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Prevalence Of Musculoskeletal Pain And Associated Risk Factors In Police Officers Residing In Loni, Rahata: A Descriptive Cross-Sectional Study

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ABSTRACT

BACKGROUND: Police officers are often overlooked as valued protectors of society. They experience difficulties from superiors, citizens, and even their uniforms, causing physical injury, discomfort, and mental repercussions. Musculoskeletal diseases are one of the major health problems related to work in different professions among which, the police activity stands out due to their physically demanding character. There is a potential negative impact due to high work pace with little recovery time, work place violence and multiple shifts affecting not only physical but also mental health of the working officers. Some research indicate that this occupational group has a three times greater risk of being injured at work than all other occupations.

OBJECTIVE: The primary objective is to study the most prevalence area of musculoskeletal pain in police officers also to find out the prevalence of working factors and non-working factors influencing the musculoskeletal pain.

MATERIALS AND METHOD: 40 police officers from Loni and Rahata police station were selected based on the inclusion and exclusion criteria. Data was collected using the Nordic Musculoskeletal Questionnaire (NMQ) and a self-administered pain questionnaire.

RESULTS:

WORKING FACTORS INFLUENCING MUSCULOSKLETAL PAIN:

Data from 40 participants was analyzed. Out of 40 participants 52% did desk job whereas 42.5% spend their day on bike, 40% worked on ground and 22% spend their day in a vehicle(car/van) majority of times.

It was reported that (75%) complained that they did not get adequate sleep with (72.5%) participants claiming their job to be stressful in nature. According to the participants past year experience noted, (77.5%) were exposed to disturbing crime, (15%) were exposed to catastrophic loss and (12.5%) were exposed to fight during their service.

NON- WORKING FACTORS INFLUENCING MUSCULOSKLETAL PAIN:

(32.5%) of the participants were reported to have family stress. Approximately (22.5%) of the participants reported being addicted to tobacco chewing whereas (20%) and (7.5%) being addicted to alcohol and smoking respectively.

NORDIC PAIN QUESTIONNAIRE

In this study, the upper back (45%), lower back (45%) and knees (45%) were the most commonly affected body regions in the past 12 months.

The knees (35%) were the most common body region affected in the past 7 days which was followed by lower back pain (30%) and upper back pain by (25%).

CONCLUSION: Out of the 40 participants evaluated for this study and according to the questionnaire evaluated it shows that there was a high 12-month prevalence of musculoskeletal pain among the police officers with upper back, lower back and knees being the most commonly reported body region.

KEYWORDS: police officers, musculoskeletal pain, prevalence, musculoskeletal disorders

CONTENTS

CHAPTER 1

INTRODUCTION

Musculoskeletal diseases are one of the major health problems related to work in different professions among which, the police activity stands out due to their physically demanding character. Health problems tend to occur when mechanical work load exceeds the load bearing/ working capacity of an individual. Musculoskeletal pain is pain that affects the muscles, tendons, ligament and bones which are the locomotory apparatus of the human anatomical system.(1)

Epidemiology:

Approximately 1.71 billion people have musculoskeletal conditions worldwide. The highest burden caused by low back pain with a prevalence of 568 million people. In 2017, top three occupations that had the highest rates of musculoskeletal disorders were bus drivers, emergency responders, and nurses. (1)

33% of people experience musculoskeletal pain from overuse, which causes 29% of sick days missed at work. In Western civilization, low back pain is the most widespread and frequent workplace injury as well as the most expensive musculoskeletal condition.

United States, the condition has greatly affected the private sector with about 3200 cases per year of lost work day, representing 29% of all claims due to lost day injury and illness.

Causes:

The causes of musculoskeletal pain are varied. The locomotory apparatus can be damaged with wear and tear of daily activities the individual performs. Musculoskeletal pain as a result of physically demanding and mentally challenging character is one of the most important factors leading to major health problems. Musculoskeletal pain can also be caused due to trauma to an area (jerking movements, sprain, strain, dislocations, fracture, direct blow to the muscle). Other causes include repetitive movements, postural strain, overuse and prolonged immobilization. Changes in posture or poor body mechanics can lead to spinal alignment problems and muscle shortening further causes pain to adjacent structures. The police occupation is characterized by short periods of low intensity activities interspersed by short periods of high intensity activities.(2) Physically demanding tasks which include running on uneven surfaces, short to medium distance running, jumping over obstacles, pulling or pushing heavy objects or people as well as engaging in physical and mental struggles. Such activities imposed insignificant amount of stress on police officers causing increasing in oxygen consumption, heart rate and heat production.(2)

Pathophysiology of musculoskeletal pain:

- Pathophysiology of musculoskeletal pain: Muscle and joint pain has a complicated aetiology that has been linked to inflammation, fibrosis, tissue deterioration, neurotransmitters, and abnormalities in neurosensory perception.
- Inflammation: Damage increases the production of pro-inflammatory cytokines and mediators both locally and systemically. Sensitization of peripheral nociceptor tissue results from this increase.

- Fibrosis: Fibrotic scarring, or increased collagen within and between cells and tissues, can be brought on by inflammation. This lowers the ability of tissues to glide during movement, which can result in stretch injuries and increased discomfort.
- Degradation of tissues: Elevated inflammatory mediators cause a rise in matrix metalloproteinases, an enzyme that breaks down extracellular matrices, which lowers tissue load tolerance and causes more damage and discomfort.
- Neurotransmitters: The dorsal horns of the spinal cord, tendons, and dorsal root ganglia all exhibit higher levels of substance P, calcitonin-related related peptide, and N-methyl-D-aspartate (NMDA).
- Neurosensory/neuroimmune factors: Hypersensitivity results in peripheral nociceptor sensitization or central amplification of pain by increasing levels of neurotransmitters, inflammatory mediators, and cytokines. When there is nerve compression due to fibrosis, hyposensitivity happens. [3]

Emergency responders:

Police officers are categories under emergency responders and policing is a high-stress occupation that is prone to a high level of non-traumatic and traumatic stressors [4]

Boundless and varied tasks performed by police officers ranging from reading to child in a school to chasing down suspects for a criminal offense increases the risk for injury compared to those in other occupations. [5]

Responsibility of police officers: taking charge of guaranteeing, maintaining and re-establishing internal order, provide protection and assistance to people and the community and ensuring compliance with security laws of public and private assets. With these responsibilities comes opportunity to interact with a large population whether invited or not leading to dynamic or hostile situations which can further put them at increased risk for injury as compared to other occupations leading to increased musculoskeletal pain.

There is a potential negative impact due to high work pace with little recovery time, work place violence and multiple shifts affecting not only physical but also mental health of the working officers. Some research indicate that this occupational group has a three times greater risk of being injured at work than all other occupations.

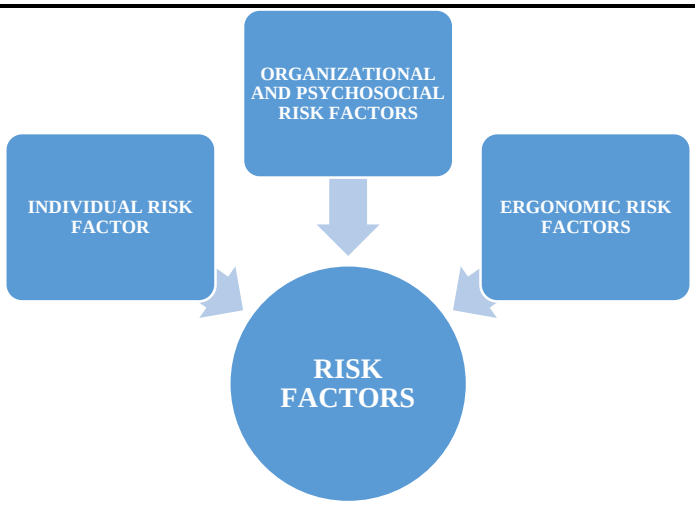
There are working as well as non-working factor influencing the musculoskeletal system causing a great impact on the health of police officers.

Working factors influencing musculoskeletal pain are: exertion of high intensity forces, static muscular load, working in unfavorable conditions, job stress, long working hours, relation with colleagues and supervisors, liking/interest towards work and work place, protective equipment such as duty belts containing (weapons, handcuffs, OC spray, torch, baton, radio and extra ammunition) generating high physical load, and thus aggravate musculoskeletal symptoms.

Some of the **non-working factors influencing musculoskeletal pain** are: family stress, addictions, personal trauma in the past year.

Risk factors:

Risk factors for developing musculoskeletal conditions and increasing the likelihood of pain are classified into three categories



1. **Ergonomic risk factors**

The main ergonomic risk factors include:

- **Force:** Force refers to the amount of physical effort a worker exerts when performing tasks that involve carrying, lifting, pulling, or pushing. When the amount of force required to fulfil a job exceeds the workers capacity the risk of injury increases.
- **Repetitive Movement:** Another ergonomic hazard is using the same group of muscles repeatedly to perform same motion. Increasing pain and leading to risk of injury.
- **Posture:** Working in a position for extended period of time that put stress on the body's natural alignment increases the risk of injury.
- **Vibration:** constant or repetitive use of tools that cause hand arm vibration or whole-body vibration can affect the blood vessels of the body and can lead to musculoskeletal pain.

2. **Organizational and Psychosocial risk factors**

The main organizational and psychosocial risk factors include:

- Lack of good relationship with colleagues and supervisors
- Work pressure and deadlines
- High work demands and poor job design
- Infrequent break time
- Job insecurity

These factors do not directly affect the muscles or soft tissue, they tend to results in behaviors that do.

The behavioral responses to stress put the individuals to develop risk of musculoskeletal injury. Psychological or emotional stress put the individuals in a situation where they pay less attention to their bodies while working, tense their muscles and become physically less active.

3. **Individual Risk Factors**

The main individual risk factors include:

- **Age:** As one ages, the capacity to withstand the stress placed on soft tissue is reduced. Likewise, strength of muscles too starts to diminish.

- **Gender:** Research has shown that the prevalence of work-related musculoskeletal disorders is higher among women. This is because women perform tasks that involve both psychological and biomechanical risk factors. Impeding their ability to rest between work shifts, household work and child care put them in greater strain as compared to men.
- **Health and Lifestyle:** Lack of good diet, obesity, smoking, alcohol consumption are factors that are liked to increased risk of musculoskeletal disorders.

The Nordic Musculoskeletal Questionnaire (NMQ) is an outcome measure provided to identify and assess musculoskeletal pain in ergonomic or occupational health workers. It also finds out any problem in the locomotory apparatus. In the assessment of various measurement instrument reliability and validity are two important components. The confidence in the measurement result obtained by the measuring instrument is the reliability. The validity value is what the measurement instrument measures/assesses. The reliability is excellent, as the reliability test results obtained Cronbach's Alpha value above (0.945). Validity was assessed using the Content Validity Index (CVI) and was above (0.6) 87.2%. This questionnaire consists of questions that the responders have to answer, questionnaire consists of two parts a questionnaire which assesses general problems this aims to survey in general and a specific section which focuses on the lower back area and neck/shoulders that aim for a more in-depth survey and assessment. Along with The Nordic Musculoskeletal Questionnaire (NMQ) a self-administered pain questionnaire will also be provided to the participant. This self-administered pain questionnaire consists of six sections, section 1- demographic data, section 2- work profile, section 3- general questions, section 4- working factors influencing musculoskeletal pain, section 5- non working factors influencing musculoskeletal pain, section- 5 characteristics of musculoskeletal pain.[4]

1.1 Need for study:

High prevalence of musculoskeletal pain related to police work can lead to absenteeism, decreased productivity, overburdening other officers, limited physical activity and thus development of chronic or comorbid injury. The cost for treatment and rehabilitation of the police officers on leave, sick pays and disability retirements causes great impact on the socioeconomic status of the country. One of the major concerns is decreased national security, decreased service to the members of the community, due to increased response time to emergency situations which is caused by musculoskeletal pain.

1.2 Aims of the study:

To study the prevalence of musculoskeletal pain in police officers residing in Loni, Rahata.

1.3 Objectives of the study:

1. The primary objective is to study the most prevalence area of musculoskeletal pain in police officers.
2. The secondary objective is to find out the prevalence of working factors and nonworking factors influencing the musculoskeletal pain.

CHAPTER 2

REVIEW OF LITREATURE

1. **Eduardo Frio Marins et.al (March 14, 2020) Frequency of musculoskeletal symptoms among police officers: systematic review** The study aimed at describing the frequency of musculoskeletal symptoms in different regions of the entire body. This systematic review showed, studies identified through research in databases(n=4023), studies after removing duplicates(n=3521), full articles evaluated by eligibility(n=31), eligible studies (n=8), studies included in the quantitative synthesis (n=10). The exclusion criteria of the studies were non original studies, non-police population, with no frequency measurements, lack of relationship with the subject of the study, symptoms reported during the courses, other languages. The study concluded frequency of musculoskeletal symptoms was high from 42-52% for lower back, 34-43% for the knees, 7-32% for the shoulders, 7-27% for the wrist/hand/fingers 29-42% for the neck, 18-28% for ankle/foot, 8-10% for elbow, 22-45% for upper back and 12- 18% for hip/thigh.
2. **Louise Bæk Larsen et. al (30 May 2019) Duty belt or load-bearing vest? Discomfort and pressure distribution for police driving standard fleet vehicles** conducted a study on Duty belt or load-bearing vest? Discomfort and pressure distribution for police driving standard fleet vehicles in May 2019. This study aimed to investigate the effect of different load carriage designs on in vehicle sitting pressure and self-rated discomfort among police. A repeated measures study design was utilized with three conditions investigated; standard load carriage, alternate load carriage including a load-bearing vest and a control condition in which no equipment was worn. Each participant performed all three tests consecutively on the same day, either in the morning or afternoon. Twenty-two subjects (eleven male and eleven female) were recruited from a medium-sized municipality in Sweden. The Automobile Seating Discomfort Questionnaire (ASDQ) was used to assess discomfort related to the vehicle seat. Questions relating to police specific tasks and equipment were also included. Ratings of perceived discomfort in 20 specific body regions were assessed using a questionnaire. All ratings of discomfort were assessed on a 100 mm visual analogue scale, with 0 mm representing no discomfort and 100 mm representing extreme discomfort. The study concluded that use of a load-bearing vest and thigh holster have been demonstrated to decrease discomfort and body-seat interface pressures in the lower back region in police driving fleet vehicles.
3. **Liana Lentz et.al (September 2019) A descriptive study of musculoskeletal injuries in a Canadian police service** using injury data from municipal police service in Alberta, Canada carried out this study in which 1325 active police officers were assessed and examined and the prevalence of injury was recorded over a 41-month period i.e. from (1 January 2013 – 2 June 2016). According to the age, sex, the body part injured, injury diagnosed, working area the prevalence of injury was reported. The study indicated prevalence of strains and sprains was high, at 89.2%. The most frequently affected areas included back and shoulder respectively.
4. **Adamu Ahmad Rufa'I et.al Work-Related Musculoskeletal Disorders among Nigerian Police Force (19 November 2019)** carried out a study that determined the prevalence of work-related musculoskeletal disorders among the Nigerian police officers. This cross-section study included 253 police officers as participants and used Modified Nordic questionnaire for assessing the work-related musculoskeletal

disorders. The result showed that 12-month prevalence of WMSD's was 80.6%. The study also revealed that the most affected area was lower back with 74.1% prevalence rate. The study showed prevalence of WMSD's was associated with higher age, higher working experience and longer working hours/day.

5. **Louise Bæk Larsen et.al (22 January 2018) Multi-site musculoskeletal pain in Swedish police: associations with discomfort from wearing mandatory equipment and prolonged sitting** This cross-section study aims to determine the prevalence of multi-site musculoskeletal pain among Swedish police, also to explore the association of discomfort experienced by these officers while wearing duty equipment and working for long periods in fleet vehicles. A self-administered online survey including questions about physical work environment, mandatory equipment and musculoskeletal pain was provided to 4185 police officers. Multisite musculoskeletal pain was the main outcome variable and was recorded for four body regions, including (1) the upper back or neck, (2) lower back, (3) shoulders or arms and (4) hips, legs, knees or feet. The prevalence of multi-site pain within previous 3 months and at least once per week was 41.3%. The study also concluded police duty belts cause limitations in range of motion of the right hip and an abducted position of the arms during normal walking (Larsen et al. 2016; Ramstrand et al. 2016). The restriction in range of motion for the right hip is likely due to the position of the weapon whereas walking with abducted arms could potentially be due to the increased width around the pelvis caused by the duty belt. Walking with abducted arms for longer periods of time would put extra strain on shoulders and upper back/neck suggesting that the duty belt can affect and be associated to multi-site musculoskeletal pain.
6. **Leela Paudel et.al (2018) Work-related musculoskeletal symptoms among Traffic police: A Review** designed work-related musculoskeletal symptoms among traffic police: a review to help the health care professional and occupational health and safety professionals to know the most prone body areas for Musculoskeletal Disorders so as to plan for ergonomic modification and improve quality of life of Traffic Police Personnel. They conclude that traffic police are facing the problem of work-related musculoskeletal symptoms; most common being the low back pain. Age, working status, working posture body type (BMI), cigarette smoking, alcohol consumption, diabetes, working period (years), physical stress were the common risk factors for occurrence of WRMSS in TPP. Hence, periodic health examination, ergonomics modification, awareness campaign, occupational health and safety strategies will help to improve workplace environment and health of traffic police personnel. Prolonged standing, walking, uncomfortable posture, lifting heavy loads, frequent twisting was observed as ergonomics risk factors for occurrence of WRMSS. (IJOSH, Volume 8, No 2, 2018 (ISSN 2091 – 0878)
7. **Eduardo Frio Marins et.al (2018) Effects of personal protective equipment on metabolism and performance during an occupational physical ability test for federal highway police officers** studied effects of personal protective equipment on metabolism and performance during an occupational physical ability test for federal highway police officers. The objective of this study was to evaluate the effects of load carriage on physiological, perceptual, and performance responses during an Occupational Physical Ability Test (OPAT). Thirteen male FHP officers completed an OPAT with PPE (WPPE, load = 12.0 kg) and without PPE (NPPE, load = 5.2 kg) in 2 separate sessions in a randomized and counterbalanced order. Metabolic responses (heart rate [HR] and its variability, and blood lactate concentration [Lac]), perceptual (rating of perceived exertion [RPE]), and OPAT performance were measured. Occupational Physical

Ability Test completion time was significantly greater in the WPPE condition compared with the NPPE condition. Personal protective equipment reduces performance in specific occupational circuit, changing Lac but without affecting HR and RPE. The findings of this study indicate that the PPE used by FHP negatively impacted the efficiency of performing occupational tasks when multiple tasks are performed sequentially, without affecting the metabolic and perception parameters.

