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Prevalance of Work-Related Musculoskeletal Disorders in Gold Shop Salesperson

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Abstract:-

- ***Musculoskeletal Disorders (MSDs):***

Disorders of the muscles, nerves, tendons, ligaments, joints, cartilage, or spinal discs. Work- related musculoskeletal disorders (WMSDs) are a group of painful disorders of muscles, tendons, and nerves caused due to the work posture work demand and adaptations at the workplace. Job of salesperson in gold shop is to stand for long duration with minimal break hours. This study will help to determine the prevalance of work related musculoskeletal in gold shop salesperson using, the Nordic Musculoskeletal Questionnaire (NMQ).

- ***Objective:***

To find the prevalence of Work-related musculoskeletal disorders (WMSD) in gold shop salesperson. To find which joint is more affected. A sample of 385 was taken in cross-sectional study.

- ***Result:***

Pain experience by participant during last 12 months in which neck 5 participants, shoulder 3 participants, lower back 290 participants , hips and thigh 134 participants ,knees 305 participants , ankle 192 participants.

- ***Conclusion:***

The study suggest that there is prevalence of work related musculoskeletal disorders in gold shop salesperson, with severely affecting knee joint and lower back and moderately affecting ankles and hips/thigh.

Keywords: *Pain, Musculoskeletal Disorder, Salesperson, Standing Job.*

I. INTRODUCTION

Musculoskeletal disorders (MSDs) are a significant cause of physical limitation affecting humans around the globe. MSK disorders will make a greater contribution to the global burden of disease. MSDs can cause severe physical impairment, pain, and can greatly alter the psychosocial status of the affected individuals.[1]

MSDs can be work-related. The World Health Organization (WHO) defines MSDs as "multifactorial, with work contributing significantly, though not exclusively, to causing the disease. Work -related musculoskeletal disorders (WMSDs) can result from or be worsened by recurrent, vigorous, or prolonged work activities with inadequate recuperation. [2]

Approximately 20%–30% of people worldwide live with a musculoskeletal condition.[3]

In a cross-sectional study investigating 156 workers in 30 clinical laboratories in Iran in 2014, the prevalence of reported WMSDs in past 12 months was 72.4%. [4] In the Saudi Arabian context, a study conducted in Riyadh determined the prevalence of WMSDs among physiotherapists, the results revealed that 81% of the physiotherapists were affected.[5]

The prolonged standing posture during work affects the risk of developing musculoskeletal disorders of the lower limbs, especially in lack of alternative sitting. The work of sales assistants in the apparel retail sector is characterized by the prolonged standing posture which accounts for more than 80% of the work shift duration, alternation with walking phases occurs according to assigned tasks and work organization.[6]

Gold shop salesperson have standing job for more than eight hours a day. As they are more prone in landing up to Work- related musculoskeletal disorders. The musculoskeletal disorders among the workers engaged in jewellery manufacturing were found to be specific to the occupation. The prevalence rate of various WMSDs is not reported well in literature for the sales person engaged in Goldshop. Even though, large number of workforce is engaged, and the profession is engaged in substantial economic activity, goldshop sales person has received very little attention with reference to occupational health related problems, especially MSDs.[7 8]

Jobs in prolonged standing has contributed numerous health effects such as work-related musculoskeletal disorders, chronic venous insufficiency, preterm birth and spontaneous abortion, and carotid atherosclerosis. [9]

The Nordic Musculoskeletal Questionnaire (NMQ) was developed from a project funded by the Nordic Council of Ministers. The aim was to develop and test a standardized questionnaire methodology allowing comparison of low back, neck, shoulder and general complaints for use in epidemiological studies. The tool was not developed for clinical diagnosis.[10]

The NMQ can be used as a questionnaire or as a structured interview. However, significantly higher frequencies of musculoskeletal problems were reported when the questionnaire was administered as part of a focused study on musculoskeletal issues and work factors than when administered as part of a periodic general health examination.[11]

This questionnaire can be used to assess musculoskeletal disorders of different parts of the body in epidemiological studies. Implication for Rehabilitation the Nordic Musculoskeletal Questionnaire can be used for screening of musculoskeletal problems in different body regions in epidemiological studies.

II. NEED OF STUDY

Occupation stress is one of major health hazards of the workplace. Musculoskeletal disorders have greater contribution to the global burden of disease.

