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To Examine Musculoskeletal Disorders and Health-Related Quality of Life among Bank Employees in Jimma Town, South West Ethiopia

Dheeraj Lamba^{1*} Rebecca Moren²

^{1*}Head and Associate Professor, Department of Physiotherapy, Faculty of Medical Sciences, Institute of Health, Jimma University, Jimma, Oromia, Ethiopia Corresponding Author Email: dheeraj.lamba@gmail.com

²Nursing Supervisor cum Hospital Supervisor/Supply Chain Manager, Negele Arsi General Hospital and Medical College, Negele, West Arsi, Oromia, Ethiopia

¹ORCID ID: <https://orcid.org/0000-0002-7803-015X>

²ORCID ID: <https://orcid.org/0000-0002-3319-2235>

Abstract

Objectives The purpose of this study is to examine Health Quality of Life and determine the frequency of musculoskeletal illnesses associated with job among bank workers.

Materials and Methods: 175 purposive sample size was used to choose participants who fit the inclusion criteria and were between the ages of 25 and 50. The Nordic Questionnaire for Musculoskeletal Disorders and the SF-36 for Health Quality of Life were administered to the participants.

Results: The study's findings indicated that emotional elements had a stronger correlation with health quality of life, and musculoskeletal issues most frequently affected the lower back.

Conclusion: This study revealed that bankers' emotional states had an impact on their physical and mental well-being, with vigorous physical functioning improving these outcomes. The majority of patients had a higher frequency of musculoskeletal problems in the lower back region.

Keywords: Health Quality of Life, Banking, Musculoskeletal Disorders.

Article History

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Introduction

Musculoskeletal diseases (MSD) affect almost all businesses and professions, posing a risk to workers' health and finances as well as relationships, industries, and management¹. Musculoskeletal disorders, which affect several body parts, are one of the main concurrent causes of in-service illnesses, according to the Finnish Institute of Occupational Health². According to the Department of Labor's Work-Related Safety and Health Administration in the United States, musculoskeletal disorders are a major cause of missed work hours. This study indicates that a significant portion of American workers experience MSDs connected to their jobs, including carpal tunnel syndrome, tendinitis, shoulder, and back pain.

The Canadian Centre for Occupational Health and Safety describes MSDs as a concerning issue that causes a rise in absenteeism, financial losses, and a decline in productivity⁴. "Health problem of the locomotor device i.e. muscle, tendon, bone, cartilage, ligament, and nerves," according to the WHO, describes MSD⁵. This includes all objections, ranging from modest, transient discomforts to long-term, crippling injuries. How well a person functions in their life and his or her perceived wellbeing in physical, mental, and social domains of health" is the definition of health-related quality of life. There are multiple entities in the definition itself. This has been evaluated in a number of professions.⁵⁻⁷

Health-related a multifaceted notion, quality of life encompasses aspects of mental, emotional, social, and physical functioning. The SF36 is a reliable tool for evaluating health quality of life. A questionnaire known as Short Form 36 is used to assess multiple factors. Physical functioning, role limitations in the physical and emotional domains, general health perceptions, vitality, physical discomfort, role limitations in the social domain, mental health, and health transition are among the several components.⁸⁻¹⁰

The Standardized Nordic questionnaire, which consists of a total of twenty-seven items regarding physical pain, discomfort, and the presence of handicap in various body parts during the previous seven days and the previous year, can be used to determine the prevalence of musculoskeletal illnesses.¹¹⁻¹⁵ The purpose of the study is to ascertain whether bank workers who work in the computer department are prone to musculoskeletal problems and researching bankers' health-related quality of life.

Objectives of the Study

- Ascertain the frequency of musculoskeletal disorders associated with work among bank workers employed in the computer department.
- To determine the degree of life quality related to health.
- To evaluate one's physical health.

Materials and Methods

Study Design:

Cross Sectional Study.

Study Setting:

Data for the study will be collected from different banks (Government and Private) of Jimma Town.

Population and Sampling:

- Banking employees working on desktop computers only
- Sampling method: Purposive sampling
- Sample size: 175

Selection Criteria:

Inclusion criteria:

- Both males and females.
- An employee working in bank more than one years
- Age between 25- 50 years healthy individuals.
- Full time workers.
- Bank employees working in computer section.
- Minimum workload of 40 hours/week.

Exclusion criteria:

- Subjects suffering from Hypertension and Diabetes Mellitus.
- Any past surgical history.
- Workload if more than 40 hours/week.
- Subjects suffering from any previous musculoskeletal disorder before joining the bank

Outcome Measures

- Nordic Questionnaire.
- SF 36

Data Collection

After obtaining ethics committee approval for the proposed study, all participants were screened based on inclusion/exclusion criteria and outcome measures. Data was collected and descriptive analysis was done to check the normality of the data and it will be done by using SPSS Software.

Data Analysis

All the data was calculated using SPSS version 23. Components of SF 36 questionnaire were calculated by descriptive analysis.