8. **Jennifer Gwyn Arts (2016) Low back pain in police officers** aimed to study **low back pain in police officers**. The purpose of this research was to explore whether police officers have a higher incidence of LBP than the general population and to explore what factors officers believe contribute to the LBP they experience through Surveys that were made available to all police departments in Kent County. The difference between low back pain experienced by police officers and general population were 60.2% and 60-90% respectively. Also, the study concluded that wearing duty belt (53.8%) and driving (54.8%) are major factors contributing to low back pain.
9. **Shweta Satish Devare Phadke et.al Work Related Musculoskeletal Symptoms among Traffic Police: Cross Sectional Survey Using Nordic Musculoskeletal Questionnaire (April-June2015)** This study's objective was to assess the prevalence of WRMSDs among traffic police officers. The Nordic musculoskeletal questionnaire was used to evaluate self-reported musculoskeletal problems, and a cross-sectional design was used. The population of this study consisted of 270 traffic police officers from the Navi Mumbai area (n=270). The study concluded that lower back pain was the common symptom. Prevalence of musculoskeletal disorders in Traffic Police community : Lower back 38% and upper back 36% are the regions that produce chronic pain, Lower back 16%, Upper back 15%, and neck 14% are the regions that cause activity loss owing to pain, and upper back 14%, lower back 13%, and knee / neck 11% are the regions that cause acute pain. Vol. 2, Issue 2, pp: (26-29), Month: April 2015 - June 2015, Available at: www.paperpublications.org
10. **Minkyung Han et.al Musculoskeletal problems and driving in police officers (4 December 1997)** conducted a study do police officers and firefighters have a higher risk of disease than other public officers? A 13-year nationwide cohort study in South Korea. This study aimed to evaluate and compare the incidences of diseases among different categories of public officers in Korea. 860221 public officers were included in this cohort study data collected from 2002 and 2014. Age -standardized rates were calculated using the direct standardization method, and HRs were calculated using the Cox proportional hazard regression models, primary and secondary outcomes respectively. This study concluded that police officers and firefighters had a higher incidence of a range of diseases when compared with national and regional government officers (NRG). The most prominent HRs were observed among police officers for angina pectoris (HR: 1.52, 95% CI 1.49 to 1.54), acute myocardial infarction (HR: 1.84, 95%CI 1.77 to 1.92) and cerebrovascular disease (HR: 1.36, 95%CI 1.31 to 1.40). Firefighters were more susceptible to physical ailments and were at a significantly higher risk for traumatic stress disorders (HR: 1.40, 95%CI 1.26 to 1.56) than NRGs. Compared with NRGs, police officers had higher HRs for all measured diseases, except for traumatic stress disorders.

CHAPTER 3

MATERIALS AND METHODOLOGY

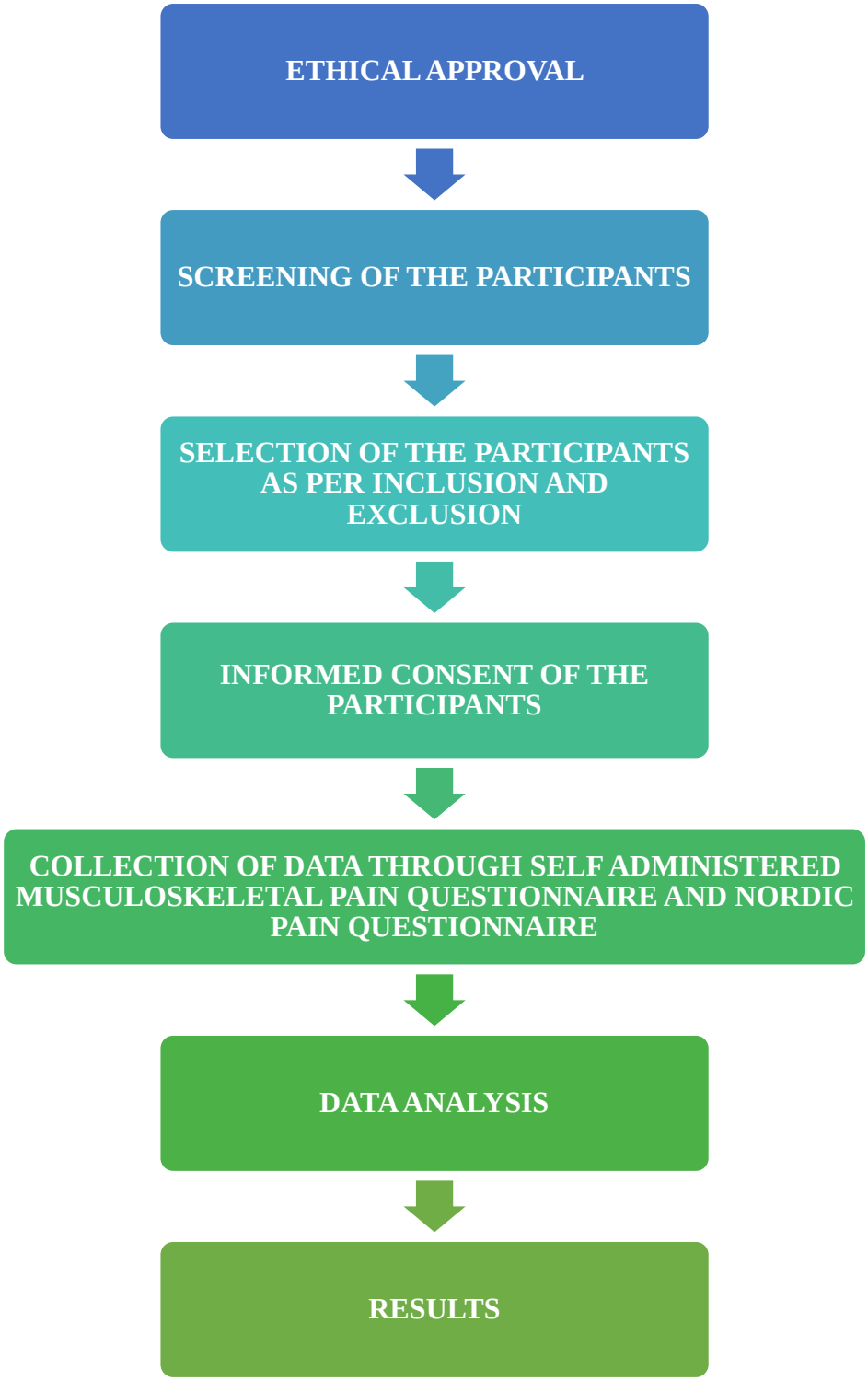
1) **SOURCE OF DATA:** The data was be collected from the police station situated in Loni, Rahata , Rahata Taluka, Ahmednagar, Maharashtra 413736
2) **STUDY SETTING:** Police stations in Loni, Rahata, Rahata Taluka, Ahmednagar, Maharashtra 413736.
3) **DURATION OF THE STUDY:** 3 months
4) **METHOD OF COLLECTION OF THE DATA:** Data will be primary and will be collected by principle investigator.
5) **STUDY DESIGN:** Descriptive cross-sectional study
6) **SAMPLE SIZE:** 40
7) **STUDY POPULATION:** Police officers from police station in Loni, Taluka – Rahata, Ahmednagar, Maharashtra
8) **SAMPLING METHOD:** Convenient Sampling
9) **MATERIALS AND EQUIPMENTS TO BE USED:**
   - Consent form
   - Self-administered pain questionnaire
   - Nordic musculoskeletal pain questionnaire
   - Pen / pencil
1) **CRITERIA FOR SAMPLING:**
   - **Inclusion criteria:**
     - Members of Police force
     - Active police officers working currently at Loni police station, Rahata police station ,Rahata Taluka, Ahmednagar, Maharashtra
     - Participants willing to participate
   - **Exclusion criteria:**
     - Non police population
     - Retired police officers
     - Police officers with previously established musculoskeletal injuries, infections, recently acquired dislocations and fractures.
     - Police officers with neurological disorders

Outcome Measures

1. Self-administered pain questionnaire
2. Nordic musculoskeletal pain questionnaire

CHAPTER 4

PROCEDURE



40 police officers from Loni and Rahata police station were selected based on the inclusion and exclusion criteria. The purpose of the study along with the complete information was shared with the participants and an informed consent was taken from all the participants, participating in the study. The data was collected for each participant and the procedure of study was explained to all them. The responses were collected using the Nordic Musculoskeletal Questionnaire (NMQ) questionnaire consists of two parts a questionnaire which assesses general problems which aimed to survey in general and a specific section which focuses on the lower back area and neck/shoulder that aimed for a more in-depth survey and assessment. Along with Nordic musculoskeletal questionnaire a self-administered pain questionnaire which consisted of 42 questions subdivided into six sections, section 1- demographic data, section 2- work profile, section 3- general questions, section 4- working factors influencing musculoskeletal pain, section 5- non working factors influencing musculoskeletal pain, section- 6 characteristics of musculoskeletal pain. The responders had to answer with a yes/no and also had to explain in detail if necessary and the responses were noted by the principle investigator. The self-administered questionnaire was validated by experts before the data collection also the questionnaire was converted into Marathi for better understanding among the participants and for reliable data collection. The data obtained was utilized to determine the most prevalent area of musculoskeletal pain among police officers along with the factors affecting the musculoskeletal pain.

CHAPTER 5

DATA ANALYSIS AND RESULT

Age distribution (Years)	Frequency
20-28	1
28-35	11
35-43	14
43-51	2
51-59	9
59-66	2
74-80	1
	Total = 40

Fig 1. Age distribution

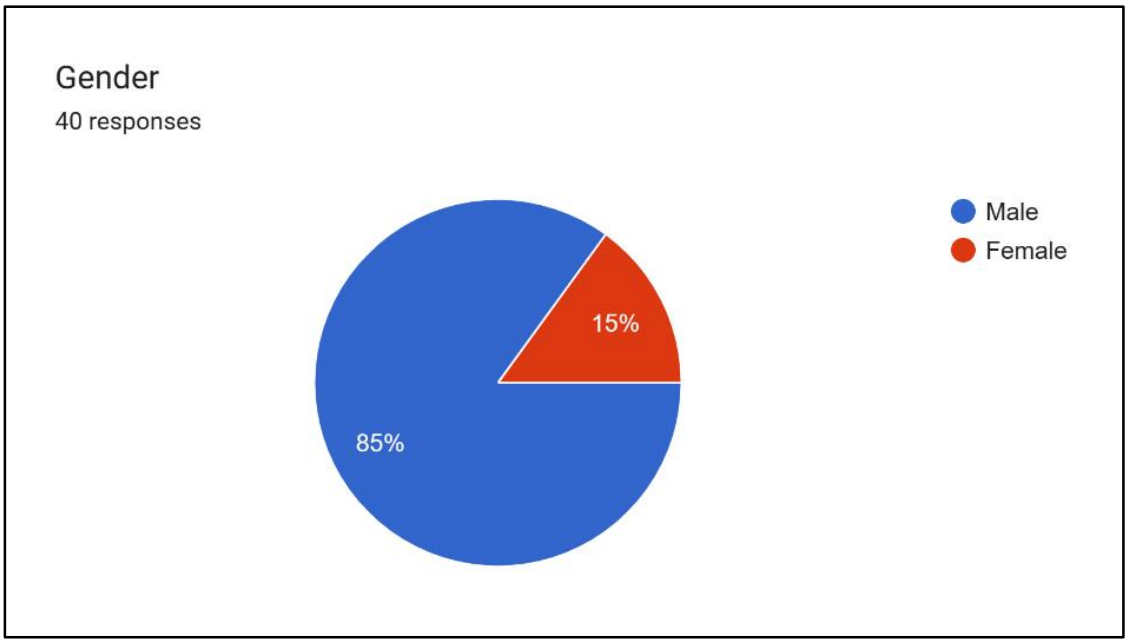


Fig 2. Gender distribution

BMI	Frequency
Below 18.5 kg/m^2(underweight)	1
18.5- 24.9 kg/m^2 (normal weight)	18
25-29.9 kg/m^2 (pre-obesity)	11
30-34.9 kg/m^2 (obese class I)	8
35-39.9 kg/m^2 (obese class II)	2
Above 40 kg/m^2 (obese class III)	0
	Total =40

Fig 3.a BMI distribution

(Asian BMI criteria)

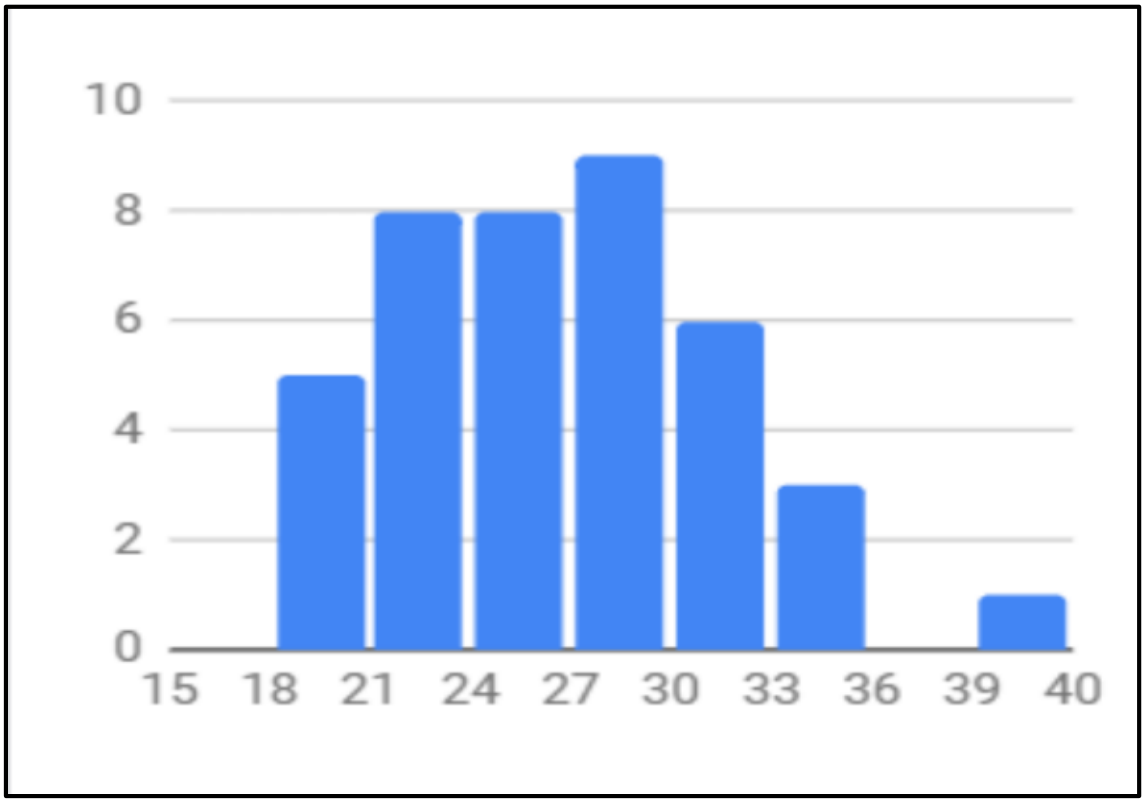
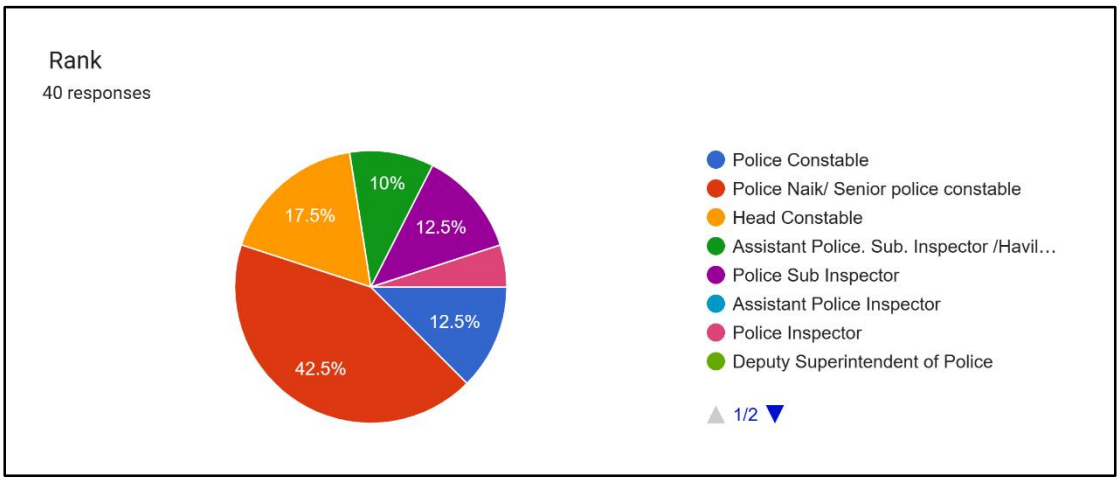
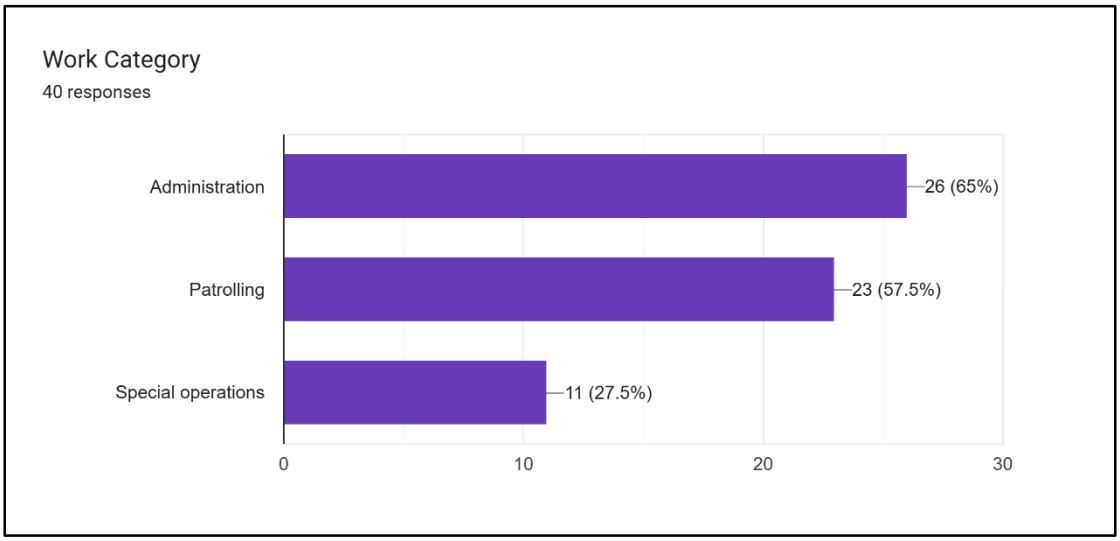
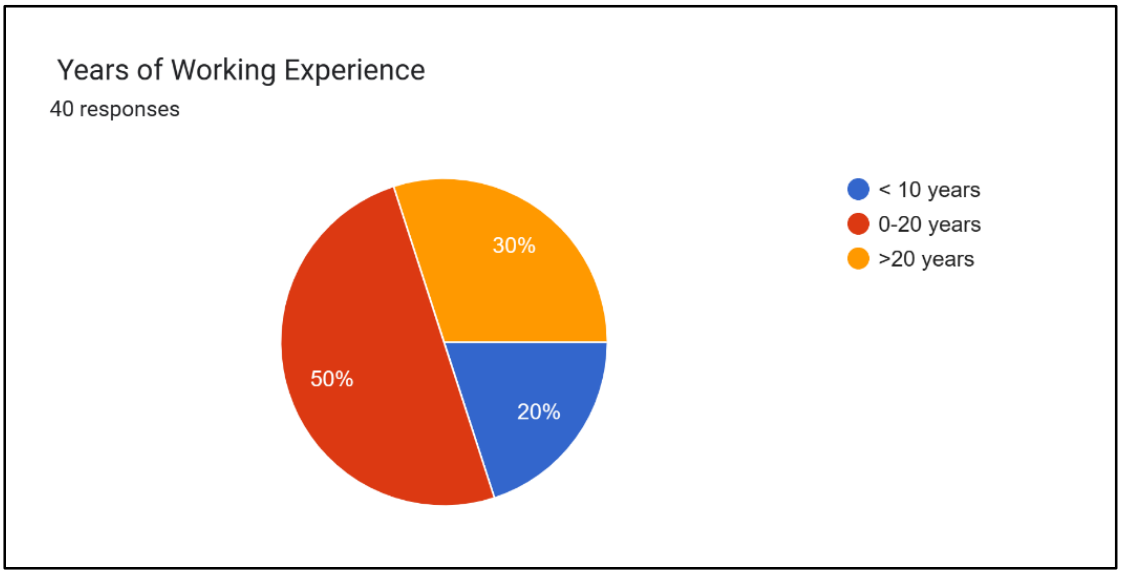