As studies have been reported positive associations between prolonged standing and musculoskeletal symptoms, so it is important to know the dimensions and characteristics of musculoskeletal symptoms whether they exist or not and if exists to understand how it is and to increase awareness and to design interventions among them. As it is observed gold shop salesperson have to stand for more than 8hours/day and no study is been found in gold shop salesperson.

This study will help to know if is there any prevalence of WMSD in gold shop salesperson and if their will act base for further interventional studies to treat musculoskeletal disorders.

➢ *Aim:*

To find prevalence of work-related musculoskeletal disorders in gold shop salesperson.

➢ *Objective:*

- To find the prevalence of Work-related musculoskeletal disorders (WMSD) in goldshop sales person.
- To find which joint is more affected.

➢ *Methodology:*

- Study area – Pune
- Study type – Observational study
- Study design – cross section study
- Sampling subject – gold shop salesperson
- Study duration – 6 months
- Sample size - 385
- Sample technique – Purposive sampling
- Study material- Pen, Paper, Nordic Musculoskeletal Questionnaire

➢ *Outcome Measures:*

The Nordic Musculoskeletal Questionnaire.

- Validity: 86%
- Reliability: 0.945

➢ *Inclusion and Exclusion Criteria*

- *Inclusion Criteria:*

✓ Both gender,
✓ Work duration more than 10 hours/day, working alteast from last 12 months,
✓ Age 18 – 40 years,
✓ Willing to participate.

- *Exclusion Criteria:*

✓ Any diagnosed musculoskeletal condition,
✓ Recent musculoskeletal trauma,
✓ Any diagnosed neurological or cardiovascular conditions,
✓ Any gynecological conditions.

➢ *Procedure:*

- Ethical approval was taken.
- Subjects were chosen on inclusion and exclusion criteria.
- Procedure was explained to subjects.
- Informed consent was taken.
- The scale was explained to the participants.
- Then the data was collected and was analysed further.

III. DATA ANALYSIS AND INTERPRETATION

Table 1 The table shows Count of Participants 213 Males and 172 Females

Gender	Participants
Male	**213 (55%)**
Female	**172(45%)**

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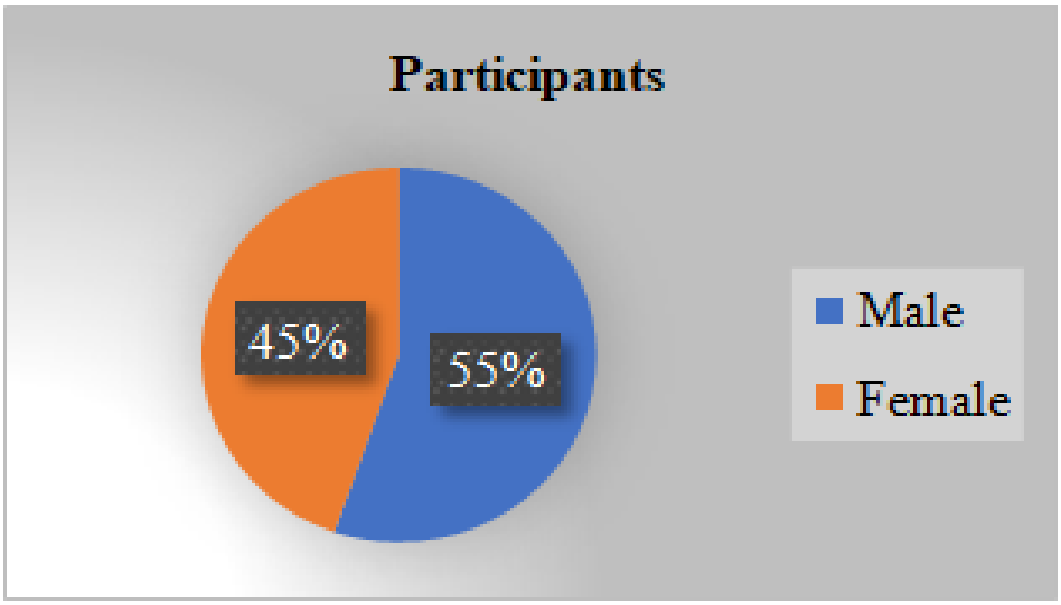

Fig 1 No. of Males and Females

Table 2 shows Pain Experience by Participants During Last 12 Months.

