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Prevalence of Musculoskeletal Disorders in Turban-Wearing People.

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ABSTRACT

Neck pain and headaches are among the most common musculoskeletal complaints worldwide. In turban-wearing individuals, especially within Sikh communities, prolonged and repetitive use of heavy turbans may contribute to cervical discomfort, forward head posture, and tension-type headaches due to the added mechanical load. This cross-sectional survey study was conducted on 85 turban-wearing individuals to determine the prevalence of musculoskeletal disorders (MSDs) associated with turban use. Data was collected using a structured questionnaire and analyzed to assess symptoms such as neck pain, headaches, and postural imbalances. The findings are expected to highlight the musculoskeletal health implications of cultural headwear and the role of physiotherapy in prevention and management.

Methodology: The observational survey study was conducted at Krishna College of Physiotherapy, Karad, with ethical clearance obtained prior to commencement. A total of 85 turban-wearing individuals were included through simple random sampling. Participants were selected according to inclusion and exclusion criteria. Data was collected using a validated questionnaire addressing duration, frequency, and weight of turbans worn, along with reported pain and postural discomfort.

Results : Out of 80 participants, most were **male (92.3%)**, Sikh (90%), and wore turbans **daily (88.8%)**, often for **over 10 years (80%)**. Turban weight was usually **0.5–1 kg (82.5%)**.About **27.5% reported musculoskeletal problems**, mainly **headaches (15%)**, **cervical spondylosis (8.8%)**, **trapezitis (2.5%)**, and **back pain (1.3%)**. The **head (16.3%)** and **neck (13.8%)** were the most common pain sites.While **72.5% had no complaints**, a small proportion reported symptoms affecting daily life (**11.2% somewhat**, **3.8% significantly**).

Conclusion: This study highlights the prevalence of musculoskeletal issues such as neck pain, headaches, and cervical discomfort among turban wearers. Prolonged and heavy turban use contributes to postural imbalances and cervical strain. Awareness of ergonomic tying techniques, lighter materials, and preventive physiotherapy interventions may reduce the risk of chronic musculoskeletal problems..

KEYWORDS: Turban, Musculoskeletal Disorders, Neck Pain, Headache, Forward Head Posture, Physiotherapy,

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INTRODUCTION

Musculoskeletal disorders (MSDs) are among the most common global health problems, contributing significantly to chronic pain, disability, and reduced quality of life worldwide [7,8]. These conditions frequently affect the muscles, joints, ligaments, and spine, with neck and shoulder pain being especially widespread due to poor posture, repetitive strain, and lifestyle factors [9,10,11,15]. Forward head posture—often associated with sedentary work, digital device use, or prolonged static positions—has been strongly linked to increased neck pain and reduced functional capacity [2,5,10,11,13,14].

One lesser-studied factor in the development of MSDs is the influence of cultural practices such as wearing turbans. For Sikhs, the turban (Dastar) is a significant symbol of faith and identity, worn daily and typically tied tightly around the head. This practice adds weight and circumferential pressure on the scalp and upper cervical structures, potentially affecting cervical spine alignment and contributing to musculoskeletal strain [3,4]. Tight headwear has been associated with headaches, muscle tension, and discomfort due to sustained external compression [3,4].

Prolonged turban use, especially when combined with sedentary behavior or poor ergonomics, may contribute to forward head posture, muscle imbalance, and spinal stress, which are known contributors to neck and upper back pain [1,6,12,15]. Despite these potential risks, there is limited scientific research exploring the relationship between turban-wearing and musculoskeletal health, highlighting the need for focused studies in this area.

MATERIALS AND METHODS

This study was a **survey-based observational research** conducted over a period of three months in the Karad region, focusing on individuals who regularly wear turbans. A **cluster sampling method** was used to recruit participants. The sample size was calculated using the formula $n = Z^2pq/L^2$, with the final sample determined to be **80 participants**, based on a 45.3% proportion and a 10% allowable error.