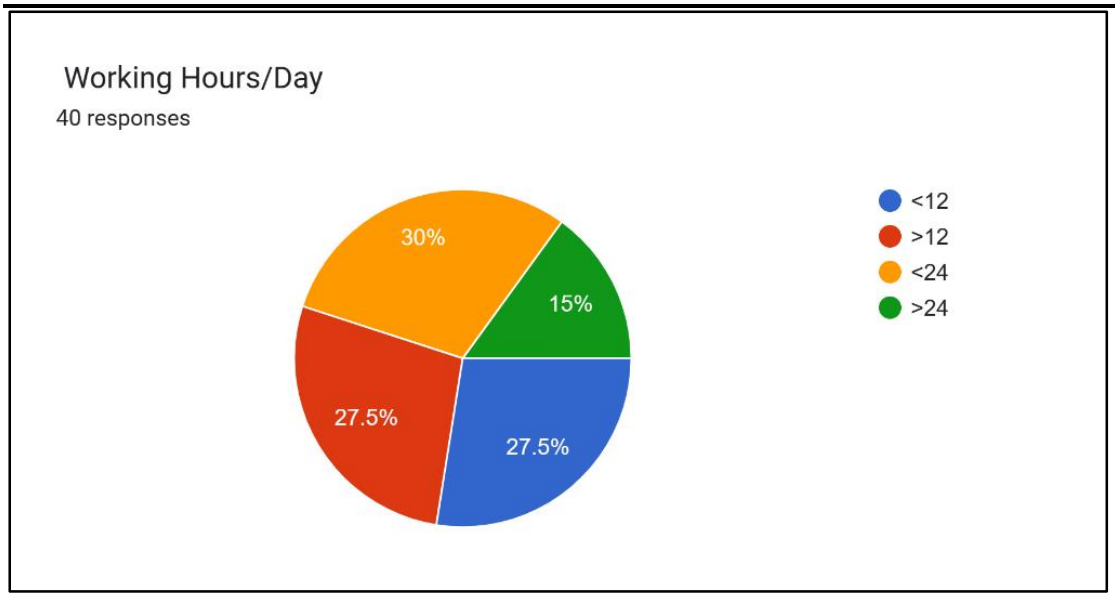
Fig 3.b BMI distribution

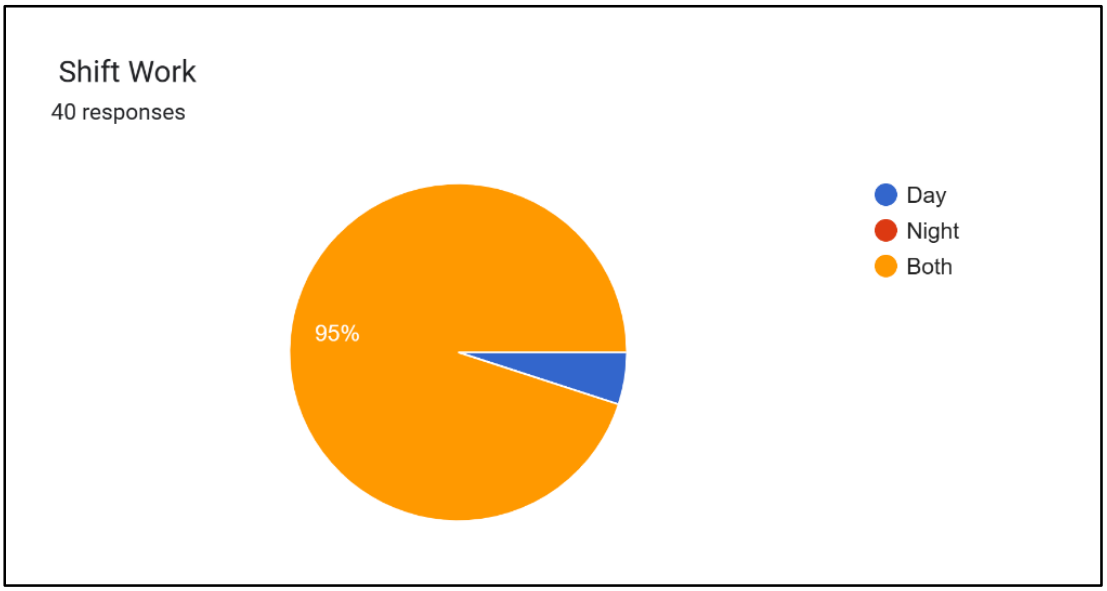
WORK PROFILE

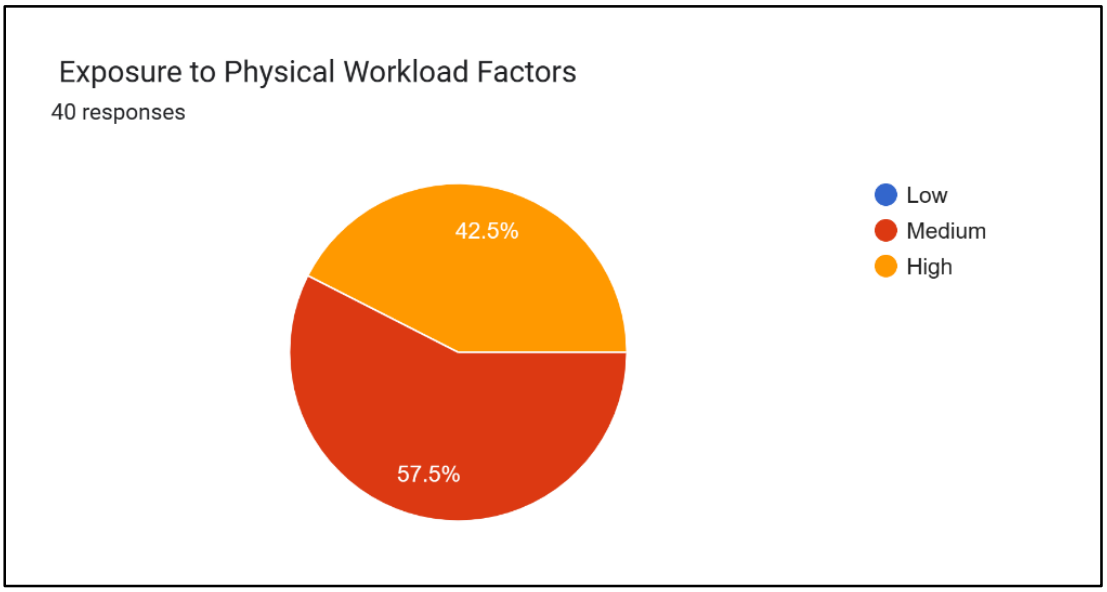




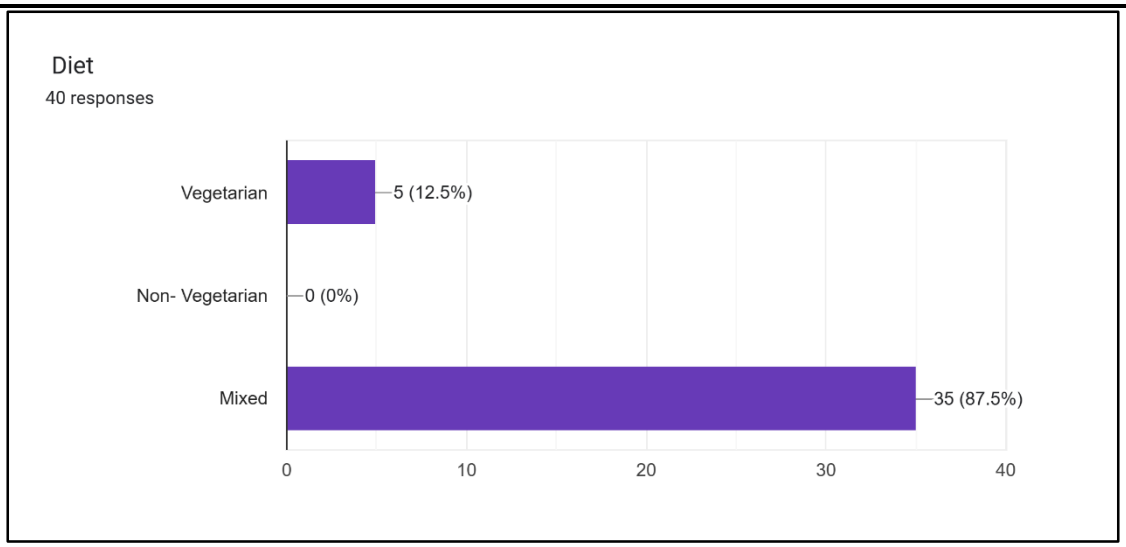


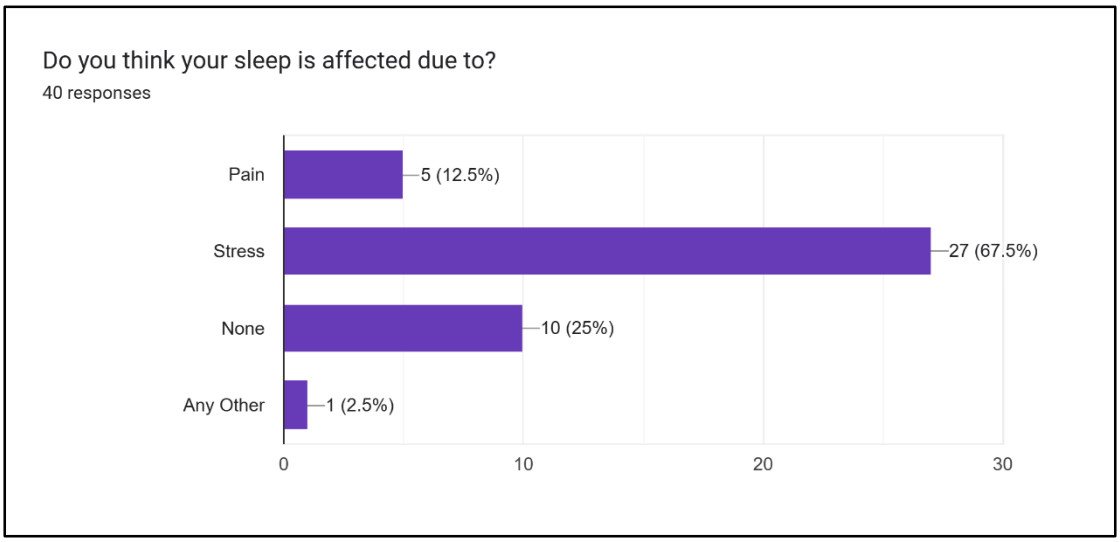


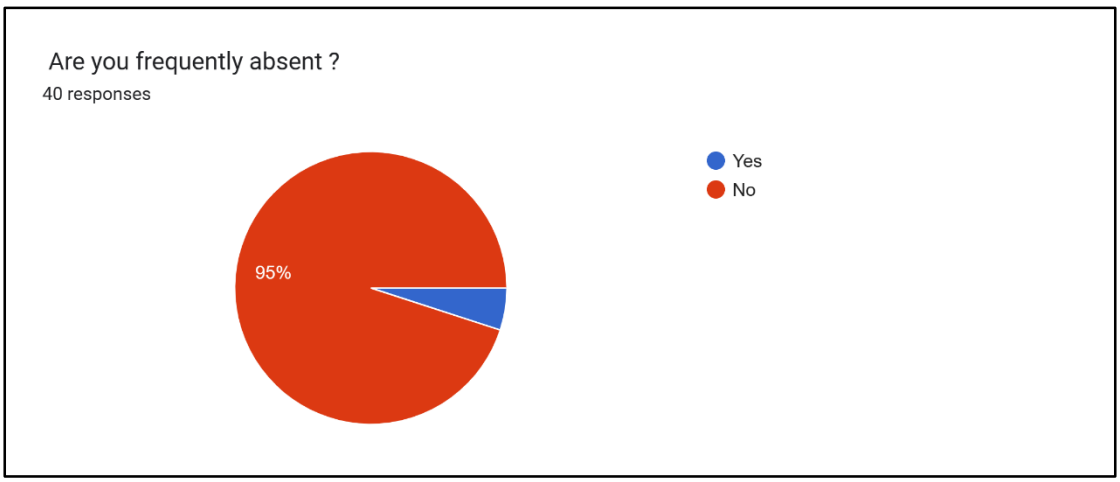


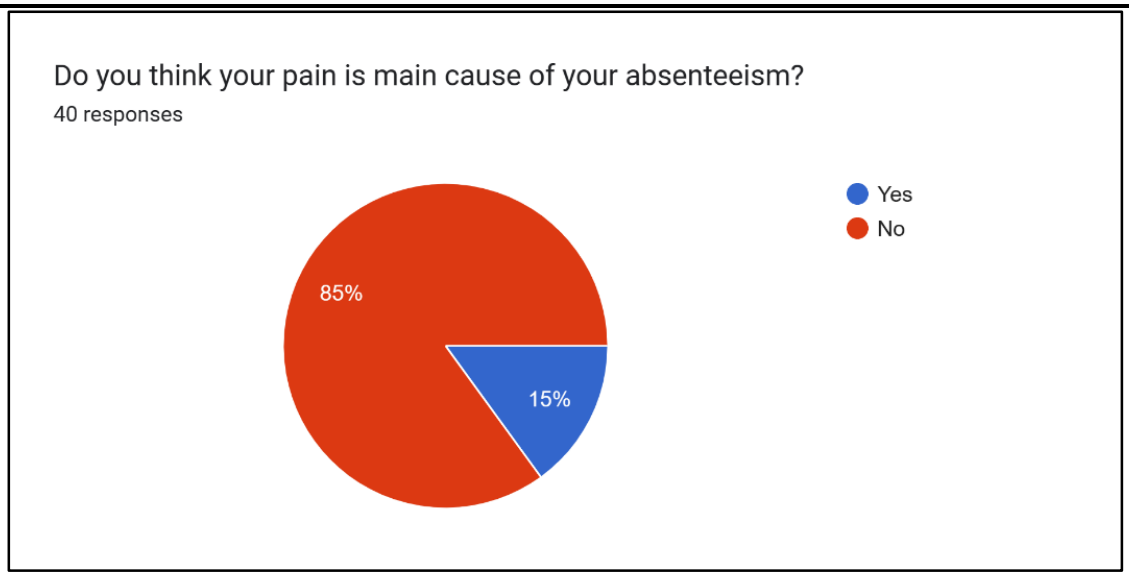


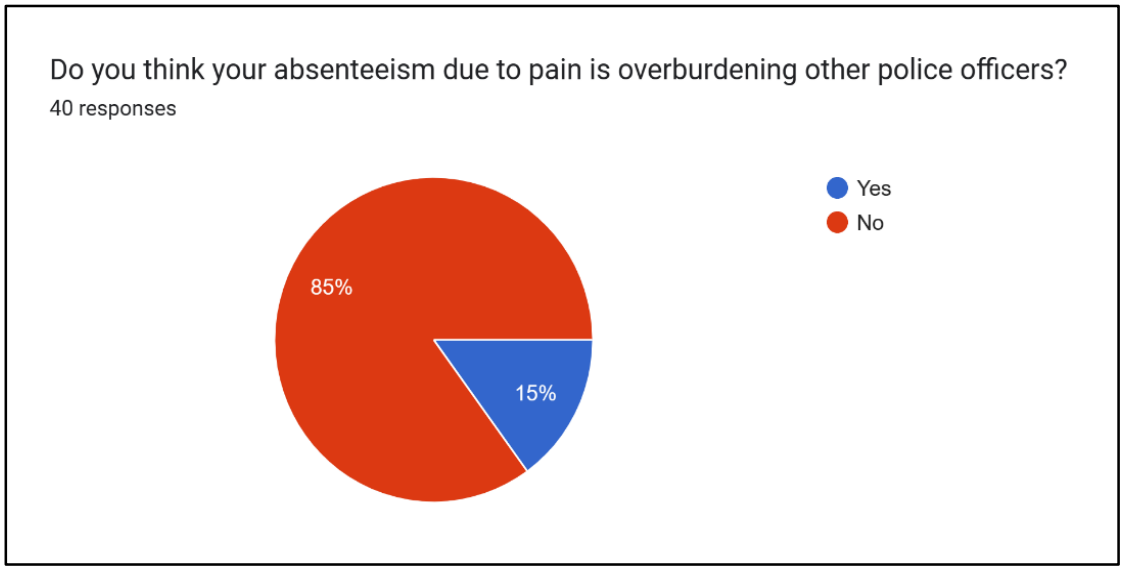
GENERAL QUESTION


Diet
40 responses
Vegetarian
5 (12.5%)
Non- Vegetarian
0 (0%)
Mixed
35 (87.5%)
0
10
20
30
40

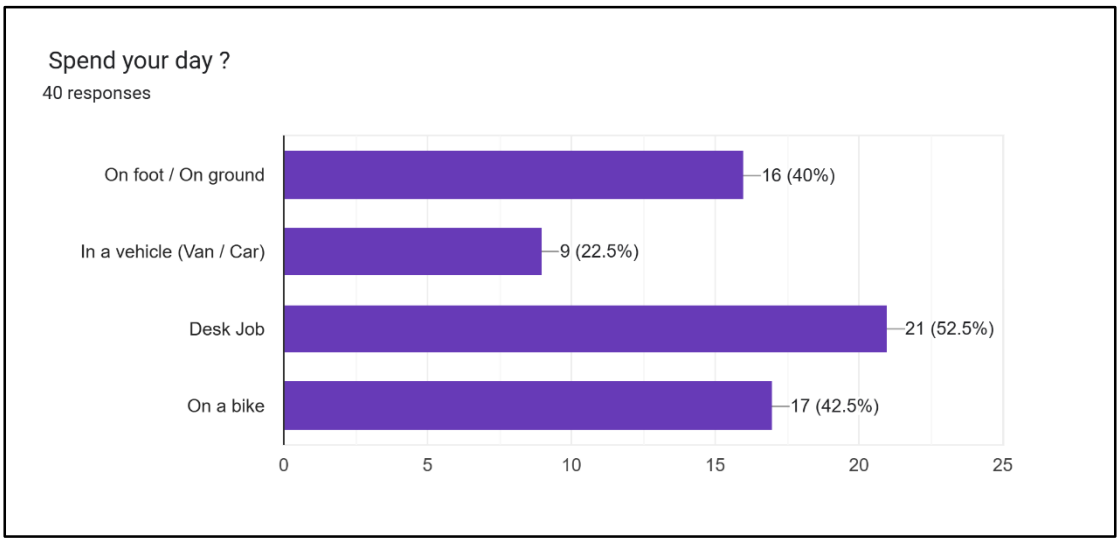

Do you think your sleep is affected due to?
40 responses
Pain
5 (12.5%)
Stress
27 (67.5%)
None
10 (25%)
Any Other
1 (2.5%)
0
10
20
30