Joints	Participants(%)
Neck	5(1.2%)
Shoulder	3(0.77%)
Upper back	0
Elbow	0
Wrist/hands	0
Lower back	290(75.32%)
Hips and thigh	134(34.8%)
Knees	305(79.2%)
Ankle & feet	192(49.8%)

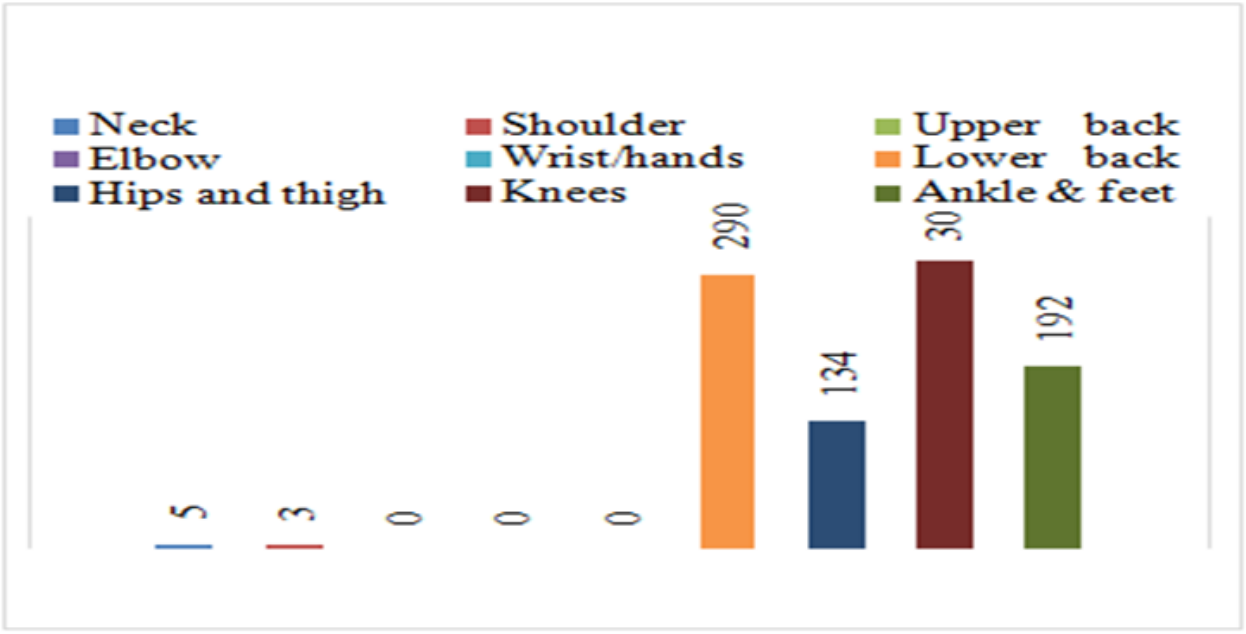

Fig 2 Pain Experience by Participants during Last 12 Months.

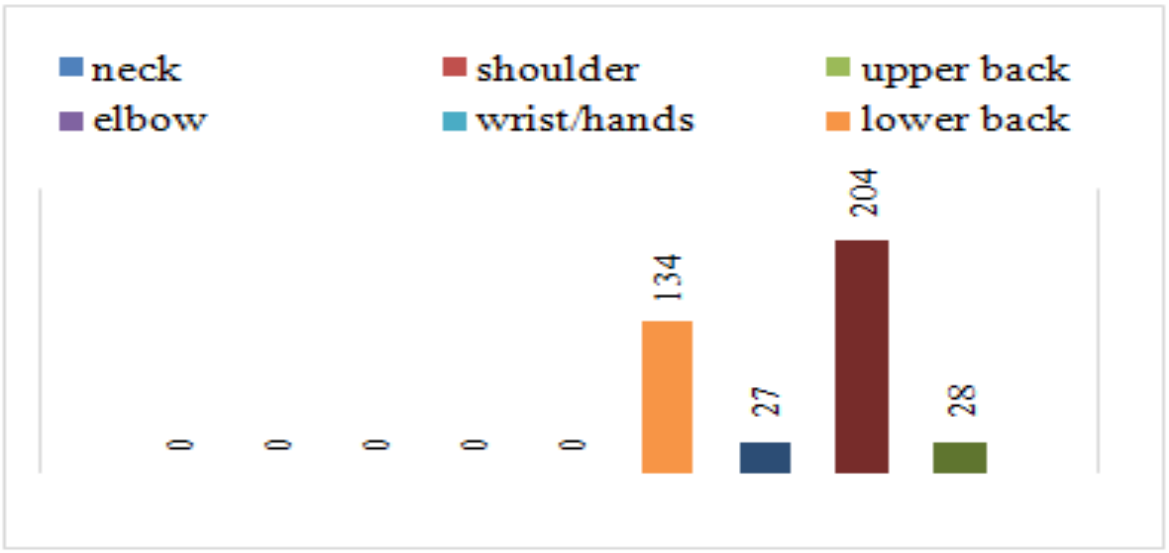

Fig 3 shows Participant were Prevented from doing Activities due to Pain During Last 12 Months