The study population included both **male and female turban wearers, aged 18 to 70 years**, who had been wearing a turban regularly for at least five years. Participants were required to provide **informed consent** and complete the study tools, which included a **structured questionnaire, patient information sheet, data collection sheet, and consent form**.

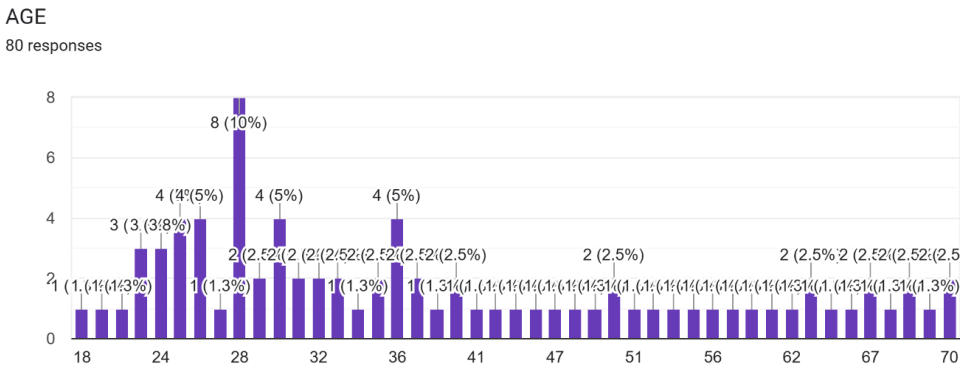
Inclusion criteria ensured participants were within the targeted age group, wore turbans regularly as part of cultural or religious practice, and had turbans weighing between **0.5 to 1 kg**. **Exclusion criteria** ruled out individuals not wearing turbans regularly, those with pre-existing musculoskeletal disorders, or those unwilling to participate.

The **outcome measure** used was a structured questionnaire designed to gather data on musculoskeletal symptoms, duration and frequency of turban use, turban weight, and its impact on daily activities. This methodology aimed to highlight the prevalence of musculoskeletal complaints and contributing factors among turban-wearing individuals. The findings are expected to guide **awareness, preventive strategies, and physiotherapy interventions** tailored for this population.

RESULTS:

AGE GROUP	FREQUENCY	PERCENTAGE
18-29	28	35%
30-39	16	20%
40-49	9	11.3%
50-59	9	11.3%
60-70	18	22.5%

Figure no.1



GENDER	FREQUENCY	PERCENTAGE
MALE	77	92.3%
FEMALE	3	3.7%

Figure no.2

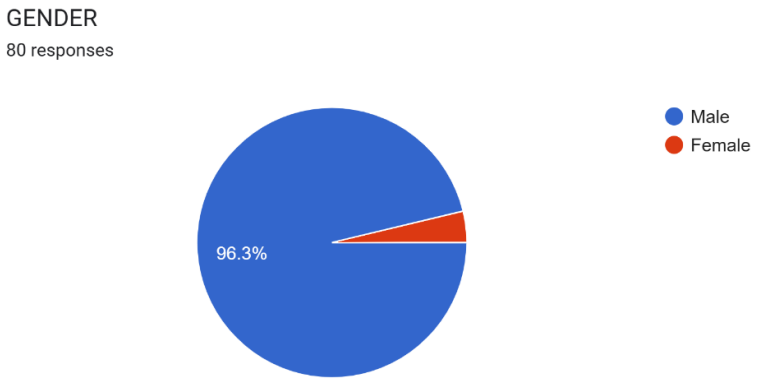


Figure no.3

RELIGION	FREQUENCY	PERCENTAGE
SIKH	72	90.0%
PUNJABI	6	7.5%
RAJPUT	2	2.5%
HINDU	1	1.3%

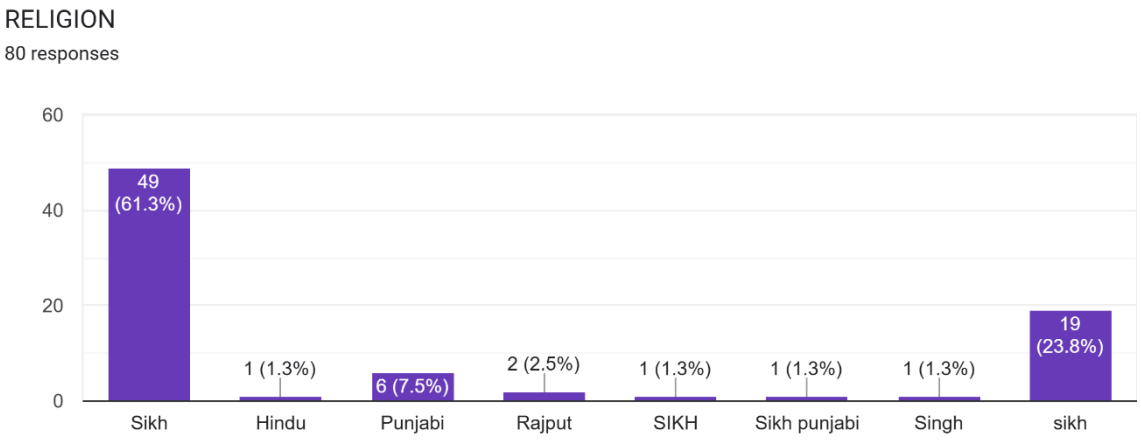
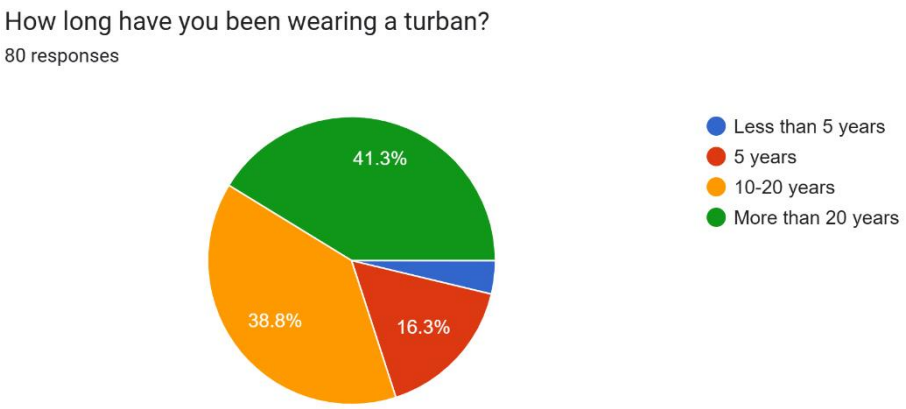


Figure no.4

DURATION	FREQUENCY	PERCENTAGE
LESS THAN 5 YEARS	3	3.8%
5 YEARS	13	16.3%
10-20 YEARS	31	38.8%
MORE THAN 20 YAERS	33	41.3%



.Figure no. 5

FREQUENCY	COUNT	PERCENTAGE
DAILY	71	88.8%
OCCASIONALLY	4	5%
RARELY	2	2.5%
ONCE A TIME IN WEEK	3	3.8%

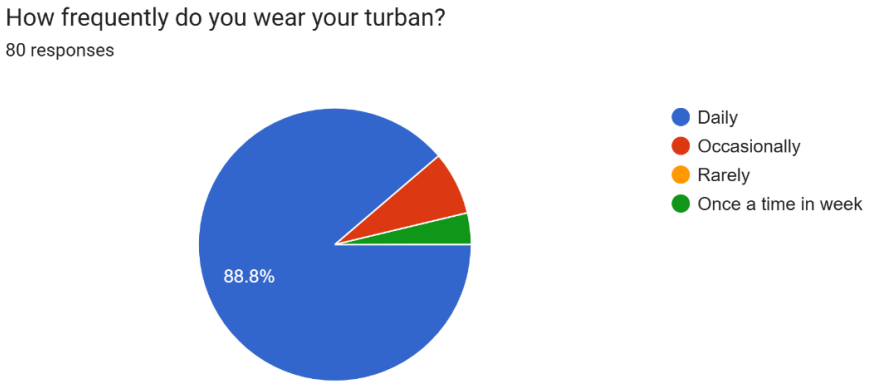


Figure no. 6

TURBAN WEIGHT	FREQUENCY	PERCENTAGE
0.5kg	32	40%
1kg	34	42.5%
1-2kg	12	15%
More than 2 kg	2	2.5%