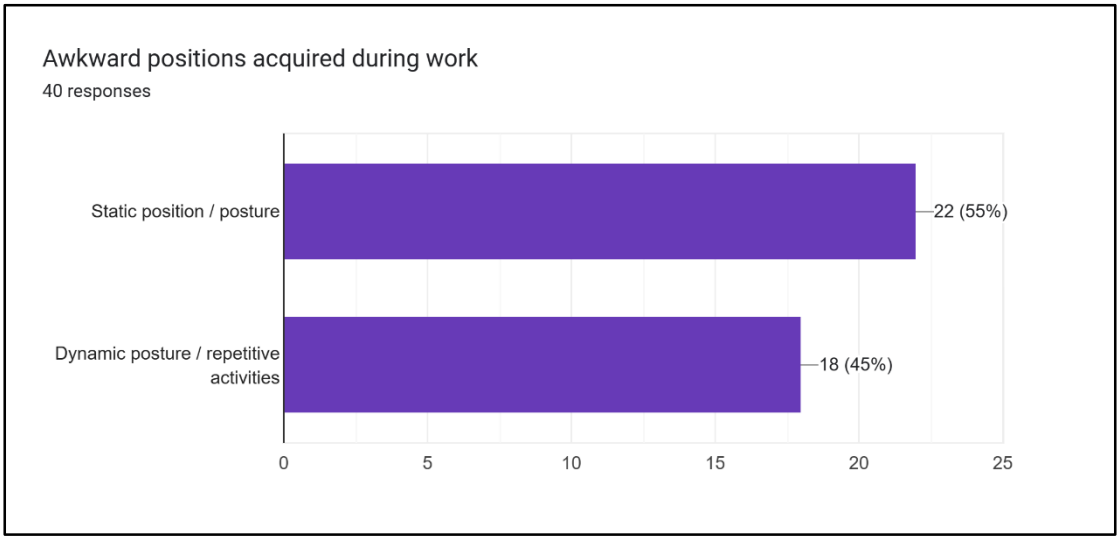

Are you frequently absent ?
40 responses
Yes
No
95%

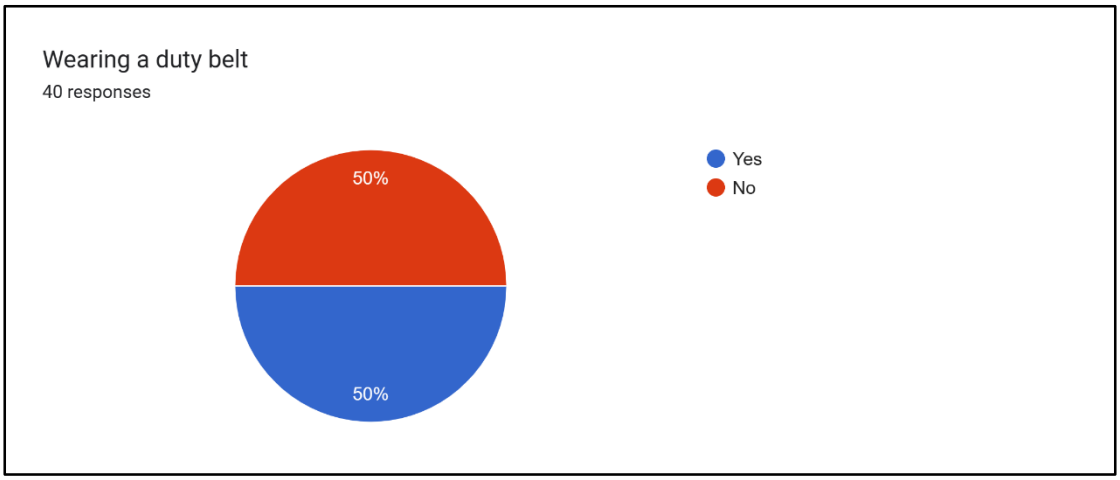

Do you think your pain is main cause of your absenteeism?
40 responses
Yes
No
85%
15%

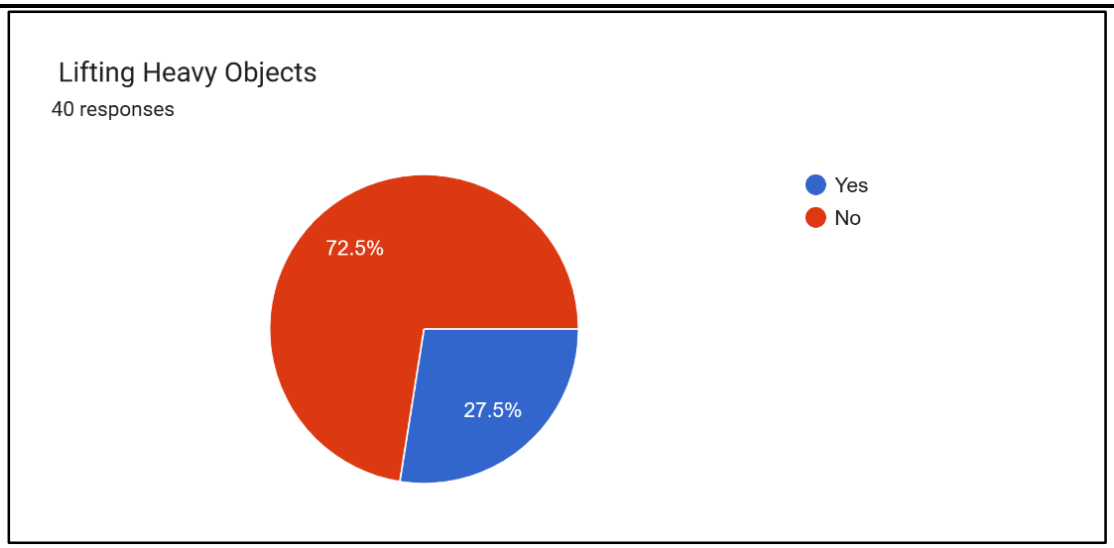

Do you think your absenteeism due to pain is overburdening other police officers?
40 responses
Yes
No
85%
15%

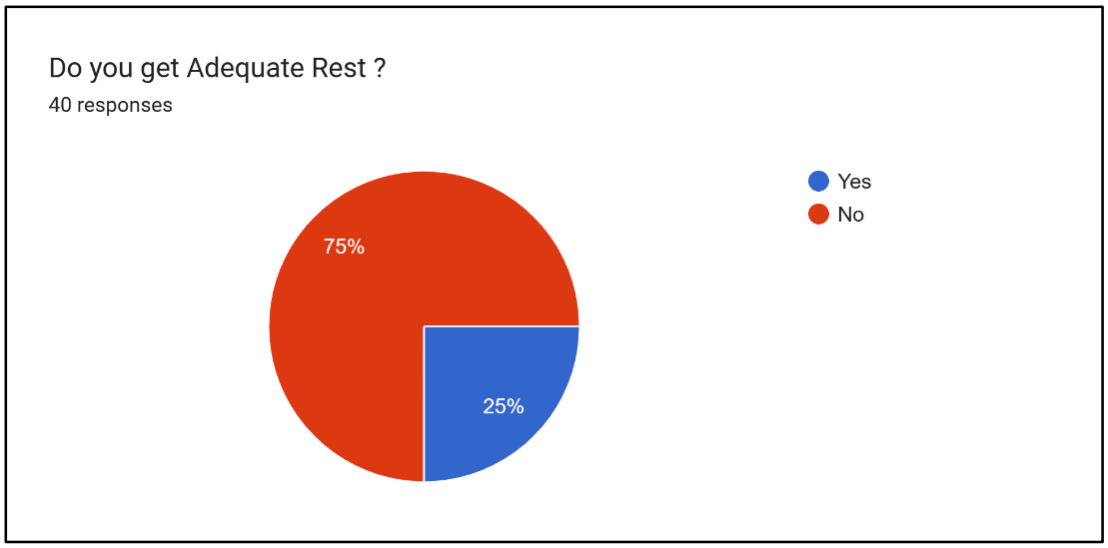
WORKING FACTORS INFLUENCING MUSCULOSKLETAL PAIN:

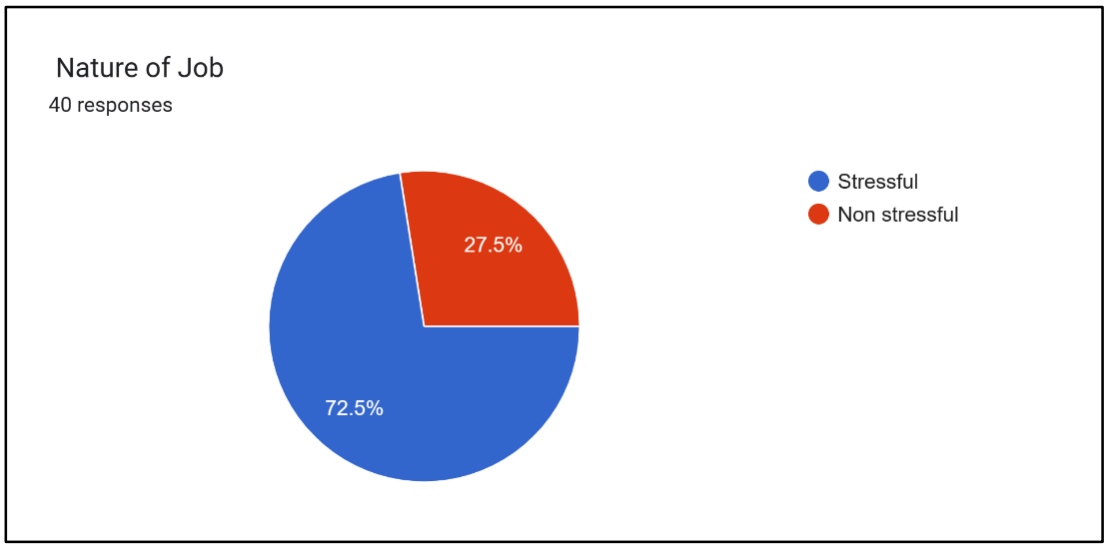


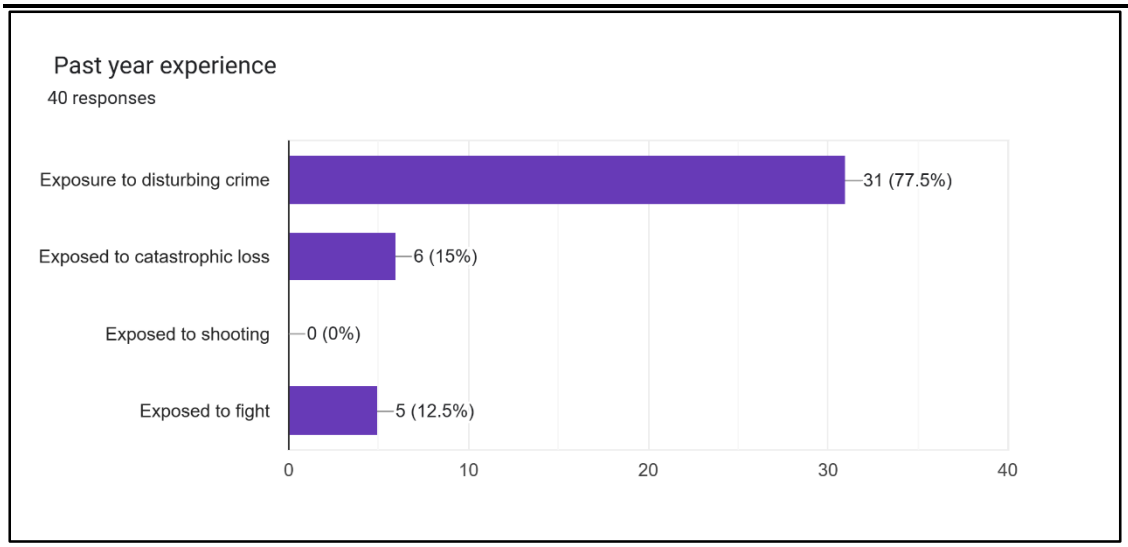


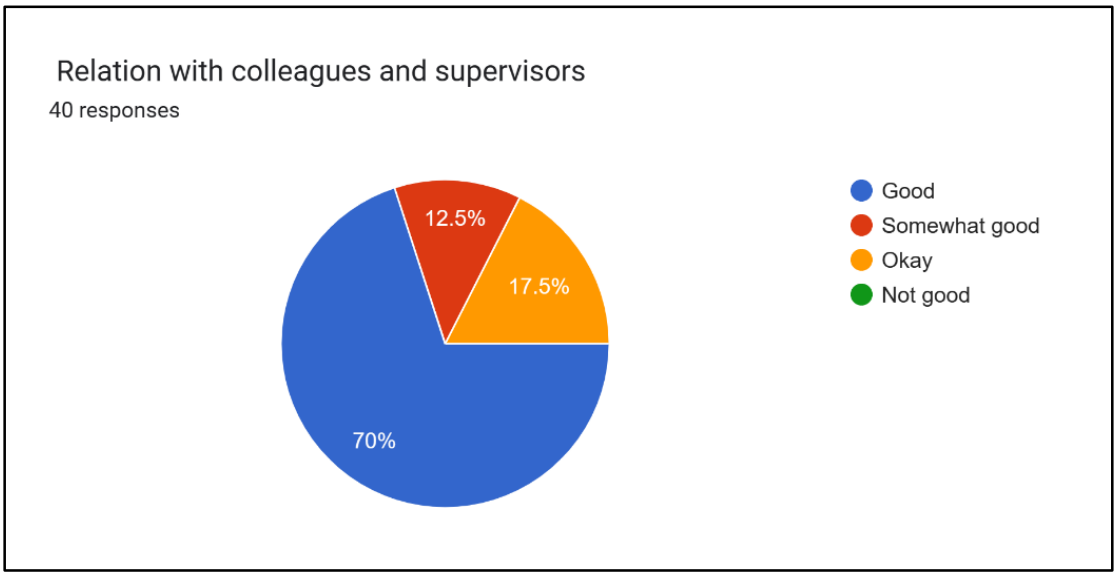


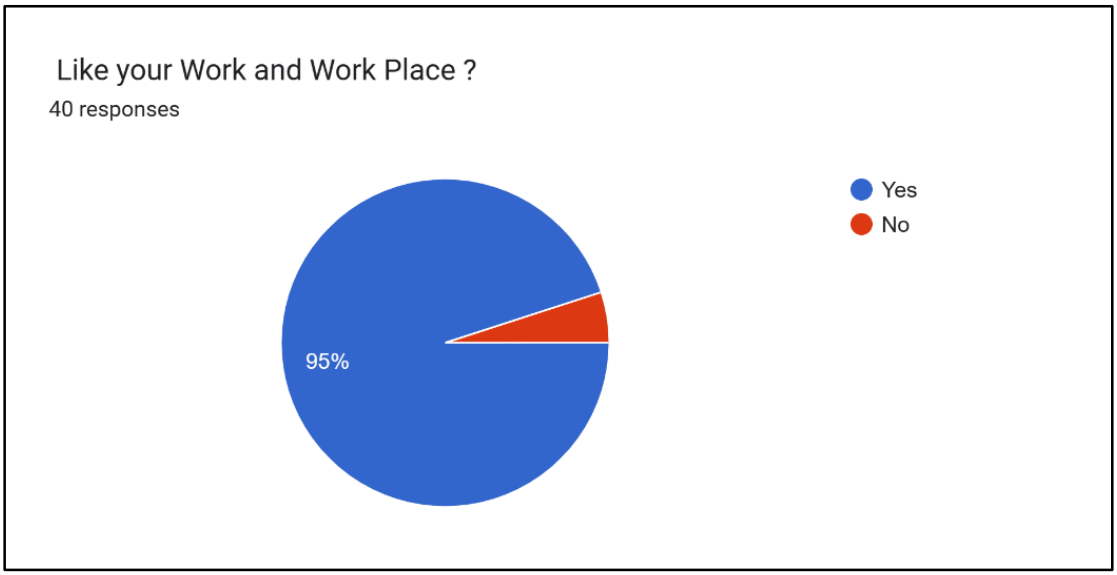

Lifting Heavy Objects
40 responses
72.5%
27.5%
Yes
No


Do you get Adequate Rest ?
40 responses
75%
25%
Yes
No

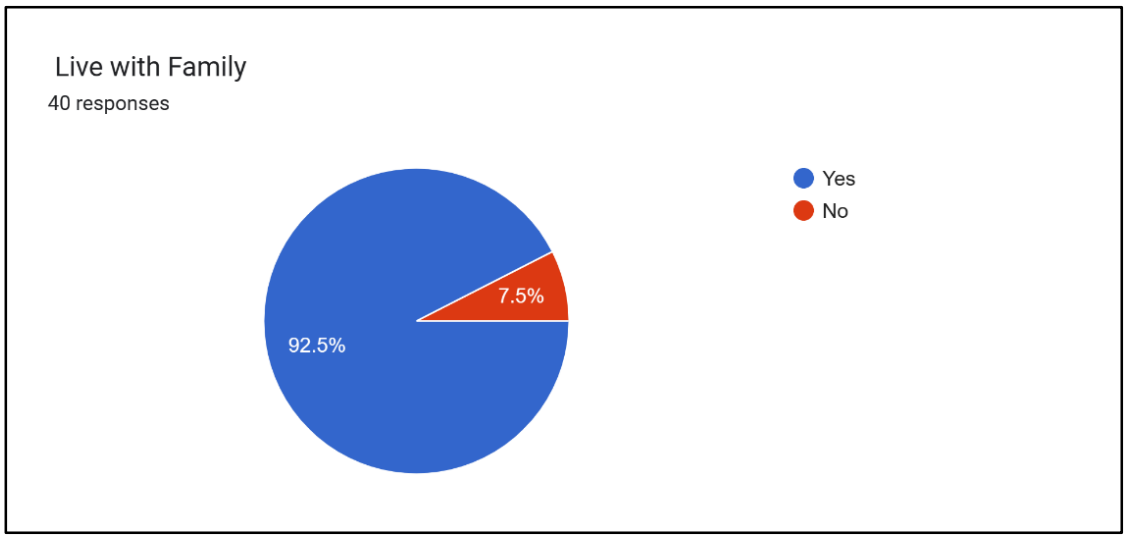

Nature of Job
40 responses
27.5%
72.5%
Stressful
Non stressful

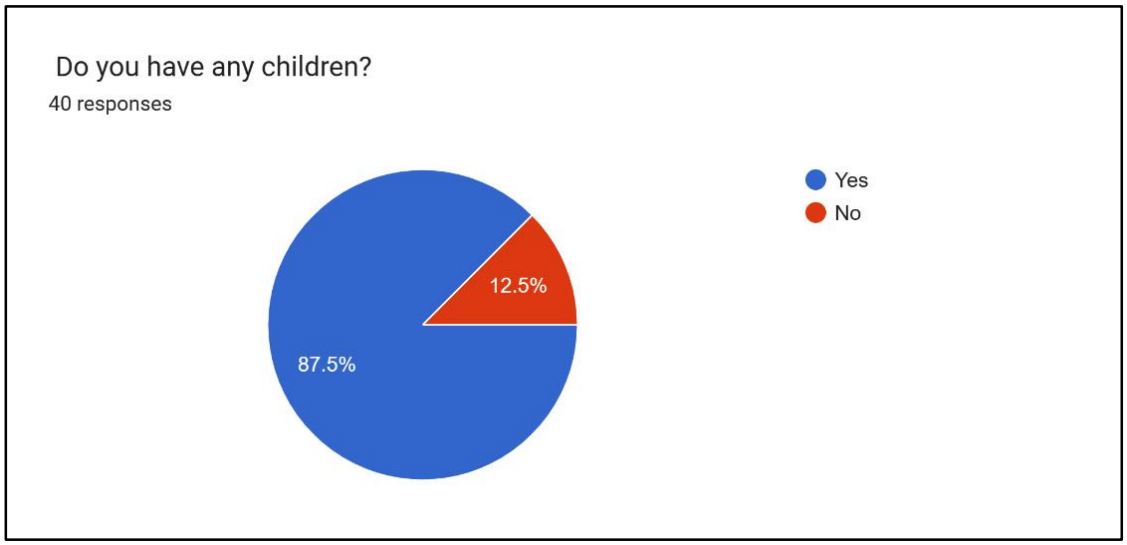

Past year experience
40 responses
Exposure to disturbing crime
31 (77.5%)
Exposed to catastrophic loss
6 (15%)
Exposed to shooting
0 (0%)
Exposed to fight
5 (12.5%)
0
10
20
30
40