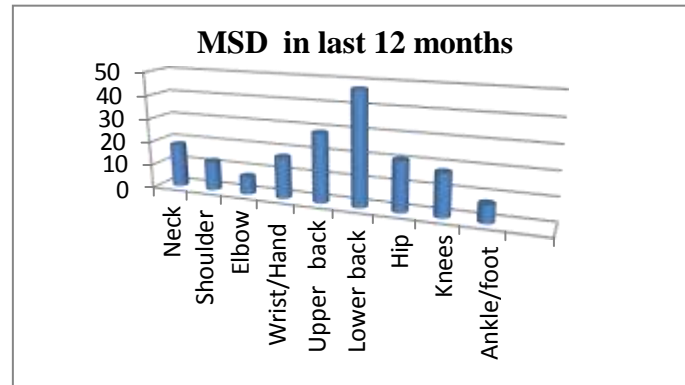
Results

Table 5.1 SF. 36 components descriptive analysis

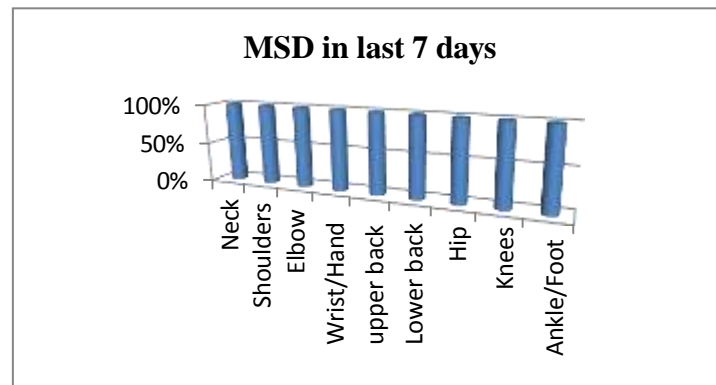
COMPONENTS	MEAN	SD
Age	35.38	7.64
Active Physical Functioning	73.84	23.86
Role Limitation /Physical Problems	49.85	40.74
Role Limitation / Emotional Problems	45.23	42.94
Energy/Fatigue	52.82	17.01
Emotional well Being	64.45	12.06
Social Functioning	56.02	22.95
Pain	66.27	19.92
General Health	56.63	21.98
Health Change	50.54	24.08

The quality of life for 175 participants is displayed in the above table by the specified SF36 component. Limitations of roles The factors affecting the quality of life were ranked highest in the above table by emotional problems (45.23), followed by health transition (50.54), role limitation owing to physical problems (49.85), vitality (52.82), social functioning (56.02), general health (56.63), emotional well-being (64.45), pain (66.27), and active physical functioning (73.84).

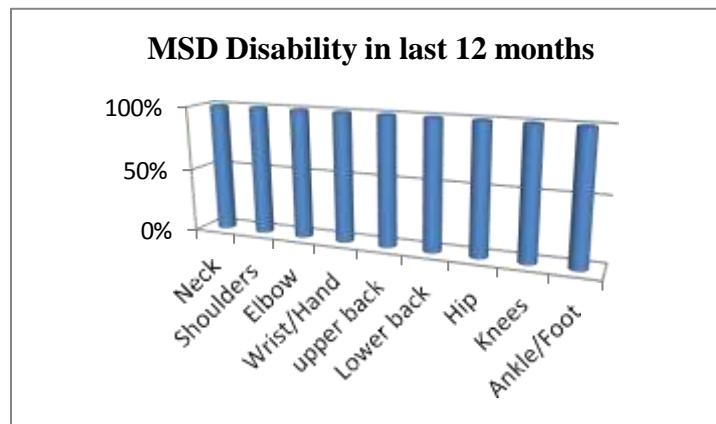
Figure 1 Musculoskeletal disorder related disability percentage by Nordic Questionnaire



The percentage values of the various joints in the body that bank workers have had pain in during the past 12 months are displayed in the above figure. Participants with lower back issues made up 46% of the sample, compared to 27% for upper back issues and 18.0% for neck issues. Shoulders (12%), wrists/hands (18%), hips (23%), and knees (18%) were all almost equally impacted. Additionally, with a proportion of 7%, the remaining body parts, such as the elbows and ankle/foot, were the least affected.

Figure 2 Musculoskeletal disorder percentages by Nordic Questionnaire

The percentage values of the various bodily joints that bank employees have experienced pain in during the past seven days are displayed in the above figure. Lower back pain (40% of participants) was most common, followed by neck pain (22%), upper back pain (22.5%), knee pain (22%), and wrist and hand (17%) discomfort. However, the participants' percentages of Hip (24%) and Shoulder (9%), which were the least common, were followed by Elbow (7.5%) and Foot/Ankle (7%).

Figure 3 Musculoskeletal disorder percentages by Nordic Questionnaire

The percentage values of the various bodily joints afflicted by bank workers over the course of the previous 12 months are displayed in the above figure. Over a 12-month period, the biggest percentage of patients experienced low back pain (40%) followed by hip pain (31%), knee pain (29.5%), upper back pain (28.5%), and neck pain (26%). Conversely, the bankers' least affected body parts were their elbows (12%), wrist/hand (17.5%), ankle/foot (20%), and shoulder (15%). In the current study, the SF-36 questionnaire was used to assess bank workers' health quality of life and the Nordic Questionnaire was used to investigate the prevalence of musculoskeletal disorders.