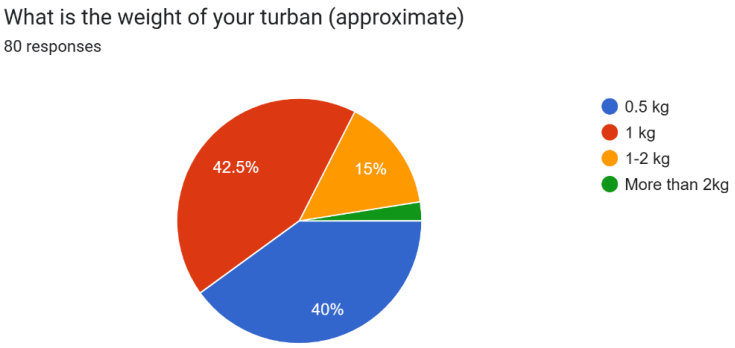


Figure no. 7

RESPONSE	FREQUENCY	PERCENTAGE
YES	12	15%
NO	68	85%

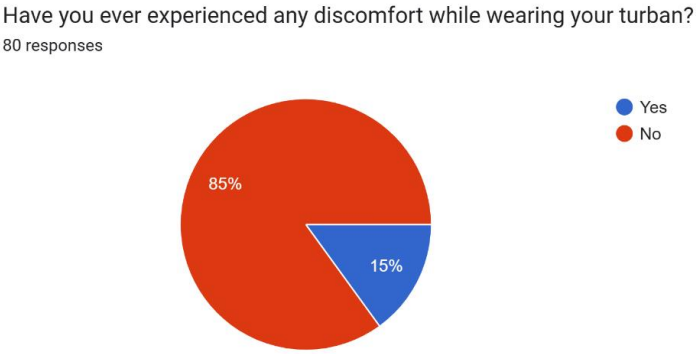


Figure no. 8

RESPONSE	FREQUENCY	PERCENTAGE
YES	11	13.8%
NO	69	86.3%

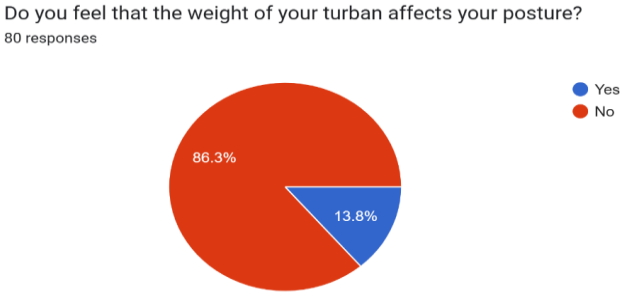


Figure no. 9

AREA OF PAIN/ DISCOMFORT	COUNT	PERCENTAGE
HEAD	13	16.3%
NECK	11	13.8%
BACK	1	1.3%
NONE	69	86.3%

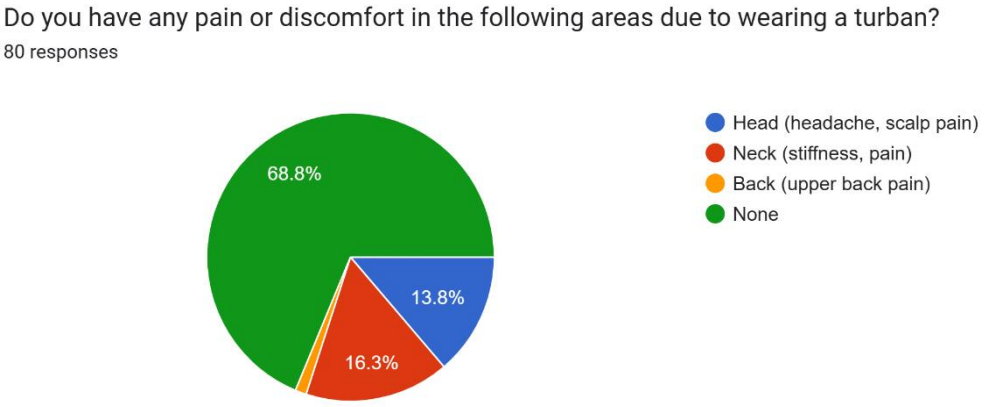


Figure no. 10

FREQUENCY	COUNT	PERCENTAGE
NEVER	54	67.5%
MONTHLY	10	12.5%
SEVERAL TIMES A WEEK	15	18.5%
DAILY	1	1.25%

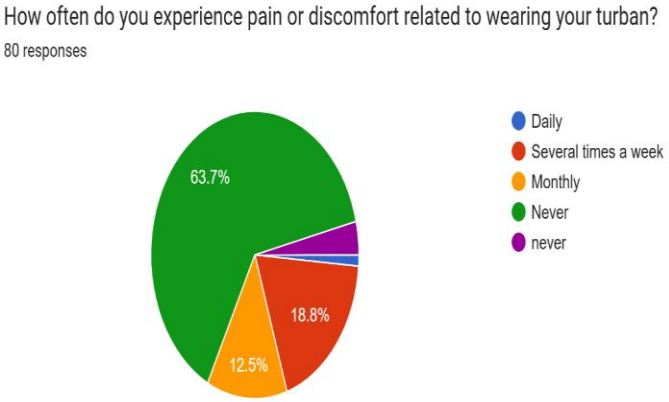


Figure no.11

DISORDER	COUNT	PERCENTAGE
NONE	58	72.5%
HEADACHES	12	15%
CERVICAL SPONDYLOSIS	7	8.8%
TRAPEZITIS	2	2.5%
BACK PAIN	1	1.3%
UPPER CROSS SYNDROME	0	