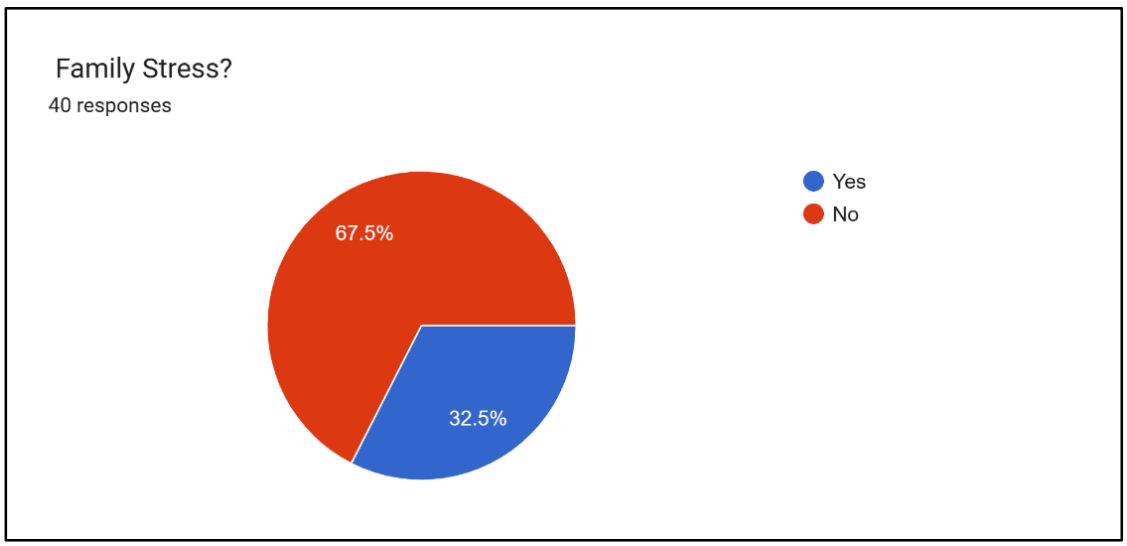

Relation with colleagues and supervisors
40 responses
12.5%
17.5%
70%
Good
Somewhat good
Okay
Not good

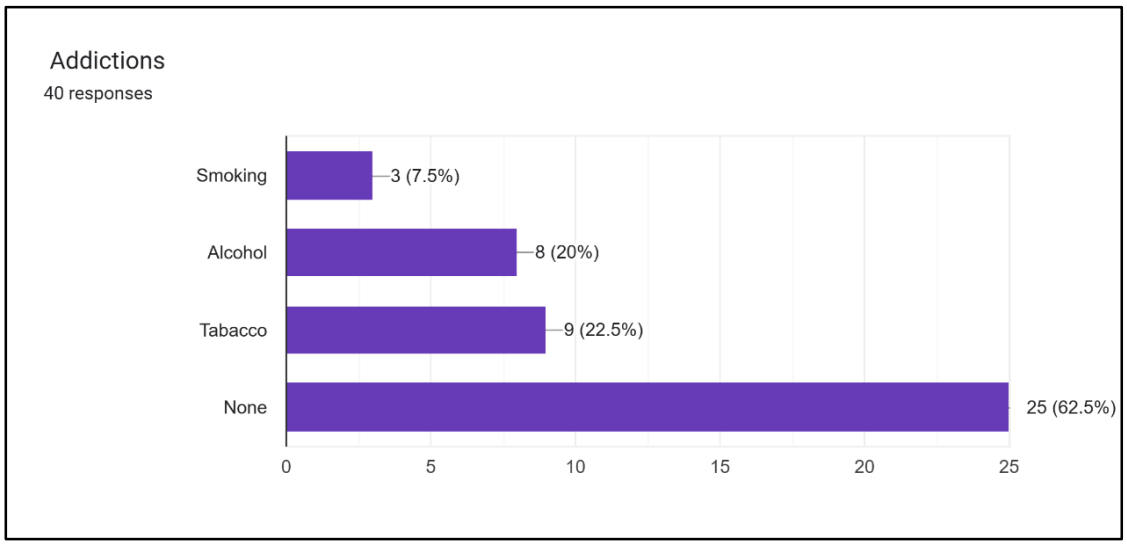

Like your Work and Work Place ?
40 responses
95%
Yes
No

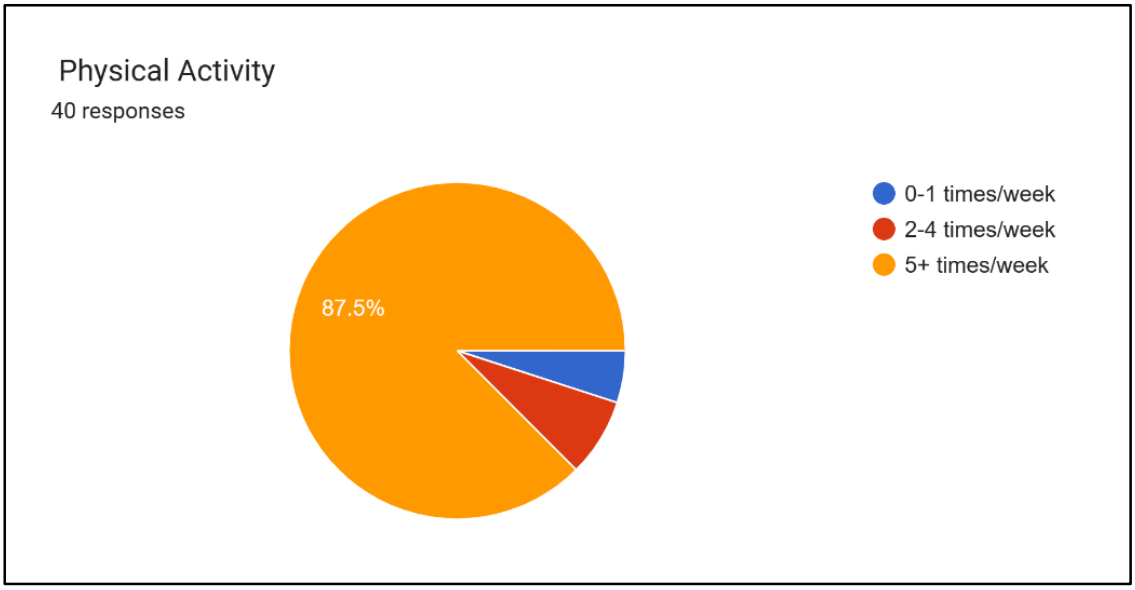
NON-WORKING FACTORS INFLUENCING MUSCULOSKLETAL PAIN:







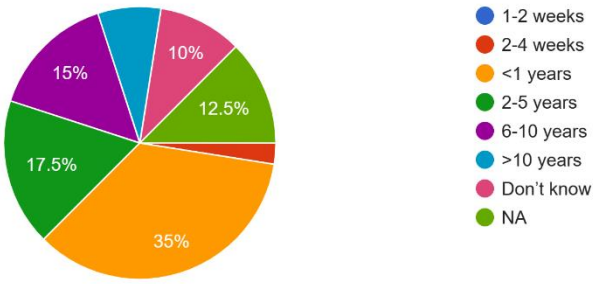




CHARTERISTICS OF MUSCULOSKELETAL PAIN

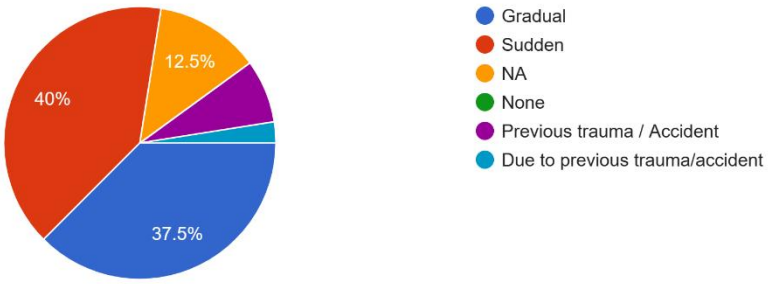
When did your current pain/problem start

40 responses



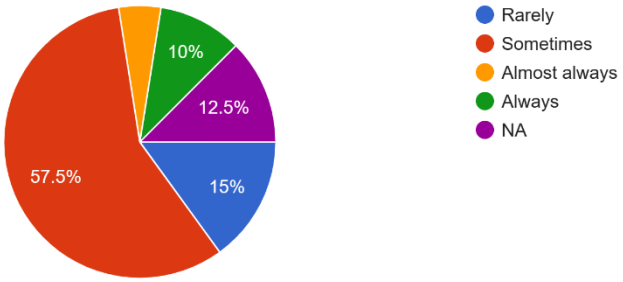
Nature of Onset

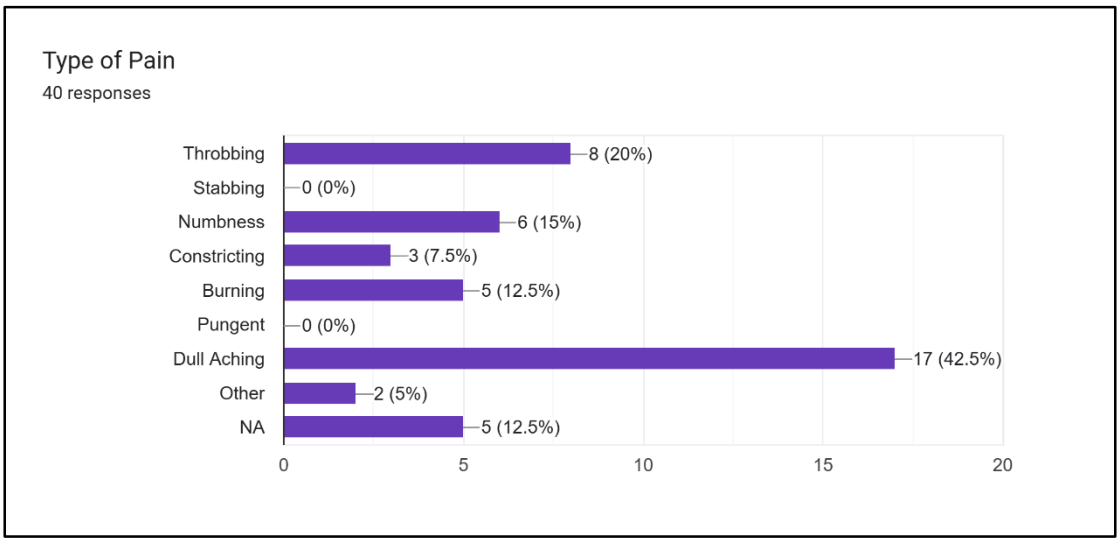
40 responses

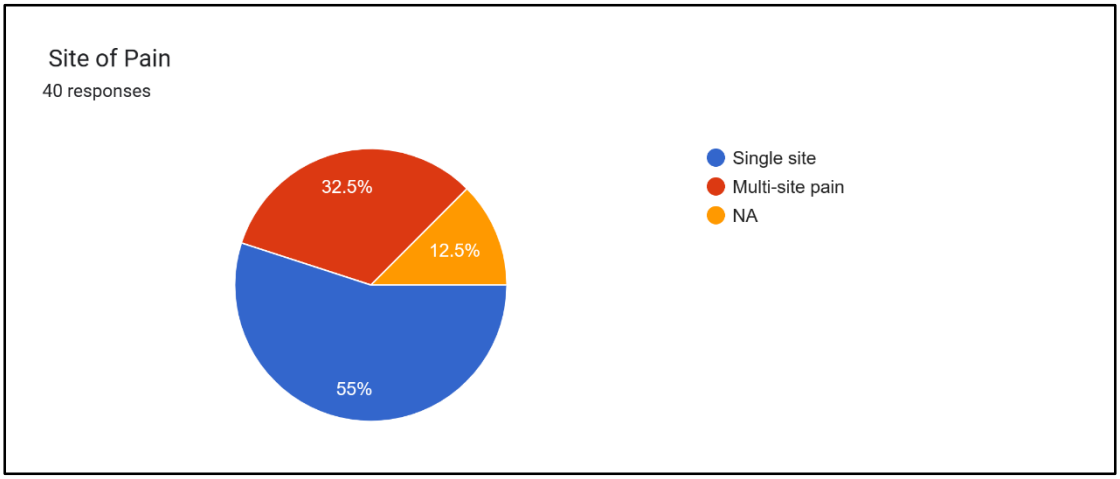


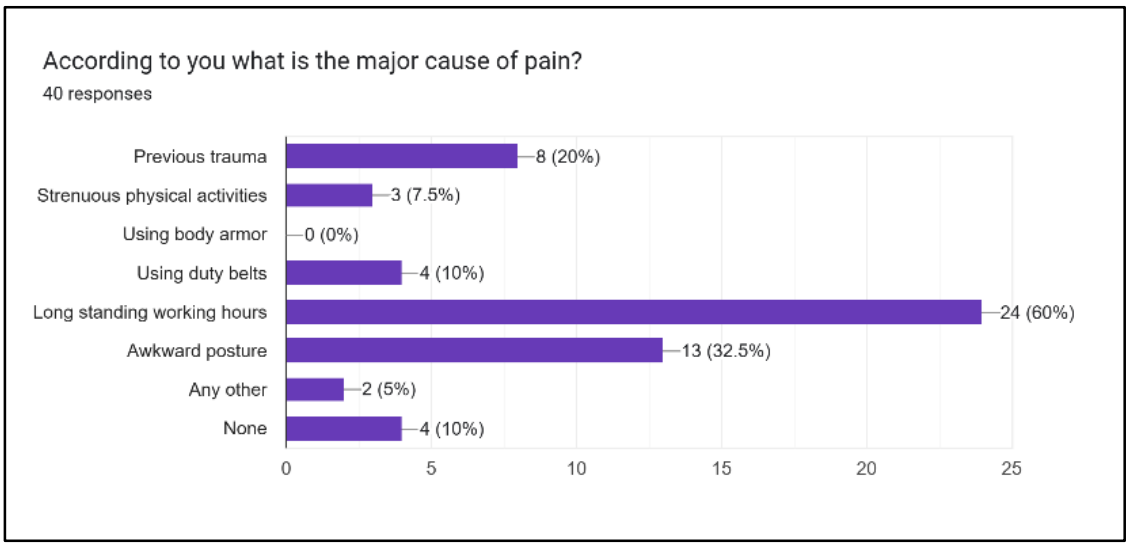
Intensity of Pain

40 responses





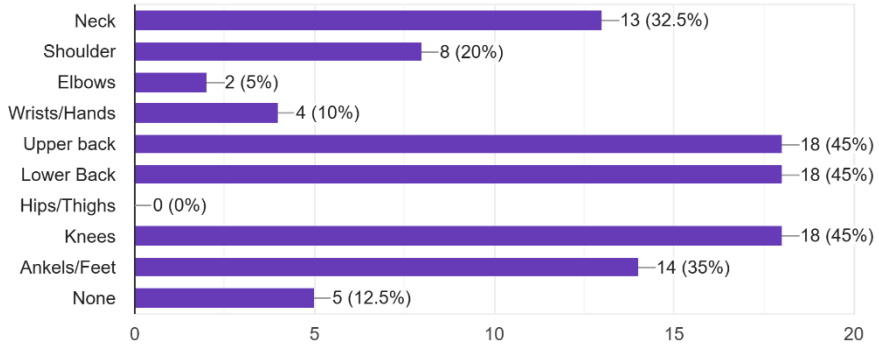




NORDIC MUSCULOSKELETAL PAIN QUESTIONNAIRE

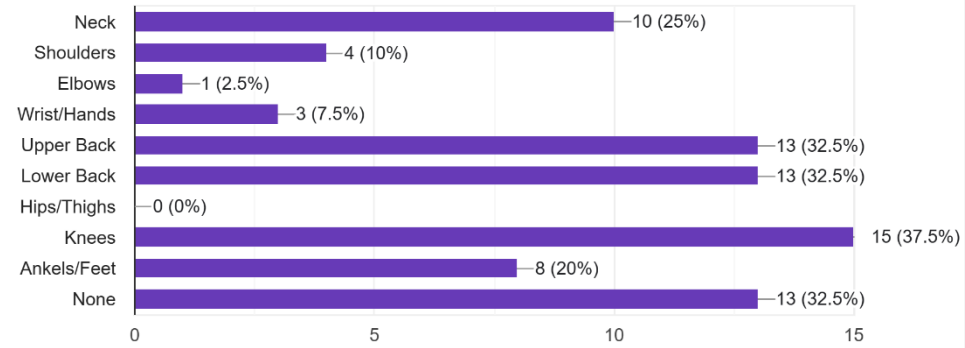
1. HAVE YOU AT ANY TIME DURING THE LAST 12 MONTHS HAD TROUBLE IN: (Select if Yes)

40 responses



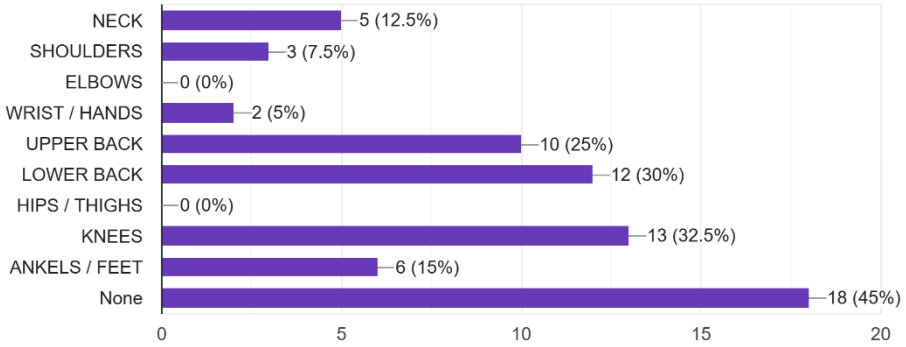
2. HAVE YOU AT ANY TIME DURING THE LAST 12 MONTHS BEEN PREVENTED FROM DOING YOUR NORMAL WORK BECAUSE OF THE TROUBLE? (Select if Yes)

40 responses



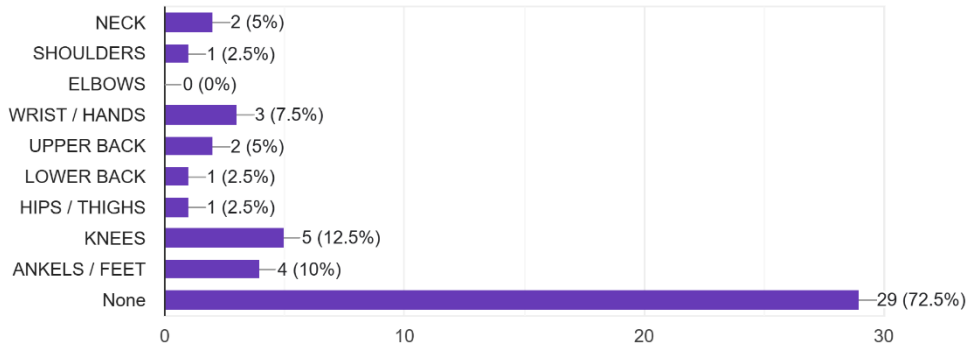
3. HAVE YOU HAD TROUBLE AT ANY TIME DURING THE LAST 7 DAYS? (Select if Yes)

40 responses



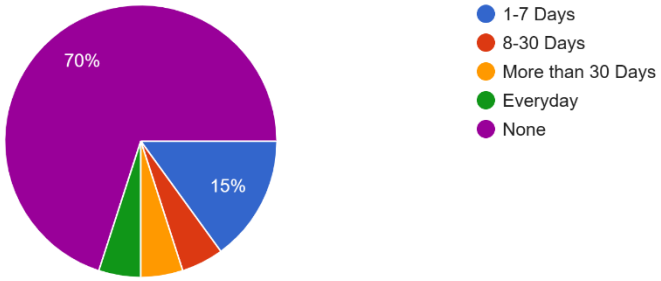
4. HAVE YOU EVER HURT YOUR BODY PART IN AN ACCIDENT? (Select if Yes)

40 responses



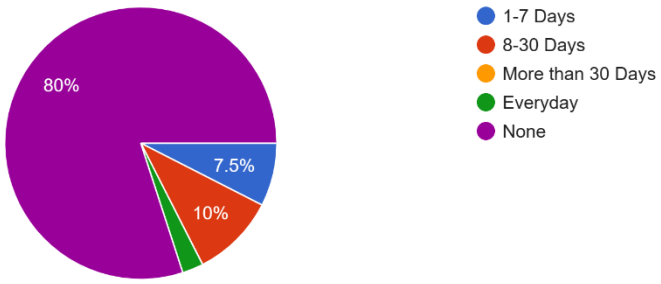
5.1 WHAT IS TH E TOTAL LENGTH OF TIME THAT YOU HAVE / HAD TROUBLE DURING LAST 12 MONTHS ? (In Neck)