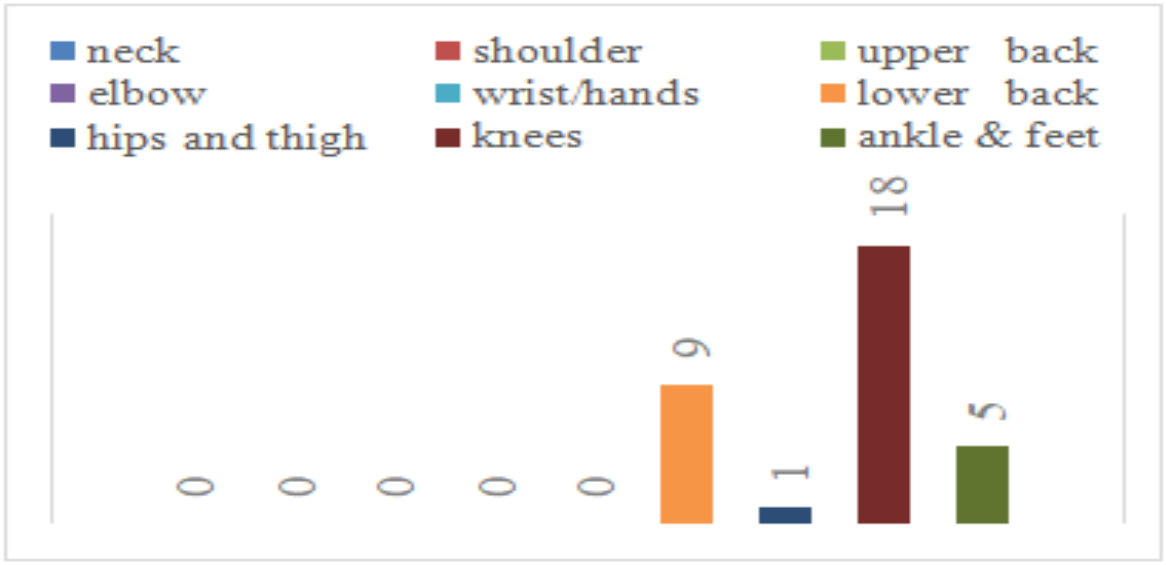

Fig 4 shows Participant who Visited Physician due to Pain during Last 12 Months

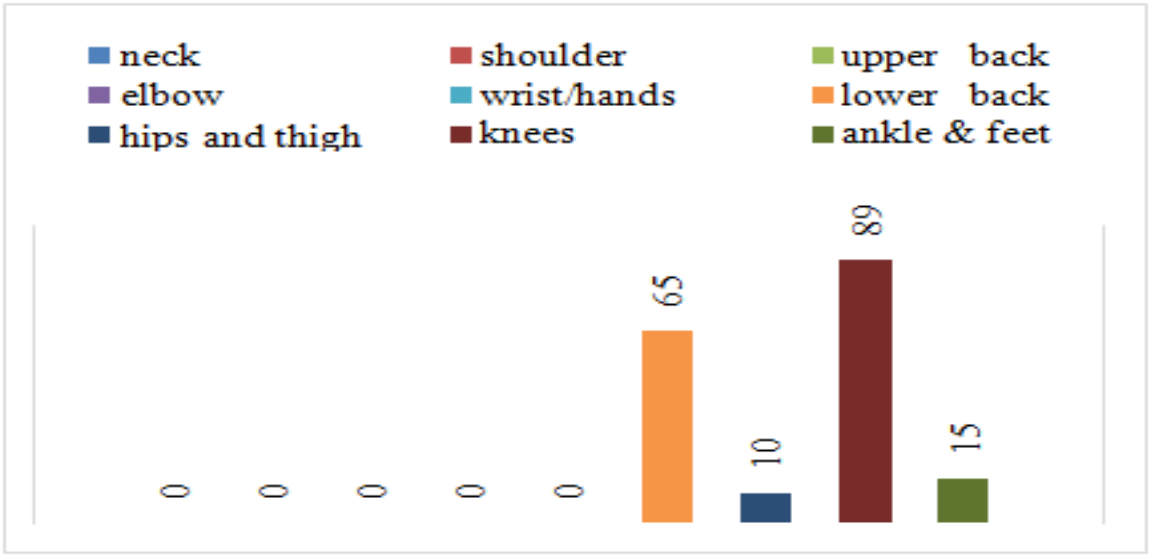

Fig 5 shows Participant were having Pain During Last 7 Days

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IV. RESULTS

➢ *The Study of Total 385 Participants aken 213 Males and 172 Females:*

- Figure 1 show total of 385 participants out of which 45% are female and 55% are male. The table shows count of participants i.e. 213 malesand 172 females.
- Figure 2 shows pain experience by participant during last 12 months in which neck 5 participants (1.29%), shoulder 3 participants(0.71%), lower back 290 participants (31%), hips and thigh 134 participants (14%), knees 305 participants (33%) ankle 192 participants (21%) experienced pain while upper back, elbow and wrist was experienced by 0 participants.
- Figure 3 shows participant were prevented from doing activities due to pain during last 12 months in which lower back 134 participants, hips and thigh 27 participants, knees 204 participants, ankle 28 while neck, shoulder, upper back, elbow and wrist and hand accounts 0 participants.
- Figure 4 shows participant who visited physician due to pain during last 12 months in which lower back 9 participants, hips and thigh 1 participant, knees 18 participants, ankle 5 while neck, shoulder, upper back, elbow and wrist and hand accounts 0 participants.
- Figure 5 shows participant were having pain during last 7 days in which lower back 65 participants, hips and thigh 10 participant, knees 89 participants, ankle 15 while neck, shoulder, upper back, elbow and wrist and hand accounts 0 participants.

V. DISCUSSION

The aim of the study to find the prevalence of Work-related musculoskeletal disorders (WMSD) in gold shop salesperson and to find which joint is more affected.

This project was done in 6 months with sample size of 385 participants.

The population included both males and females working in gold shop as salesperson who all were having working hours of more than 10hours/day working around PCMC,PUNE.

Work-related musculoskeletal disorders (WMSDs) can result from or be worsened by recurrent, vigorous, or prolonged work activities with inadequate recuperation.

Musculoskeletal disorders (MSDs) are a significant cause of physical limitation affecting humans around the globe. MSK disorders will make a greater contribution to the global burden of disease. MSDs can cause severe physical impairment, pain, and can greatly alter the psychosocial status of the affected individuals.