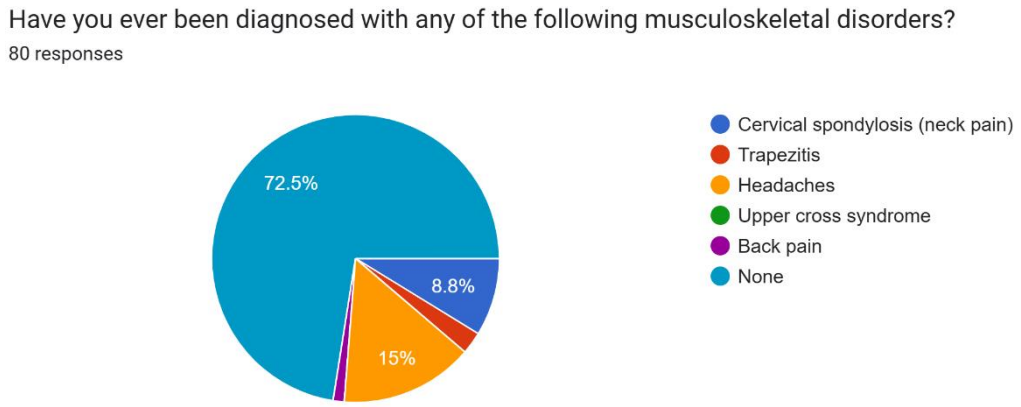


Figure no. 12

RESPONSE	FREQUENCY	PERCENTAGE
YES	3	3.8%
NO	77	96.3%

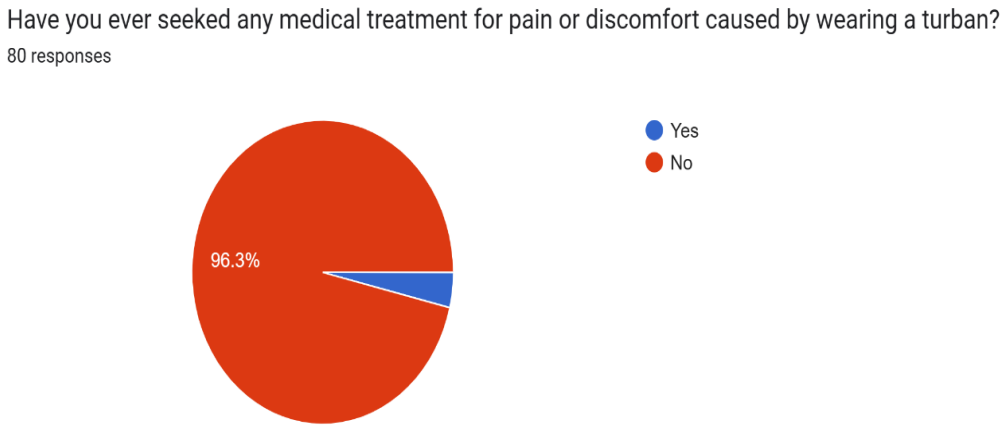


Figure no. 13

IMPACT ON DAILY ACTIVITY	COUNT	PERCENTAGE
NEVER PAID ATTENTION	46	57.5%
NO IMPACT	22	27.5%
SOMEWHAT AFFECTS	9	11.2%
SIGNIFICANTLY AFFECTS	3	3.8%