40 responses



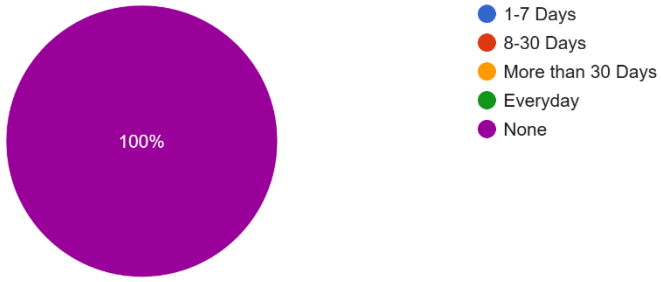
5.2 WHAT IS TH E TOTAL LENGTH OF TIME THAT YOU HAVE / HAD TROUBLE DURING LAST 12 MONTHS ? (In Shoulder)

40 responses



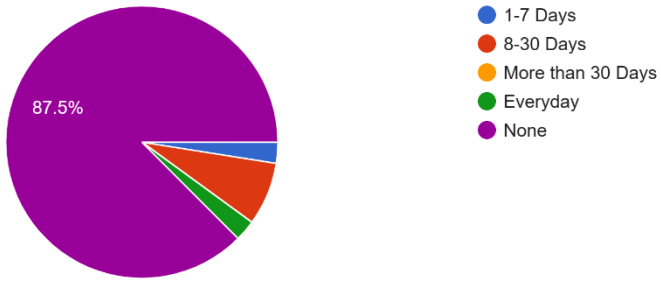
5.3 WHAT IS TH E TOTAL LENGTH OF TIME THAT YOU HAVE / HAD TROUBLE DURING LAST 12 MONTHS ? (In Elbows)

40 responses



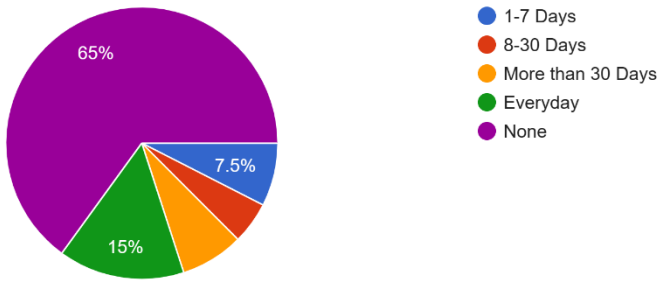
5.4 WHAT IS TH E TOTAL LENGTH OF TIME THAT YOU HAVE / HAD TROUBLE DURING LAST 12 MONTHS ? (In Wrist/Hands)

40 responses



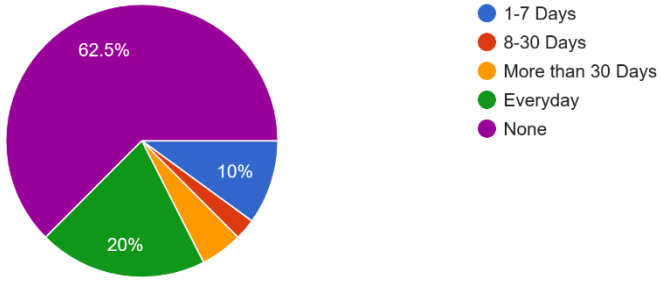
5.5 WHAT IS TH E TOTAL LENGTH OF TIME THAT YOU HAVE / HAD TROUBLE DURING LAST 12 MONTHS ? (In Upper Back)

40 responses



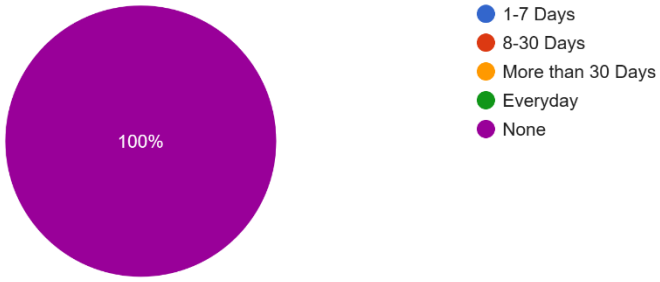
5.6 WHAT IS TH E TOTAL LENGTH OF TIME THAT YOU HAVE / HAD TROUBLE DURING LAST 12 MONTHS ? (In Lower Back)

40 responses



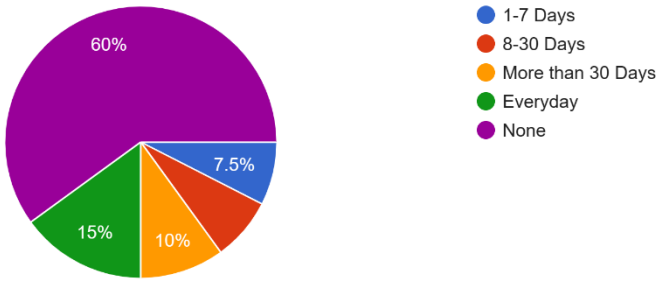
5.7 WHAT IS TH E TOTAL LENGTH OF TIME THAT YOU HAVE / HAD TROUBLE DURING LAST 12 MONTHS ? (In Hips/Thighs)

40 responses



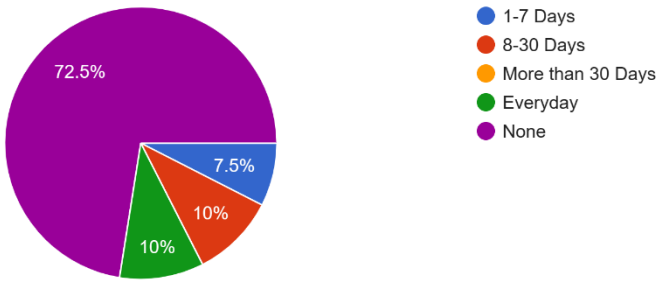
5.8 WHAT IS TH E TOTAL LENGTH OF TIME THAT YOU HAVE / HAD TROUBLE DURING LAST 12 MONTHS ? (In Knees)

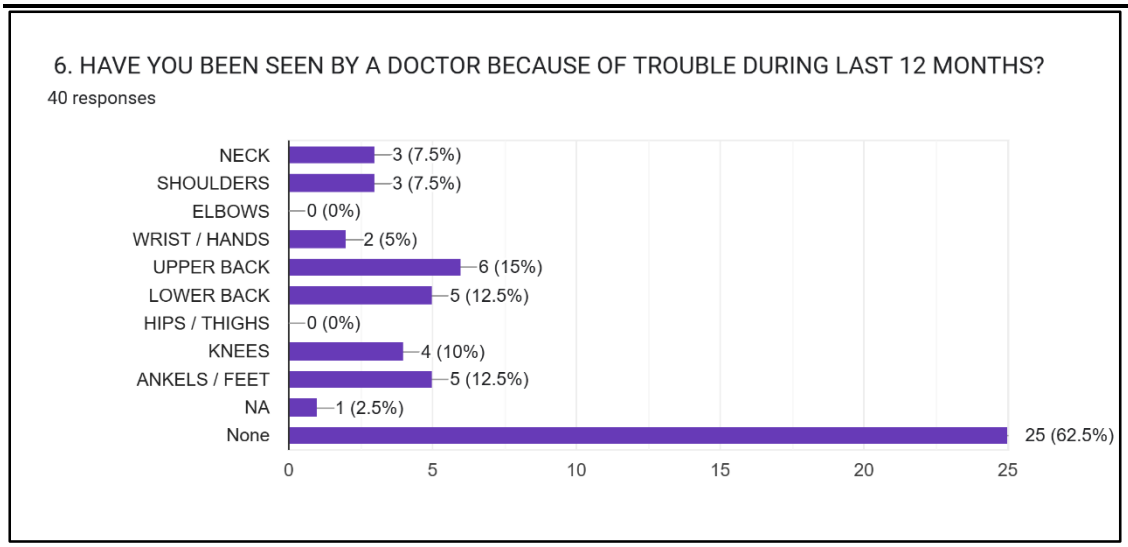
40 responses



5.9 WHAT IS TH E TOTAL LENGTH OF TIME THAT YOU HAVE / HAD TROUBLE DURING LAST 12 MONTHS ? (In Ankels/Feet)

40 responses





RESULTS

Data of 40 participants was analyzed. With a mean age of 42.6 years, the age range ranged from 24 years to 78 years with a body mass index of 18.5 kg/m^2 (underweight)-39.9 kg/m^2 (obese class II). In this study 34(85%) males and 6(15%) females participated based on inclusion and exclusion criteria. Out of the 40 participants 26(65%) were into administration, 23(57.5%) did patrolling and 11(27.5%) were into special operations. It was reported that (32.5%) of participants were working for <24 hours, (27.5%) for >12 hours, (27.5%) for <12 hours and (12%) working for >24 hours per day. (95%) of police officers worked both day and night with exposure to physical work load of medium (57.5%) and high (42.5%). In this study it was noted that majority of the participants 27(67.5%) thought their sleep was affected due to stress whereas 5(12.5%) thought it was because of pain.

WORKING FACTORS INFLUENCING MUSCULOSKLETAL PAIN:

Out of 40 participants (52%) did desk job whereas (42.5%) spend their day on bike, 40% worked on ground and (22%) spend their day in a vehicle(car/van) majority of times.

22(55%) participants acquired a static posture on the other hand 18(45%) participants acquiring dynamic posture during working hours.

(50%) of participant wore duty belt during their working hours and through their service.

It was reported that (75%) complained that they did not get adequate sleep with (72.5%) participants claiming their job to be stressful in nature.

According to the participants past year experience noted, (77.5%) were exposed to disturbing crime, (15%) were exposed to catastrophic loss and (12.5%) were exposed to fight during their service.

NON- WORKING FACTORS INFLUENCING MUSCULOSKLETAL PAIN:

Majority of the participants (92.5%) lived with their family and (32.5%) of the participants were reported to have family stress.

Approximately (22.5%) of the participants reported being addicted to tobacco chewing whereas (20%) and (7.5%) being addicted to alcohol and smoking respectively.

According to the participants majority (87.5%) of them did physical activity for 5+ times/week, with (7.5%) reported it to be 2-4 times/week and (5%) reported it to be 0-1 times/day.

CHARTERISTICS OF MUSCULOSKELETAL PAIN:

(35%) of the total participants experienced pain/problem since <1 year whereas (17.5%) of participants experienced it from 2-5 years, (15%) were experiencing pain since the last 6-10 years with (12.5%) reporting no pain.

According to the participants nature of pain onset was reported to be sudden (42.5%) followed by gradual (37.5%) and (10%) experienced pain due to previous trauma whereas (10%) reported no pain.

(42.5%) of the police officers experienced dull aching pain followed by (20%) with throbbing type of pain, numbness was experienced by (15%) of the population which was followed by burning type of pain by (12.5%). Also, (12.5%) people did not experience any type of pain.

In this study some police officers reported pain to be single site (55%) as compared to other (32.5%) of police officers who experienced multisite pain.

Aggravating factor for pain were reported to be prolonged sitting, prolonged standing, travelling, inadequate sleep whereas pain relieving factors were rest and medications.

(60%) of participants claimed that long standing working hours was the major cause of their pain followed by (32.5%) who thought awkward posture was the major cause of their pain, (20%) believed it to be due to previous trauma/accident, whereas (7.5%) thought it was because of strenuous physical activities during working hours.

(10%) thought using duty belt was the major cause of their pain whereas (10%) report no pain at all.

NORDIC PAIN QUESTIONNAIRE

In this study, the upper back (45%), lower back (45%) and knees (45%) were the most commonly affected body regions in the past 12 months. This was followed by ankle/feet pain in (35%), neck pain in (32.5%), (17.5%) experienced shoulder pain, (10%) of the participants experienced wrist/hand pain and the least affected body region was reported to be elbows by (2.5%) of the participants.

This study also revealed that (12.5%) of the police officers did not experience any trouble/pain in the past 12 months.

Also, (37.5%) of the participants experienced pain in their knees during the last 12 months which prevented them from doing their normal work this was followed by upper back and lower back pain reported by (32.5%) of participants. (27.5%) faced problem in their neck whereas (20%) in their ankle/feet, (12.5%) experienced pain in shoulder, (7.5%) in wrist/hands and (2.5%) had pain in elbows.

The knees (35%) were the most common body region affected in the past 7 days which was followed by lower back pain (30%) and upper back pain by (25%),(15%) of the participants experienced ankle/feet pain, (12%) experienced neck pain followed by shoulder pain by (7.5%). The least affected body region was reported to be elbows by (2.5%) and wrist/hands by (2.5%). (45%) of the participants claimed that they experienced no pain in the past 7 days.

(15%) of the participants experienced pain every day in the upper back, (7.5%) reported it was from more than 30 days, (5%) reported it was from 8-30 days whereas (7.5%) reported it was from past 1-7 days during the last 12 months.

(20%) of the participants faced trouble in the lower back every day followed by (5%) who experienced pain from more than 30 days, (10%) reported the pain in lower back from the past 1-7 days whereas (2.5%) reported it was from 8-30 days during the last 12 months.

(15%) of the participants face trouble due to pain in their knees while (10%) reported it was from more than 30 days in the past 12 months this was followed by (7.5%) of the participants who reported pain from 8-30 days and (7.5%) reported it to be from 1-7 days in the past 12 months.

(10%) of the participants experienced pain in their ankle/feet every day since the past 12 months, (10%) experienced the same pain from the past 8-30 days whereas (7.5%) reported it to be from 1-7 days.

CHAPTER 6

DISCUSSION

Musculoskeletal disorder is considered major health problem all over the world; affecting people in all occupations.[6] These health problems have caused significant suffering as well as reduced working capacity and decreased productivity among them. A study done by Bevan et al. 2015; Hoy et al 2010; Lidgren 2003; Monnier et al. 2015 revealed that musculoskeletal disorders in the general population are a major health problem, leading to sickness absence and limitation in work ability. Jesus et al. 2012, McGill S et al. 2015 stated that one of the occupations that is exposed to musculoskeletal disorders is policing. Factors like high level of traumatic and non-traumatic stressors make policing a highly stressful occupation.[4] According to studies reported by Rhee H et al. 2013 ; Cho TS et al. 2014, The symptoms of musculoskeletal disorders seen in police officers may occur in different parts of body, but with a high prevalence for back and lower limbs.

The current study investigated the prevalence of musculoskeletal pain among police officers of Loni, Rahata in the past 7 days as well as the past 12 months. It was found that majority of the participants in the study were males which was found to be similar with a reported study from Nigeria and Brazil[4,7]. This finding also confirmed the assumptions that police force in Loni, Rahata is a male-dominant profession. The NMQ was used to collect the site and frequency of MMS among police officers. This questionnaire used was validated in different languages and with different populations. It was used worldwide to evaluate musculoskeletal symptoms, as well as in combination with an ergonomic approach in different occupational groups. One study described that the use of the instrument could be recommended due to its practicality and speed of completion, particularly in epidemiological studies, in which the feasibility of applying it in large samples is often the criterion for choosing the method to be used.[8]

From the outcomes of this study, the highest 12-month prevalence was reported in the upper back (45%), lower back (45%) and knees (45%) followed by ankle/feet (35%), neck (32.5%), shoulder (17.5%), wrist/hand (10%) (2.5%) elbows. The most common body region affected in the past 7 days were reported to be the knees (35%) followed by lower back (30%), upper back (25%), ankle/feet (15%), neck (12%), shoulder

(7.5%), elbow (2.5%), wrist/hand (2.5%). This finding was consistent with other figures reported in previous studies. A study among traffic police officers in Navi Mumbai, India showed regions of chronic pain to be lower back (38%), upper back (36%), and acute pain to be 15% and 13% for lower back and upper back respectively[9]), while Akodu AK et al. 2014[10] investigated the prevalence of low back pain among traffic wardens in Lagos, Nigeria and found it to be 69.5%, whereas Braga KK et al . 2018 studied pain and musculoskeletal discomfort in military police officers and analyzed that the most affected areas by discomfort in motor cycle patrolling group are lumbar region, dorsal region, neck and knees. Over the course of the seven days, the frequency of pain varied from 25.2-26.8% in the lumbar region to 14.9-19.5% in the knees, 12.2-16.4% in the dorsal region, 14.5-17.1% in the shoulders, 9.5-17.1% in the wrists, hands, and fingers, 12.2-14.5% in the neck, 4.9-13% in the ankles and feet, 7.3-9.9% in the hips and thighs, 9-5.3% in the elbow. The frequency over the course of a year ranged from 41.5 to 51.5% in the lumbar region, 34.4 to 43% in the knees, 22 to 45% in the dorsal region, 29 to 41.5% in the neck, 7.34 to 32.4% on the shoulders, 18.2 to 28.2% on the ankles and feet, 7.34 to 26.8% on the wrists, hands, and fingers, 12.2 to 18.3% on the hips and thighs, 7.3 to 11.5%.[8,11]) Also regarding specifically to back pain, another study found that 91.5% of the sample had back pain at some time in their life, 67.7% in the last 12 months, and 28.7% had chronic low back pain. [8]

Numerous factors related to the activities of police officers may be linked to the increased frequency of discomfort symptoms in the lower back, dorsal, knee, neck, and shoulder areas. For instance, the overload caused by the profession's inherent activities, such as running, jumping, and fighting to handcuff someone who is resisting arrest, which involve extremely high physical demands during some working hours. Although multi-site musculoskeletal pain was strongly associated with discomfort from wearing a duty belt and body armour, the duty belt was determined to have the strongest connection. The police may experience musculoskeletal issues due to several biomechanical causes. Prior research has shown that when wearing a police duty belt, the right hip's range of motion is restricted, and the arms assume an abducted position (Larsen et al. 2016; Ramstrand et al. 2016). While walking with abducted arms may be caused by the duty belt's wider circumference around the pelvis, the restricted range of motion for the right hip is probably caused by the site of the weapon.[8]

The results of this study show that participants with varying years of job experience have significantly variable prevalence of MSDs. High prevalence was reported among participants with 20 years of working experience, followed by those working for < 10 years. This result suggests that more years of work experience are linked to a higher prevalence of MSDs and is consistent with findings from a previous study[12,13] that found that more years of work experience was a risk factor for the onset of MSDs. Additionally, it has been noted that the length of service is favorably connected to musculoskeletal issues.

A significant difference was found in the prevalence of MSDs among the individuals, depending on how many hours they worked each day. The prevalence rate of police officers who worked less than 24 hours was 32.5% whereas those working for less than 12 hours and more than 12 hours was 27.5%. This supports the findings of Beibei et al[14], who reported that prolong working hours is associated with WMSDs.

It is important to consider that musculoskeletal disorders can progress to even more serious issues, such absenteeism, which can have a detrimental effect on work activity and job performance as well as on the

economy and society. Thus, a study that involved the helicopter pilots of the US Air Force in a randomized controlled clinical trial and used a 12-week central body muscular strengthening training for the intervention group demonstrated reduced low back pain symptoms and disability at the end of the study.

Therefore, police institutions should consider investing in physical exercise programs to prevent leave of absence due to musculoskeletal pain.[8]

CHAPTER 7

CONCLUSION

Out of the 40 participants evaluated for this study and according to the questionnaire evaluated it shows that there was a high 12-month prevalence of musculoskeletal pain among the police officers with upper back, lower back and knees being the most commonly reported body region. The prevalence of musculoskeletal pain was associated with higher working experiences and long working hours/day. Based on the findings of this study, it is crucial to incorporate ergonomic education into police officer training and to enhance their working environment. This is done to improve the health of this population, avoid or lessen the occurrence of MSDs, and promote wellness.

7.1 LIMITATIONS OF THIS STUDY

- The study included smaller sample size.
- The study was limited to Loni, Rahata police stations.

