain with 8,4% from the whole MSDs surveyed.

It is most typically brought on by way of an injury to the bones, joints, muscles, tendons, ligaments, or nerves. This can be prompted by way of jerking movements, automobile accidents, falls, fractures, sprains, dislocations, and direct blows to the muscle. Musculoskeletal anguish can also be triggered thru overuse

When an employee is asked to do work that is outside his body's talents and limitations, he is being requested to put his musculoskeletal device at risk. In these situations, a aim distinction of the laptop computer sketch tells us the worker's restoration computing device will not be able to hold up with the fatigue that will be prompted by way of performing the job. The assessment will inform us that ergonomic risk elements are present, the worker is at hazard of creating a musculoskeletal imbalance and a musculoskeletal disorder is an coming near near reality. Many work duties and cycles are repetitive in nature, and are frequently controlled with the aid of hourly or day by day production ambitions and work processes. High assignment repetition, when blended with other dangers elements such high force and/or awkward postures, can contribute to the formation of MSD

Besides hazard factors associated to work other risk elements make contributions to its development, mainly factors intrinsic to the employee and elements unrelated to work. A hazard trouble is any supply or nation of affairs with the plausible to motive injury or lead to the improvement of a disease. The vary and complexity of the factors that make a contribution to the look of these issues explains the difficulties regularly encountered, to decide the first-rate ideal ergonomic intervention to be carried out in a given workplace, to manipulate them. Moreover, regardless of all the handy appreciation some uncertainty stays about the diploma of publicity to threat elements that triggers WMSD. In addition, there is giant variability of personality response to the danger factors exposure.

Discussion

Based on the result above, it seems that the nature of work was the main cause of MSDs in Burundi Country. 47,3% from the surveyed population attested that they worked more than 9 hours per day, which is strong factor in causing MSDs, for example some people like students take long time in sitting position and by consequence they are facing from high level of neck, and back muscle injured. 48,1% from the surveyed subjects worked between 6-8 hours this is also no neglect time if people still in sitting position during longue time they might suffer from MSDs.

Many researches showed that the number of jobs in which workers routinely lift heavy objects, are exposed on a daily basis to whole-body vibration, routinely perform overhead work, work with their necks in chronic flexion position, or perform repetitive forceful tasks is unknown. While these exposures do not occur in most jobs, a large number of workers may indeed work under these conditions (Jin et al., 2011). Over 40 epidemiologic studies have examined physical place of work factors and their relationship to neck and neck/shoulder musculoskeletal issues (MSDs). Among these research are these which fulfil rigorous epidemiologic criteria and as it should be tackle vital troubles so that causal inferences can be made. In Burundi also work was found as the most cause of MSDs, from observation the research can conclude the materials in the work place were not corresponding to the ergonometric size. The researchers cited like the chairs used by students, office materials were not in good condition the raison why most people who were strong suffering from MSDs were students first because they use more than 9 hours per day.

The majority of research involved working agencies with a aggregate of interacting work factors, but sure studies assessed precise work factors. Each of the research we examined (those with negative, positive, or equivocal findings) contributed to the ordinary pool of records for us to use in assessing the energy of the work-related ness using causal inference (Bernard, 1997). Almost forty million people in Europe suffer from musculoskeletal disorders (MSDs) of the limbs and the back; according to these disorders account for almost 60% of work-related health problems, and are therefore the most frequent occupational ailment in the European Union (EU). They are a corollary of the intensification of working prerequisites which is becoming ever extra sizable in each the industrial and carrier sectors. Their impacts, which encompass no longer only suffering and employment disruption on the part of victims but additionally economic costs, have secured their position as an occupational fitness precedence for the EU, and in 2007 the European Commission carried out a session on potential countermeasures (including EU-wide legislation). Yet even though MSDs have been recognized as a priority via the EU Member States and the European social partners (Roquelaure, 2019). In Burundi the study showed that 77,1% from the whole population surveyed have ever sometimes absent on their different professional services, this one attested that not only in the broad where MSDs is in high level but also in Burundi still need a kind of improvement in hand of ergonometric materials.

One lookup performed confirmed that the negligence involved in musculoskeletal disease (MSD) at development web sites consequences in high quotes of muscle injuries, MSD is the ideal contributor to world disability, accounting for 16% of all years lived with disability; decrease returned pain is the single most important purpose. In South Korea, the percentage of humans aged 50 years or older used to be 25% in 2010 and this fee is predicted to exceed 33% in 2020. Workers struggling from MSDs consist of aged improvement craftsmen uncovered to extreme vibrations, development and mining technicians, and building ending workers (61.3%, 47.8%, and 46%, respectively). The prevalence of chronic MSDs and degradation of physique components attributed to getting older may also lead to diminished bodily labor capability. The frequency of again pain, upper extremities, and limit extremities and fatigue

are chronically excessive in construction workers, about 30.7%, 61.3%, 49.2%, and 35.6%, respectively (Palikhe et al., 2020). Daily routines require activities such as bathing, grooming, getting dressed and undressed, making ready meals, walking again and forth, and being able to use the rest room besides assistance. When these activities are truly routine, they are barely noticeable. But when issues such as again or neck pain, arthritis, or rheumatism intervene with the ability to perform these tasks, they can end up extremely limiting (Www.boneandjointburden.org, 2016). Adult musculoskeletal issues (MSD) such as neck and low again ache have been broadly suggested as being of considerable health and economic problem in industrialised international locations (Grimes & Legg, 2004).

Different varieties of information therapy, or mobilization, can be used to treat human beings with spinal alignment problems. For some acute musculoskeletal pain, these strategies have been tested to tempo recuperation. Out of 5 hundred and sixty-eight dental college students who participated in the study, 410 were in their clinical years even as 158 had been college students in their non- medical years. Ninety three percent of the scientific 12 months students mentioned signs and symptoms of WMSD in one or extra physique regions. Female college students said a substantially greater numbers of signs in contrast to male students. The neck (82%) and decrease back (64%) were said to have the best incidence of WMSD. Discomfort in the neck location used to be found to be associated with self-reported frequency of bending of the neck. A majority of college students (92%) pronounced minimum participation in workshops associated to ergonomics in dentistry and 77% have been unfamiliar with treatment and redress on hand in the case of WMSD (Khan & Yee Chew, 2013). To achieve everything in different sectors of jobs mental health dan physical cannot be separate the raison why MSDs have more negative impact on achievement (Reardon et al., 2019). In Burundi MSDs have more impact on student's achievement, professional service. The later study showed degenerative diseases were also the strong cause of MSDs then the researchers can cite: hypertension, hypotension, stroke, cholesterol, eye illness.

Conclusion

MSDs in Burundi was found with high level, it has many impact on human health, student's achievement, economic, social. The current situation in Burundi has marked that this field has been neglected in research while it has a strong factor in the development. Burundi still need the improvement of the service materials, people need to manage the time whether most of them work more than 9 hours per day, at the end the study care out that most people do not have time for sport.

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Conflict of interest

This research has no conflict of interest.

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