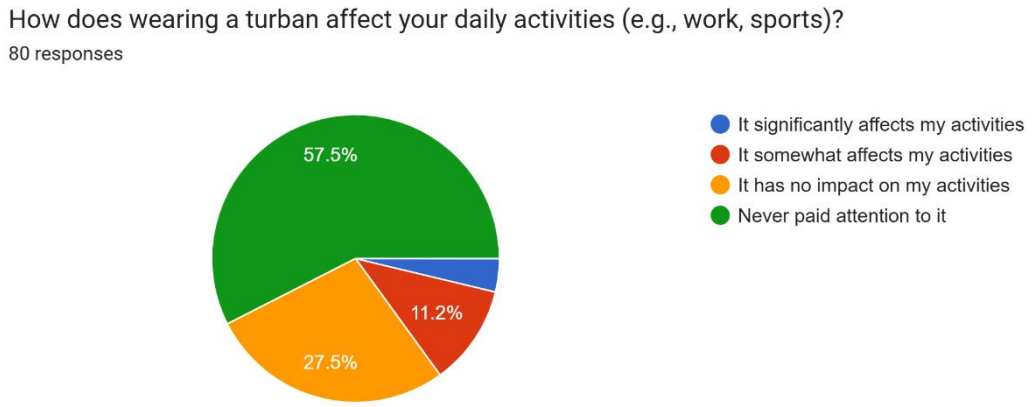


Figure no. 14

RESPONSE	FREQUENCY	PERCENTAGE
YES	6	7.6%
NO	73	92.4%

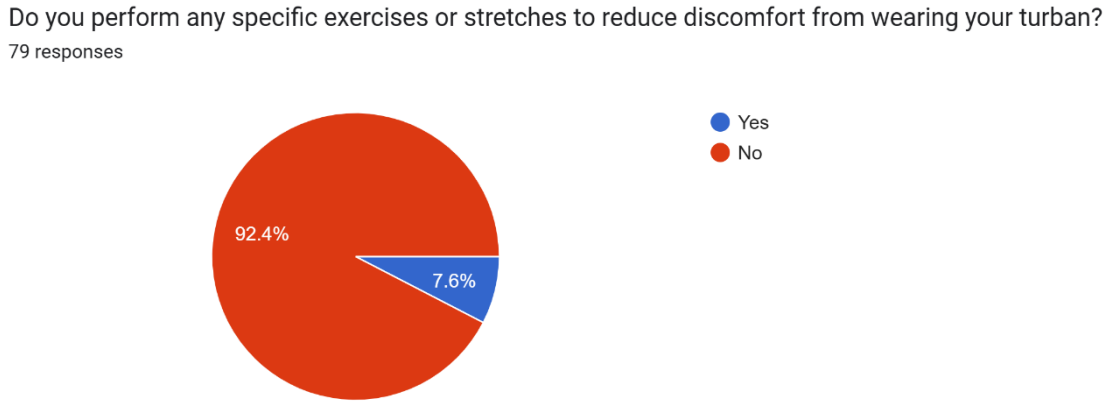
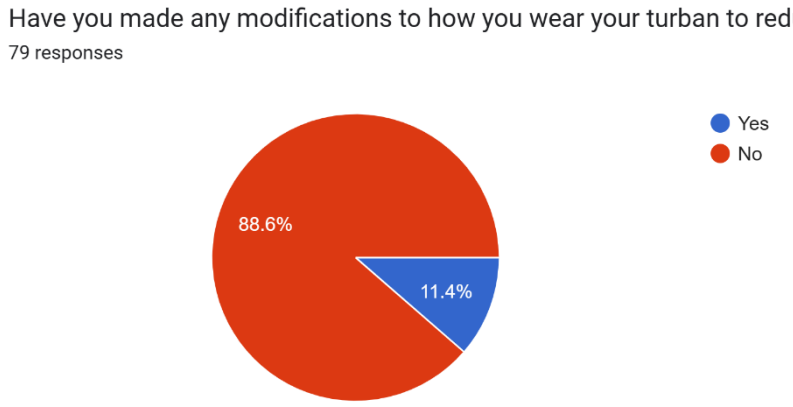


Figure no. 15

RESPONSE	FREQUENCY	PERCENTAGE
YES	70	88.6%
NO	9	11.4%



DISCUSSION

This is a survey study aimed to find the prevalence of musculoskeletal disorders (MSDs) in turban-wearing individuals. The study included 80 participants, with the majority (92.3%) being male and primarily from the Sikh community (90%). Most of the participants reported wearing turbans daily (88.8%), with a significant number having worn them for more than 10 years (38.8%) or over 20 years (41.3%). The turban weight ranged from 0.5 kg to more than 2 kg, with 42.5% wearing turbans that weighed approximately 1 kg.The findings revealed that **27.5%** of respondents reported symptoms associated with musculoskeletal disorders, including **headaches (15%)**, **cervical spondylosis (8.8%)**, **trapezitis (2.5%)**, and **back pain (1.3%)**.

Although the majority of participants (72.5%) denied any MSD-related symptoms, a closer look at the frequency and type of complaints indicated that many individuals might have normalized their discomfort over time. In fact, **57.5%** of participants stated they had “never paid attention” to the discomfort, while **11.2%** admitted their symptoms “somewhat affect” their daily activities, and **3.8%** reported a “significant impact” on daily functioning.Musculoskeletal disorders are one of the leading causes of chronic pain and disability worldwide, often resulting from poor posture, repetitive strain, and sustained