7.2 FUTURE SCOPE OF THE STUDY

- Study can be expanded to large sample size and in multiple police stations from various geographical locations for better results.
- More research is needed to explore better results.
- More research is required to determine the risk factors for MSS linked to police work, as well as controlled trials involving physical training regimens are also required to lessen the functional disability and severity of MSS in this population.

ACKNOWLEDGMENTS

We wish to thank the participants in the study.

CONFLICT OF INTEREST

None declared.

SOURCE OF FUNDING

None.

CHAPTER 8

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CHAPTER 9

APPENDIX I

INSTITUTIONAL ETHICAL COMMITTEE CERTIFICATE

Ref. No. PIMS/DR.APJAKCOPT/IEC/2022/209 Date: 15/04/2022

To,
SHRUTI PRAKASH KAMBLE
IVBPT/Intern,
Dr. APJ Abdul Kalam College of Physiotherapy

The institutional Ethical committee in its meeting held on 7th April 2022 has reviewed and discussed your research proposal.

Registration No:	**COPT/BPT/IVBPT-INT/2022/33**
Title of study:	PREVALENCE OF MUSCULOSKELETAL PAIN AND ASSOCIATED RISK FACTORS IN POLICE OFFICERS RESIDING IN RAHATA, LONI
Decision of committee	**Approved**
Approved period	**16/04/2022 to 16/04/2023**
Committee's recommendation:	Nil

Please Note:

- The research is to be carried out in line with the information provided in the forms submitted by the candidate
- Inform IEC immediately in case of any Adverse events and serious adverse events
- Inform IEC immediately in case of any change in study procedure/ Protocol, site and investigator
- This permission is only for period mentioned above. Six month/ final reports are to be submitted to IEC
- Members of IEC have right to monitor the progress with prior intimation

Signature,
Secretary IEC for UG & PG Research,
DR. APJ ABDUL KALAM COPT.

APPENDIX II

CONSENT FORM

सूचित संमती फॉर्म

तारीख:

मी. _____ माझ्या स्वत:च्या निवडीच्या स्वेच्छेने, याद्वारे अभ्यासामध्ये समाविष्ट होण्यासाठी माझी संमती द्या - **पोलीस दलातील मस्क्युलोस्क्लेटल वेदना आणि संबंधित जोखीम घटकांचा प्रादुर्भाव**

मला माझ्या समाधानासाठी अभ्यासाचा उद्देश कळवण्यात आला आहे आणि म्हणून मी पूर्ण सहकार्य करण्यास आणि अभ्यासात भाग घेण्यास सहमत आहे.

मला सूचित करण्यात आले आहे की माझ्या माहितीचा कोणताही भाग अभ्यासासाठी वापरला जाणारा डेटा वगळता उघड केला जाणार नाही आणि पुरेशी गुप्तता राखली जाईल.

तसेच, माहितीचा कोणताही भाग माझ्याविरुद्ध वापरला जाणार नाही.

मला कोणत्याही वेळी निवड रद्द करण्याचा आणि माझा डेटा अभ्यासाच्या कोणत्याही टप्प्यावर वापरला जाण्यास प्रतिबंध करण्याच्या माझ्या अधिकाराची देखील जाणीव आहे.

स्वाक्षरी:

APPENDIX III

पोलीस दलातील मस्क्युलोस्क्लेटल वेदना आणि संबंधित जोखीम घटकांचा प्रादुर्भाव

प्रश्नावली

वैयक्तीक माहिती

नांव :

वय :

लिंग :

- स्त्री
- पुरूष

उंची

वजन

बी एम आय

निवासी पत्ता

वैवाहिक स्थिती

- अविवाहित
- विवाहित
- घटस्फोटित

शिक्षण

- प्राथमिक शाळा प्रमाणपत्र
- माध्यमिक शाळा प्रमाणपत्र
- हायस्कूल प्रमाणपत्र
- हायस्कूल डिप्लोमा
- पदवीधर
- पदव्युत्तर
- सन्मानाचा व्यवसाय
- इतर

कार्याची माहिती

रँक

- पोलिस कॉन्स्टेबल
- पोलिस नायक
- हेड कॉन्स्टेबल
- असिस्टंट पोलिस सब इन्स्पेक्टर/हवालदार मेजर
- पोलिस सब इन्स्पेक्टर
- असिस्टंट पोलिस सब इन्स्पेक्टर
- पोलिस इन्स्पेक्टर
- डेप्युटी सुपेरिटेन्ड पोलिस
- अडीशंनल सुपेरिटेन्ड पोलिस
- सुपेरिटेन्ड पोलिस
- सिनीओर सुपेरिटेन्ड पोलिस
- डेप्युटी इन्स्पेक्टर जेनरल पोलिस
- इन्स्पेक्टर जेनरल पोलिस
- अडीशंनल डायरेक्टर जेनरल पोलिस
- डायरेक्टर जेनरल पोलिस
- डायरेक्टर ऑफ इंटेलिजेण्ड्स ब्यूरो

कामाची श्रेणी

- प्रेशासन
- गस्त घालणे
- विशेष ऑपरेशन्स

कार्य सेवा/कार्यकाळ

- < 10 वर्ष
- < 10 वर्ष ते 20 वर्ष
- > 20 वर्ष

दररोज कामाचे तास

- < 12
- > 12
- < 24
- > 24

पाळी

- दिवस
- रात्र
- दोन्ही वेळेस

शारीरिक श्रम

- कमी
- मध्यम
- जास्त

सामान्य प्रश्न

आहार :

- शाकाहारी
- मांसाहारी
- दोन्ही

तुमच्या झोपेवर परीणाम होतो असे तुम्हांला वाटते का ? : हो/नाही

- वेदनेमुळे
- तणावामुळे
- या व्यतीरीक्त (त्याबाबत लिहणे)

तुम्ही वारंवार गैरहजर राहता का?

- होय
- नाही

तुम्हांला वाटतं तुमच्या वेदना हेच गैर हजेरीचे मुख्य कारण आहे. ? :

- हो
- नाही

तुम्हांला अस वाटतं का, वेदनेमुळे तुमची गैर हजेरी इतर पोलिस ऑफिसरांवर जास्त ताण पाडते ?

- हो
- नाही

मस्क्यूलोस्केलेटल वेदनावर परिणाम करणारे कार्यरत घटक

आपला वेळ आपण कसे घालवता

- पायावर / जमिनीवर
- वाहनात (वॅन / कार)
- दुचाकीवर
- डेस्क जॉब

काम करताना अस्ताव्यस्त स्थिती

- स्थिर स्थिती
- डायनॅमिक स्थिती / पुनरावृत्ती क्रियाकलाप

डयुटी बेल्ट घालणे

- हो
- नाही

जड वजन / वस्तू उचलणे

- हो
- नाही

पुरेशी विश्रांतीचा वेळ आणि जर होय तर दररोज विश्रांतीचा कालावधी

- हो
- नाही

नोकरीचे स्वरूप

- तणावपूर्ण
- तणावपूर्ण नाही

गेल्या वर्षाचे अनुभव

- त्रासदायक गुन्हयाचा अनुभव
- आपत्ती जनक नुकसानास सामोरे जावे लागले
- शूटींगच्या समोर
- लढण्याचा अनुभव

तुमचे सहकारी / वरीष्ठ यांच्याशी नाते

- चांगले
- काहीसे चांगले
- ठीक आहे
- चांगले नाही

तुमचे काम आणि कामाचे ठिकाण तुम्हांला आवडते का ?

- हो
- नाही

मस्क्यूलोस्केलेटल वेदनावर परिणाम करणारे नॉन–वर्किंग घटक

कुटुंबासह राहतात

- हो
- नाही

तुम्हांला मुले आहेत का ? जर होय तर किती आणि मुलांचे वय

कुटुंबाचा तणाव

- हो
- नाही

व्यसने

धुम्रपान (बिडी / सिगारेट)

- हो
- नाही

दारू

- हो
- नाही

तंबाखू चघळणे

- हो
- नाही

शारीरिक क्रिया कलाप

- 0 – 1 वेळा / आठवडा
- 2 – 4 वेळा / आठवडा
- 5 + वेळा / आठवडा

मस्क्यूलोस्केलेटल वेदनाची वैशिष्टये

तुमच्या सध्याची वेदना/समस्या कधी सुरू झाली

- 1 – 2 आठवडे
- 2 – 4 आठवडे
- < 1 वर्ष
- 2 – 5 वर्ष
- 6 – 10 वर्ष
- > 10 वर्ष
- महित नाही

सुरवातीचे स्वरूप

- क्रमिक
- अचानक
- मागिल आघात/अपघातामुळे

वेदनाची तीव्रता

- क्वचीत
- कधी कधी
- जवळ जवळ नेहमी
- नेहमी

वेदनेचा प्रकार

- धडधडणे
- वार करणे
- सुन्न होणे
- संकुचित करणे
- जळ जळ करणे
- तीक्ष
- रग लागणे
- या व्यतीरीक्त

वेदनेची जागा

- एक जागा
- अनेक जागा

तुमच्या वेदना वाढवणारा घटक

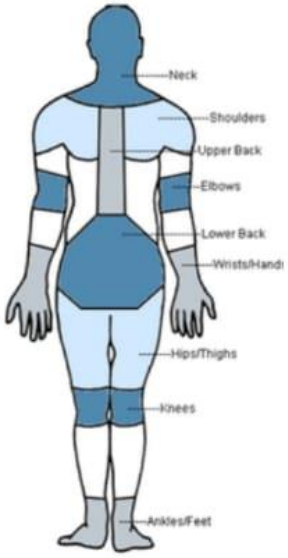
तुमच्या वेदना कमी करणारा घटक

तुमच्या मते वेदनेचे प्रमुख कारण काय आहे.

- मागिल आघात
- कठोर शारिरीक क्रिया कलाप
- शारिरीक चिलखत वापरणे
- ड्युटी बेल्ट वापरणे
- जास्त वेळेचे काम
- अवघडलेली शारिरीक स्थिती
- इतर कारणे

मोडिफाईड नॉर्डिक प्रश्नावली

लोकोमोटिव्ह अवयवांसह त्रास



तुम्हाला गेल्या 12 महिन्यांत कधीही यात समस्या आली आहे का:			ज्यांना त्रास झाला त्यांनाच उत्तर द्यायचे											
			तुम्हाला गेल्या 12 महिन्यान्मधे तुमच्या त्रासामूळे सामान्य काम करण्यात अडथळा आला आहे का?		गेल्या 7 दिवसात तुम्हाला कधीही त्रास झाला आहे का?		तुम्हाला कधी अपघातात तुमच्या शरीराच्या भागाला दुखापत झाली आहे का?		गेल्या 12 महिन्यांत तुम्हाला किती वेळ त्रास झाला आहे?				गेल्या 12 महिन्यांत तुम्हाला त्रास झाल्यामुळे डॉक्टरांनी पाहिले आहे का?	
									1-7 दिवस	8-30 दिवस	30 दिवसांपेक्षा जास्त	रोज		
मान	होय	नाही	होय	नाही	होय	नाही	होय	नाही					होय	नाही
खांदे	होय	नाही	होय	नाही	होय	नाही	होय	नाही					होय	नाही
कोपर	होय	नाही	होय	नाही	होय	नाही	होय	नाही					होय	नाही
मनगट/हात	होय	नाही	होय	नाही	होय	नाही	होय	नाही					होय	नाही
पाठीचा वरचा भाग	होय	नाही	होय	नाही	होय	नाही	होय	नाही					होय	नाही
पाठीचा खालचा भाग	होय	नाही	होय	नाही	होय	नाही	होय	नाही					होय	नाही
नितंब/जांघे	होय	नाही	होय	नाही	होय	नाही	होय	नाही					होय	नाही
गुडघे	होय	नाही	होय	नाही	होय	नाही	होय	नाही					होय	नाही
घोटे/पाय	होय	नाही	होय	नाही	होय	नाही	होय	नाही					होय	नाही

APPENDIX IV

MASTERCHART

SR. NO	Age	Gender	Height	Weight	BMI	Residential Address	Marital Status	Education
1	32	Male	173	68	22.7	Rahata	Married	Graduate
2	32	Male	175	65	22	Rahata	Married	Graduate
3	45	Male	160	75	29.3	Rahata	Married	Graduate
4	32	Female	165	65	23.9	Sangamner	Married	Graduate
5	40	Male	184	110	32.5	Rahata	Married	Graduate
6	38	Male	179	77	24	Loni	Married	Graduate
7	53	Male	166	75	27.2	Loni	Married	Middle School Certificate
8	34	Female	164	50	18.6	Loni	Married	Graduate
9	31	Male	163	93	35	Loni	Married	High School Certificate
10	59	Male	169	73	25.6	Loni	Married	Graduate
11	39	Male	170	91	31.5	Rahata	Married	High School Certificate
12	39	Male	167	76	27.2	Loni	Married	Post Graduate
13	55	Male	164	87	32.3	Rahata	Married	High School Certificate
14	52	Male	168	70	28	Loni	Married	Middle School Certificate
15	40	Male	182	65	19.6	Rahuri	Married	Graduate
16	32	Male	173	68	22.7	Loni	Married	Graduate
17	59	Male	189	65	18.2	Loni	Married	Middle School Certificate
18	40	Male	165	64	23.5	Rahata	Married	Graduate
19	34	Male	172	117	39.5	Rahata	Married	High School Certificate
20	53	Male	178	100	31.6	Loni	Married	Graduate
21	42	Male	167	82	29.4	Loni	Married	Graduate
22	78	Male	177	78	24.9	Loni	Married	Graduate
23	32	Male	153	80	34.2	Loni	Married	Graduate
24	55	Male	153	63	27.8	Loni	Married	High School Certificate
25	52	Male	165	75	27.5	Loni	Married	Graduate
26	38	Male	182	81	24.5	Rahuri	Married	Graduate
27	54	Male	169	90	31.5	Rahata	Married	High School Certificate
28	38	Female	156	59	24.2	Loni	Married	Graduate
29	39	Male	186	98	28.3	Loni	Married	Graduate
30	54	Male	176	80	25.8	Loni	Married	Graduate
31	37	Female	163.3	55	20.6	Loni	Married	High School Certificate
32	58	Male	175	84	27.4	Rahata	Married	Post Graduate
33	33	Female	164	53	19.7	Rahata	Married	Graduate
34	48	Male	166	68	24.1	Loni	Married	Graduate
35	24	Male	175	65	21.2	Rahata	Single	Graduate
36	41	Male	165	68	25	Loni	Married	Middle School Certificate
37	33	Male	177	77	24.6	Loni	Married	Post Graduate
38	40	Male	181	97	24.9	Shirdi	Married	Post Graduate

39	31	Female	157	85	34.5	Rahata	Married	High School Certificate
40	38	Male	180	106	32.7	Loni	Married	Post Graduate

1	2	3	4	5	6
Police Constable	Patrolling	< 10 years	<24	Both	Medium
Police Sub Inspector	Administration, Patrolling, Special operations	< 10 years	<24	Both	High
Head Constable	Administration	0-20 years	>24	Both	Medium
Police Naik/ Senior police constable	Administration	0-20 years	<12	Both	Medium
Police Naik/ Senior police constable	Patrolling, Special operations	0-20 years	>12	Both	Medium
Police Naik/ Senior police constable	Administration, Patrolling, Special operations	0-20 years	>12	Both	Medium
Assistant Police. Sub. Inspector /Havildar Major	Administration, Patrolling, Special operations	>20 years	<24	Both	Medium
Police Naik/ Senior police constable	Administration, Patrolling, Special operations	0-20 years	<12	Both	High
Police Constable	Patrolling	0-20 years	<24	Both	Medium
Police Constable	Administration, Patrolling, Special operations	>20 years	>24	Both	High
Head Constable	Administration, Patrolling	0-20 years	<24	Both	High
Police Naik/ Senior police constable	Administration, Patrolling	0-20 years	>12	Both	High
Head Constable	Administration	>20 years	<12	Both	Medium
Police Sub Inspector	Special operations	>20 years	>24	Both	High
Police Naik/ Senior police constable	Administration	0-20 years	>12	Both	High
Police Naik/ Senior police constable	Administration	< 10 years	>24	Both	Medium
Head Constable	Patrolling	>20 years	<24	Both	High
Police Naik/ Senior police constable	Administration	0-20 years	<12	Both	Medium
Police Naik/ Senior police constable	Patrolling	< 10 years	>24	Both	Medium
Assistant Police. Sub. Inspector /Havildar Major	Administration	>20 years	<24	Both	High
Police Naik/ Senior police constable	Administration, Patrolling	0-20 years	<12	Both	Medium
Police Naik/ Senior police constable	Patrolling	< 10 years	<24	Both	High
Police Naik/ Senior police constable	Patrolling, Special operations	0-20 years	>12	Both	High
Police Sub Inspector	Administration, Patrolling	>20 years	<24	Both	Medium
Head Constable	Patrolling	>20 years	<24	Both	Medium
Police Naik/ Senior police constable	Patrolling	0-20 years	>12	Both	Medium
Assistant Police. Sub. Inspector /Havildar Major	Patrolling	>20 years	<24	Both	Medium
Police Naik/ Senior police constable	Administration	0-20 years	<12	Both	High
Police Naik/ Senior police constable	Administration, Patrolling, Special operations	0-20 years	>12	Both	Medium
Assistant Police. Sub. Inspector /Havildar Major	Patrolling	0-20 years	<24	Both	High
Police Constable	Administration	< 10 years	<24	Both	High
Police Inspector	Administration	>20 years	>12	Both	Medium
Police Naik/ Senior police constable	Administration	0-20 years	<12	Day	Medium
Head Constable	Administration	>20 years	<12	Day	High
Police Sub Inspector	Patrolling	0-20 years	<12	Both	Medium
Head Constable	Special operations	>20 years	>12	Both	High
Police Sub Inspector	Administration, Patrolling, Special operations	< 10 years	>12	Both	High
Police Naik/ Senior police constable	Administration	0-20 years	<12	Both	Medium
Police Constable	Administration	< 10 years	<12	Both	Medium

Police Inspector	Administration	0-20 years	>12	Both	Medium

1	2	3	4	5
Vegetarian	Stress	No	No	No
Mixed	Stress	No	No	No
Mixed	Stress	No	No	No
Mixed	Stress	No	No	No
Mixed	Stress	No	No	No
Vegetarian	Stress	No	No	No
Mixed	Stress	No	No	No
Vegetarian	Stress	No	No	No
Mixed	Stress	No	No	No
Mixed	Stress	No	Yes	Yes
Mixed	Stress	No	No	No
Mixed	None	No	No	No
Mixed	None	No	No	No
Mixed	Stress	No	Yes	No
Mixed	None	No	No	No
Mixed	Stress	No	No	No
Mixed	None	No	No	No
Mixed	None	No	No	No
Mixed	Pain, Stress	No	No	No
Mixed	Stress	No	No	No
Mixed	Stress	No	No	No
Mixed	Stress	No	Yes	Yes
Mixed	Stress	No	No	No
Mixed	Pain, Stress	No	No	No
Mixed	Stress	No	No	No
Mixed	None	No	No	No
Mixed	Stress	No	No	No
Vegetarian	Stress	Yes	Yes	Yes
Mixed	None	No	No	No
Mixed	Stress	No	No	No
Mixed	Stress	No	Yes	Yes
Mixed	Pain	No	No	No
Mixed	None, Any Other	No	No	No
Mixed	Stress	No	No	Yes
Mixed	Stress	No	No	No

Mixed	Pain	No	No	No
Vegetarian	None	No	No	No
Mixed	None	No	No	No
Mixed	Pain	Yes	Yes	Yes
Mixed	Stress	No	No	No