Many workers are required to stand for long period of time without being able to sit during the work shift, during 10 – 11 hours of the job and break of 1hour in between, Due to standing the weight distribution is on both the legs and pressure is increased on spine which leads to pain. Some specific reasons of lower back pain includes sprains from stretched ligaments which have land up to pain in low back, hips, knees and ankles.

In a study by McCulloch J in 2002, summarized findings from 17 studies that involved standing for more than 8 hours per day. Major health risks identified were musculoskeletal pain of the lower back and feet, chronic venous insufficiency, preterm birth, and spontaneous abortions.[12]

In a study by Tissot F, Messing K, Stock S in 2005, concluded that standing at work prevalence rate is 58% in the Quebec working population and more common in men, workers >25 years of age, and lower income workers.[13]

Due to pain in lower back, hips, knees and ankles participants prevented activities of daily living which involves use of these joint activities such as sit to stand, walking, stair climbing, standing recreational activities such as cycling, jogging,yoga.

Some participants experienced extreme pain who visited physician for consultation. There were several participants who developed persistent pain throughout who were also having pain in last 7 days.

In an article published in 2014, concludes that standing posture on a regular basis can cause sore feet, swelling of the legs, general muscular fatigue, and low back pain, stiffness in the neck and shoulders varicose veins, and other health problems. [14]

In a study by VenkateshBalasubramanian, K.Adalarasu in 2009, concludes that Stationary posture fatigues lower extremity muscles at a much faster rate than a dynamic posture.[15]

VI. CONCLUSION

The study suggest that there is prevalence of work related musculoskeletal disorders in gold shop salesperson, with severely affecting knee joint and lower back and moderately affecting ankles and hips/thigh.

❖ ***Limitations:***

BMI was not being in consideration.

➢ *Future Scope of Study:*

- The study can be performed males and females comparison.
- The study can be performed in different age groups and comparisonbetween the age groups.
- The study can be performed by taking BMI in consideration.

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