Physical Functioning, with a mean value of 73.84, is the first component of health-related quality of life that was not significantly impacted. The second factor is role limitation brought on by health issues, which also had an impact (49.85). The third factor, role limitation brought on by emotional issues (45.23), has had the biggest impact on each participant's SF36 health and quality of life. Fatigue/Energy is the fourth element of SF 36 (52.82). Emotional well-being was the sixth factor (64.45). Social functioning was the eighth element (56.02). General health was the eighth component (56.63). Health transition was the ninth component (50.54). Higher mean values are indicative of better health quality of life, while lower mean values are indicative of worse health quality of life.

In order to examine musculoskeletal diseases in bankers during the past 12 months, last 7 days, and MDS-related disability over the past 12 months, the current study was conducted. Over the previous seven days, the lower back (40%) was the most affected region, followed by the neck (22%) and upper back (22.5%), and the knees and wrist/hand (17%), in that order. Examining the prevalence of musculoskeletal illnesses during the past 12 months, we discovered that the lower back (47%) was the most affected region, followed by the upper back (27%) and the neck (18%). While the effects on the hips (20.5%), knees (18%), wrists/hand (17.5%), and shoulders (12%) were almost comparable. Additionally, with a percentage of 7.5%, the other body parts, such as the elbows and ankles and feet, were least impacted. When considering the incidence of MSD Disability during the previous 12 months, the lower back was also the most impacted, accounting for 40%, followed by the hips (31%). The third most affected area was the knees (29.5%), which were followed by the upper back (28.5%), the neck (26%), the foot/ankle (20%), the shoulders (15%), and the elbows (12%).

Discussion

The current study used the Nordic questionnaire to investigate the prevalence of musculoskeletal illnesses and the SF 36 to measure the quality of life among bankers. There were 100 male and 75 female participants in the current study who worked in the banking industry. An increased frequency of symptoms involving the neck and upper extremities has been linked to the increased use of computers, keyboards, and mice in recent years. The layout of the workplace, using computers nonstop during the working day, and laborious computer tasks like data entry have all been linked to an increased risk of musculoskeletal condition symptoms. The prevalence of musculoskeletal problems is so high that they have the potential to be crippling; undermining the availability of healthcare resources and imposing significant costs on businesses and society

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Lower back, hips, and upper back were the most frequently affected body parts in MSD cases. In their investigation, Adegoke BO et al. reported a 69.8% incidence rate for lumbar the percentage of work-associated MSD in the lumber region increased as a result of labor linked to patient transfers, accounting for 31.1% of cases for the neck, 22.2% of cases for the shoulder, and 20.6% of cases for the hands and wrist.²² The survey includes personnel, both male and female, from the

public and commercial sectors. There are various factors that impact bankers' health-related quality of life (HRQoL). Both a physical and an emotional component make up SF 36 most of the time, role limitations brought on by emotional factors lower the quality of life in terms of health. The bankers' performance is impacted by emotional pressures. The HRQoL may be lowered by workplace psychosocial elements such organizational culture, the safety and health environment, and human factor.^{21, 23}

Worldwide, MSDs are prevalent among computer users, and research has indicated that bank employees are also affected. According to the current study, bankers' lower backs were the most affected during the study's 7-day period, and during the previous year, MSD disability was primarily seen in the lower back. MSD A disability suggests that one is unable to perform daily tasks, such as housework, hobbies, and jobs. The results unequivocally show that the bankers' physical discomfort and exhaustion contributed to a variety of disabilities⁷. Exercise has a crucial function in building muscle strength. If muscles are sufficiently strong, the incidence of MSDs related to the workplace is reduced, which will also improve HRQoL.

Conclusion

According to the results of this study, emotional issues had an impact on the bankers' health quality of life, although pain and emotional well-being had less of an impact, and vigorous physical functioning improved the bankers' health quality of life. When compared to other areas such as the upper back, hip, knee, ankle/foot, shoulders, elbow, wrist/hand, and neck, the prevalence of musculoskeletal disorders stayed consistent on the lower back over the course of the last year and seven days. Additionally, the lower back area also showed MSD-related disability in the past 12 months. These findings suggest that the majority of study participants experienced pain in their lower back.

Ethical Consideration

Informed consents were secured from each participant by explaining the purposes and the importance of the study. Respondents have the right to refuse or withdraw from participation at any time. Confidentiality of information collected from each study participant was maintained.

Data and Materials Availability

All data associated with this study are present in the paper.

Acknowledgement

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Competing Interests

Authors have declared that no competing interests exist.

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The study did not receive any external funds.

Authors' Contributions

This work was carried out in collaboration among the authors. Both the authors played a key role in carrying out the study to a fruitful outcome. Ethical approval, implementation of the research, and data collection were done by the first author. Study design, data analysis, and interpretation with proof reading were done by the second author. Both the authors also contributed in conceptualization of the research, revisions of the article and final approval of the version to be published.

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