1	2	3	4	5.	6.	7.	8.	9.
On a bike	Static position / posture	No	No	No	Non stressful	Exposure to disturbing crime	Good	Yes
Desk Job	Dynamic posture / repetitive activities	Yes	No	No	Stressful	Exposure to disturbing crime	Good	Yes
On a bike	Static position / posture	Yes	Yes	Yes	Stressful	Exposure to disturbing crime	Good	Yes
On foot / On ground, On a bike	Static position / posture	No	No	No	Stressful	Exposure to disturbing crime	Good	Yes
Desk Job, On a bike	Static position / posture	Yes	No	No	Stressful	Exposure to disturbing crime, Exposed to fight	Somewhat good	No
On foot / On ground, Desk Job, On a bike	Dynamic posture / repetitive activities	No	No	No	Stressful	Exposure to disturbing crime	Good	Yes
On foot / On ground, In a vehicle (Van / Car), Desk Job	Dynamic posture / repetitive activities	Yes	No	No	Stressful	Exposure to disturbing crime	Good	Yes
On a bike	Static position / posture	Yes	Yes	No	Stressful	Exposure to disturbing crime	Good	Yes
On a bike	Dynamic posture / repetitive activities	Yes	No	No	Non stressful	Exposed to catastrophic loss	Good	Yes
On foot / On ground, Desk Job	Static position / posture	No	No	No	Stressful	Exposure to disturbing crime	Good	Yes
On foot / On ground, In a vehicle (Van / Car), Desk Job	Dynamic posture / repetitive activities	No	No	No	Stressful	Exposure to disturbing crime	Okay	Yes
Desk Job	Static position / posture	No	No	No	Stressful	Exposure to disturbing crime	Okay	Yes
On foot / On ground, On a bike	Static position / posture	No	No	No	Stressful	Exposure to disturbing crime	Good	Yes

On a bike	Static position / posture	Yes	No	No	Stressful	Exposure to disturbing crime	Good	Yes
Desk Job	Static position / posture	No	No	No	Non stressful	Exposed to catastrophic loss	Good	Yes
Desk Job	Static position / posture	No	Yes	No	Stressful	Exposure to disturbing crime	Good	Yes
In a vehicle (Van / Car)	Static position / posture	Yes	Yes	Yes	Non stressful	Exposed to catastrophic loss	Somewhat good	Yes
On foot / On ground, In a vehicle (Van / Car), Desk Job, On a bike	Dynamic posture / repetitive activities	Yes	No	No	Stressful	Exposure to disturbing crime	Okay	Yes
Desk Job	Dynamic posture / repetitive activities	No	Yes	Yes	Stressful	Exposed to catastrophic loss	Good	Yes
Desk Job	Static position / posture	No	No	No	Stressful	Exposure to disturbing crime	Good	Yes
Desk Job	Dynamic posture / repetitive activities	Yes	No	No	Stressful	Exposure to disturbing crime	Good	Yes
On a bike	Dynamic posture / repetitive activities	Yes	No	No	Stressful	Exposure to disturbing crime	Somewhat good	No
On a bike	Static position / posture	Yes	Yes	Yes	Non stressful	Exposure to disturbing crime	Good	Yes
On foot / On ground, In a vehicle (Van / Car), Desk Job, On a bike	Static position / posture	Yes	No	Yes	Stressful	Exposure to disturbing crime, Exposed to catastrophic loss	Okay	Yes
On foot / On ground	Dynamic posture / repetitive activities	No	No	No	Non stressful	Exposed to fight	Good	Yes
On foot / On ground, In a vehicle (Van / Car), Desk Job	Dynamic posture / repetitive activities	Yes	Yes	No	Stressful	Exposed to catastrophic loss	Okay	Yes

On foot / On ground	Dynamic posture / repetitive activities	No	No	Yes	Stressful	Exposure to disturbing crime	Good	Yes
Desk Job	Dynamic posture / repetitive activities	No	No	No	Stressful	Exposure to disturbing crime	Good	Yes
Desk Job	Static position / posture	No	No	No	Stressful	Exposure to disturbing crime	Good	Yes
On foot / On ground	Dynamic posture / repetitive activities	Yes	Yes	No	Stressful	Exposure to disturbing crime	Good	Yes
On a bike	Dynamic posture / repetitive activities	No	No	No	Stressful	Exposed to fight	Somewhat good	Yes
In a vehicle (Van / Car)	Static position / posture	Yes	No	No	Non stressful	Exposure to disturbing crime	Good	Yes
Desk Job	Static position / posture	No	Yes	Yes	Non stressful	Exposure to disturbing crime	Good	Yes
On foot / On ground	Static position / posture	Yes	No	No	Stressful	Exposure to disturbing crime	Good	Yes
On a bike	Static position / posture	No	No	No	Non stressful	Exposure to disturbing crime	Okay	Yes
On foot / On ground, On a bike	Dynamic posture / repetitive activities	Yes	No	Yes	Stressful	Exposure to disturbing crime	Good	Yes
On foot / On ground, In a vehicle (Van / Car), On a bike	Dynamic posture / repetitive activities	Yes	No	No	Stressful	Exposure to disturbing crime	Good	Yes
Desk Job	Static position / posture	Yes	Yes	Yes	Non stressful	Exposed to fight	Good	Yes

Desk Job	Static position / posture	No	Yes	Yes	Non stressful	Exposed to fight	Okay	Yes
On foot / On ground, In a vehicle (Van / Car), Desk Job	Dynamic posture / repetitive activities	No	No	No	Stressful	Exposure to disturbing crime	Somewhat good	Yes

1.	2.	3	4	5
Yes	Yes	No	None	5+ times/week
Yes	No	No	None	5+ times/week
Yes	Yes	No	None	2-4 times/week
No	Yes	Yes	None	5+ times/week
Yes	Yes	No	None	5+ times/week
Yes	Yes	No	None	5+ times/week
Yes	No	No	Smoking, Alcohol, Tabacco	5+ times/week
Yes	Yes	No	None	5+ times/week
No	Yes	No	Alcohol	5+ times/week
Yes	Yes	No	Tabacco	5+ times/week
Yes	Yes	Yes	Smoking	5+ times/week
Yes	Yes	Yes	Tabacco	0-1 times/week
Yes	Yes	No	Tabacco	5+ times/week
Yes	Yes	Yes	Tabacco	5+ times/week
Yes	Yes	Yes	Tabacco	5+ times/week
Yes	No	No	None	5+ times/week
Yes	Yes	No	None	5+ times/week
Yes	Yes	No	None	5+ times/week
Yes	Yes	Yes	Smoking, Alcohol	5+ times/week
Yes	Yes	Yes	None	5+ times/week
Yes	Yes	Yes	Alcohol	5+ times/week
No	Yes	Yes	Alcohol, Tabacco	5+ times/week
Yes	Yes	No	None	5+ times/week
Yes	Yes	No	Alcohol	5+ times/week
Yes	Yes	Yes	None	5+ times/week
Yes	Yes	Yes	None	0-1 times/week
Yes	Yes	No	Alcohol, Tabacco	5+ times/week
Yes	Yes	No	None	5+ times/week
Yes	Yes	No	None	2-4 times/week
Yes	Yes	Yes	Tabacco	5+ times/week
Yes	Yes	Yes	None	5+ times/week

Yes	Yes	No	Alcohol	5+ times/week
Yes	No	No	None	5+ times/week
Yes	Yes	No	None	5+ times/week
Yes	No	No	None	5+ times/week
Yes	Yes	No	None	5+ times/week
Yes	Yes	No	None	5+ times/week
Yes	Yes	No	None	5+ times/week
Yes	Yes	No	None	5+ times/week
Yes	Yes	No	None	2-4 times/week

1.	2.	3.	4.	5.	6.
NA	None	NA	NA	NA	NA
<1 years	Sudden	Rarely	Throbbing	Single site	INADEQUATE SLEEP
<1 years	Gradual	Sometimes	Throbbing	Single site	PROLONGED SITTING
<1 years	Gradual	Sometimes	Dull Aching	Single site	PROLONGED SITTING
2-5 years	Gradual	Sometimes	Dull Aching	Multi-site pain	PROLONGED SITTING
<1 years	Gradual	Sometimes	Dull Aching	Multi-site pain	PROLONGED SITTING
6-10 years	Gradual	Always	Dull Aching	Multi-site pain	TRAVELLING
<1 years	Gradual	Sometimes	Throbbing	Single site	PROLONGED SITTING
<1 years	Due to previous trauma/accident	Almost always	Throbbing, Dull Aching	Single site	RIDING BIKE
<1 years	Gradual	Sometimes	Burning, Dull Aching	Single site	PROLONGED SITTING AND PROLONGED STANDING
Don't know	Sudden	Sometimes	Throbbing	Single site	PROLONGED STANDING
Don't know	Sudden	Sometimes	Burning	Multi-site pain	PROLONGED SITTING
2-5 years	None	Rarely	Throbbing	Single site	PROLONGED STANDING
<1 years	Sudden	Sometimes	Dull Aching	Single site	PROLONGED SITTING
<1 years	Gradual	Sometimes	Numbness	Single site	PROLONGED SITTING
NA	Gradual	NA	NA	NA	NA
<1 years	Sudden	Sometimes	Burning	Multi-site pain	PROLONGED STANDING
2-5 years	Gradual	Sometimes	Numbness	Single site	PROLONGED SITTING
Don't know	Sudden	Rarely	Dull Aching	Multi-site pain	PROLONGED STANDING, PROLONG SITTING
2-5 years	Due to previous trauma/accident	Sometimes	Dull Aching	Single site	PROLONGED STANDING
<1 years	Gradual	Rarely	Constricting	Single site	PROLONGED SITTING
>10 years	Gradual	Almost always	Constricting	Multi-site pain	TRAVELLING
<1 years	Gradual	Sometimes	Dull Aching	Single site	PROLONGED SITTING
6-10 years	Sudden	Always	Numbness, Dull Aching	Multi-site pain	PROLONGED SITTING, PROLONGED STANDING
2-5 years	Due to previous trauma/accident	Sometimes	Dull Aching	Single site	PROLONG SITTING
2-5 years	Sudden	Sometimes	Burning, Dull Aching	Multi-site pain	BIKE RIDING
6-10 years	Sudden	Sometimes	Numbness	Multi-site pain	TRAVELLING

<1 years	Sudden	Always	Throbbing	Multi-site pain	TRAVELLING
6-10 years	Sudden	Sometimes	Other	Single site	PROLONGED SITTING
6-10 years	Sudden	Sometimes	Numbness	Single site	PROLONGED STANDING POSITION
6-10 years	Gradual	Sometimes	Throbbing	Multi-site pain	PROLONGED SITTING
>10 years	Sudden	Sometimes	Dull Aching	Single site	DRIVING
2-4 weeks	Due to previous trauma/accident	Sometimes	Other	Single site	PROLONGED STANDING, SITTING
>10 years	Gradual	Always	Constricting	Single site	PROLONGED SITTING
Don't know	Sudden	Rarely	Dull Aching	Single site	PROLONGED STANDING
NA	Sudden	NA	Dull Aching, NA	NA	NA
NA	None	NA	NA	NA	NA
NA	None	NA	NA	NA	NA
<1 years	Sudden	Rarely	Dull Aching	Single site	SITTING
2-5 years	Sudden	Sometimes	Numbness, Burning	Multi-site pain	PROLONGED STANDING, INADEQUATE SLEEP

7. Factors that relieve your pain	7. According to you what is major cause of your pain
NA	None
REST	Long standing working hours, Awkward posture
MEDICATION,REST	Long standing working hours, Awkward posture
REST, MEDICATIONS	Awkward posture
EXERCISE	Long standing working hours, Awkward posture
REST	Long standing working hours
REST	Previous trauma
MEDICATION, REST	Long standing working hours
REST	Previous trauma, Long standing working hours
REST	Long standing working hours
Rest	Previous trauma, Long standing working hours
MEDICATIONS	Long standing working hours
MEDICATIONS, REST	None
REST	Using duty belts, Awkward posture
REST	Long standing working hours, Awkward posture
NA	Previous trauma, Long standing working hours
MEDICATION	Long standing working hours
REST	Awkward posture, Any other
MEDICATION	Long standing working hours
REST	Previous trauma
EXERCISE	Using duty belts, Long standing working hours
REST	Previous trauma, Using duty belts
REST	Long standing working hours
REST, MEDICATIONS	Long standing working hours
MEDICATION, REST	Previous trauma
REST	Awkward posture
REST , MEDICATIONS	Strenuous physical activities, Long standing working hours, Awkward posture
MEDICATION	Any other
REST	Long standing working hours
REST	Strenuous physical activities, Long standing working hours

MEDICATION	Long standing working hours
REST, MEDICATIONS	Strenuous physical activities, Long standing working hours, Awkward posture
REST	Previous trauma
REST	Long standing working hours
REST	Long standing working hours
NA	Awkward posture
NA	None
NA	None
REST	Long standing working hours, Awkward posture
REST	Using duty belts, Awkward posture

1	2	3	4	5.1	5.2	5.3	5.4	5.5
None	None	None	None	None	None	None	None	None
Shoulder, Upper back, Lower Back, Knees, Ankles/Feet	Upper Back, Knees	LOWER BACK	KNEES	None	8-30 Days	None	None	None
Upper back, Knees	Knees	KNEES	None	None	None	None	None	Everyday
Neck	Neck	None	None	8-30 Days	None	None	None	None
Neck, Shoulder, Lower Back, Knees, Ankles/Feet	Neck, Shoulders, Upper Back, Knees, Ankles/Feet	NECK, SHOULDERS, LOWER BACK, KNEES, ANKLES / FEET	None	1-7 Days	1-7 Days	None	None	None
Upper back, Knees	None	None	None	None	None	None	None	1-7 Days
Neck, Upper back, Lower Back	Neck, Lower Back	UPPER BACK, LOWER BACK	None	1-7 Days	None	None	None	Everyday
Neck, Wrists/Hands, Ankles/Feet	Neck	KNEES, ANKLES / FEET	NECK, ANKLES / FEET	Everyday	None	None	None	None
Wrists/Hands, Knees, Ankles/Feet	Neck, Shoulders, Elbows, Wrist/Hands, Knees, Ankles/Feet	ELBOWS, WRIST / HANDS, KNEES, ANKLES / FEET	WRIST / HANDS, ANKLES / FEET	None	None	None	8-30 Days	None

Neck, Upper back	Neck, Upper Back	None	SHOULDERS	1-7 Days	1-7 Days	None	None	1-7 Days
Upper back, Lower Back	Upper Back, Lower Back	UPPER BACK, LOWER BACK	UPPER BACK, LOWER BACK	None	None	None	None	More than 30 Days
Knees, Ankles/Feet	Knees	KNEES	KNEES, ANKLES / FEET	None	None	None	None	None
Upper back, Lower Back, Knees	Upper Back, Lower Back, Knees	UPPER BACK, LOWER BACK, KNEES	None	None	None	None	None	None
Neck, Shoulder, Upper back, Ankles/Feet	None	NECK, SHOULDERS, UPPER BACK, ANKLES / FEET	None	8-30 Days	8-30 Days	None	None	8-30 Days
Neck, Knees	Neck, Knees	None	None	More than 30 Days	None	None	None	None
None	None	None	None	None	None	None	None	None
Knees	Knees	KNEES	KNEES	None	None	None	None	None
Upper back, Knees	Upper Back, Knees	KNEES	None	None	None	None	None	None
Upper back, Lower Back, Knees, Ankles/Feet	Upper Back, Lower Back, Knees, Ankles/Feet	None	None	None	None	None	None	More than 30 Days
Knees, Ankles/Feet	None	KNEES, ANKLES / FEET	None	None	None	None	None	None

Wrists/Hands, Lower Back	Wrist/Hands, Lower Back	None	None	None	None	None	1-7 Days	None
Neck, Upper back, Lower Back, Knees, Ankles/Feet	Neck, Upper Back, Lower Back, Knees, Ankles/Feet	None	None	Everyday	None	None	None	Everyday
Shoulder, Lower Back	None	SHOULDERS, LOWER BACK, None	None	None	Everyday	None	None	None
Neck, Shoulder, Upper back, Lower Back, Knees, Ankles/Feet	Neck, Shoulders, Upper Back, Lower Back, Knees, Ankles/Feet	NECK, UPPER BACK, KNEES	WRIST / HANDS, KNEES, ANKLES / FEET	More than 30 Days	8-30 Days	None	8-30 Days	8-30 Days
Upper back, Lower Back, Knees, Ankles/Feet	Upper Back, Lower Back, Knees, Ankles/Feet	UPPER BACK, LOWER BACK, KNEES	None	None	None	None	None	Everyday
Elbows, Lower Back, Knees	None	WRIST / HANDS, LOWER BACK, KNEES	WRIST / HANDS, HIPS / THIGHS, KNEES	None	None	None	Everyday	None
Wrists/Hands, Ankles/Feet	Wrist/Hands, Ankles/Feet	None	None	None	None	None	8-30 Days	None
Neck, Lower Back	Lower Back	LOWER BACK	ANKLES / FEET	1-7 Days	None	None	None	None

Lower Back	Lower Back	None	None	None	None	None	None	None
Neck, Shoulder, Upper back, Lower Back, Knees	Neck, Shoulders, Lower Back, Knees	LOWER BACK, KNEES	None	None	None	None	None	None
Lower Back	None	None	None	None	None	None	None	None
Shoulder	Shoulders	None	None	None	1-7 Days	None	None	None
Neck, Upper back	None	NECK, UPPER BACK	None	1-7 Days	None	None	None	1-7 Days
Upper back	Upper Back	UPPER BACK	WRIST / HANDS, UPPER BACK	None	None	None	None	Everyday
Ankles/Feet	None	None	None	None	None	None	None	None
None	None	None	None	None	None	None	None	None
None	None	None	None	None	None	None	None	None
None	None	None	None	None	None	None	None	None
Neck, Upper back, Lower Back, Knees	Neck, Upper Back, Lower Back, Knees	NECK, UPPER BACK, LOWER BACK, KNEES	NECK	1-7 Days	None	None	None	Everyday
Upper back, Lower Back, Ankles/Feet	Upper Back, Lower Back, Ankles/Feet	UPPER BACK, LOWER BACK, ANKLES / FEET	None	None	None	None	None	More than 30 Days

5.6	5.7	5.8	5.9	6
None	None	None	None	None
Everyday	None	More than 30 Days	None	None
None	None	Everyday	None	None
None	None	None	None	None
1-7 Days	None	1-7 Days	1-7 Days	None
None	None	1-7 Days	None	None
Everyday	None	None	None	None
None	None	None	Everyday	None
None	None	8-30 Days	8-30 Days	WRIST / HANDS
None	None	None	None	UPPER BACK
Everyday	None	None	None	UPPER BACK, LOWER BACK
None	None	8-30 Days	8-30 Days	KNEES, ANKLES / FEET
None	None	None	None	UPPER BACK, LOWER BACK, KNEES
None	None	None	8-30 Days	NECK, SHOULDERS, UPPER BACK, ANKLES / FEET
None	None	More than 30 Days	None	None
None	None	None	None	None
None	None	More than 30 Days	None	KNEES
8-30 Days	None	8-30 Days	None	None
More than 30 Days	None	Everyday	Everyday	None
None	None	None	None	None
1-7 Days	None	None	None	None
Everyday	None	Everyday	Everyday	NA
Everyday	None	None	None	SHOULDERS, LOWER BACK

None	None	None	Everyday	NECK, SHOULDERS, UPPER BACK
Everyday	None	1-7 Days	1-7 Days	None
Everyday	None	Everyday	None	None
None	None	None	8-30 Days	WRIST / HANDS, ANKLES / FEET
None	None	None	1-7 Days	None
1-7 Days	None	None	None	None
None	None	Everyday	None	ANKLES / FEET
1-7 Days	None	None	None	LOWER BACK
None	None	None	None	None
None	None	None	None	None
None	None	None	None	None
None	None	None	None	None
None	None	None	None	None
None	None	None	None	None
None	None	None	None	None
Everyday	None	Everyday	None	NECK, KNEES
More than 30 Days	None	More than 30 Days	None	UPPER BACK, LOWER BACK, ANKLES / FEET