physical loads. In turban-wearing individuals, several mechanical and physiological factors may contribute to MSDs. Wearing a turban for extended hours each day may alter cervical spine alignment, promote forward head posture (FHP), and lead to chronic tension in the neck, shoulders, and upper back. FHP is known to increase the load on the cervical spine and posterior neck muscles, particularly the trapezius and levator scapulae, leading to fatigue and strain.

The study's findings align with the existing body of research. Mahmoud et al. (2020) concluded through a systematic review that **FHP is significantly associated with neck pain**, and that correcting posture could play an essential role in reducing cervical musculoskeletal symptoms. This is particularly relevant in the turban-wearing population, where repeated tying motions and tightness may exaggerate forward cervical tilt, as also seen in populations using occupational helmets or headgear.A comparable study by Lloyd and Morrow (2001) showed that **tightness and strain in the neck region are frequently associated with tension-type headaches**, a finding mirrored in this survey where 15% reported regular headaches.Moreover, studies on headgear-induced disorders suggest that the **weight and compression** from helmets or tight headwear can restrict soft tissue mobility, affect blood flow, and create localized pressure points on the scalp and upper cervical area.

Häfner & Müller (2021) documented that **headaches induced by tight hairstyles or headwear** are often under-recognized but prevalent. Similarly, in this study, while only 3 participants sought medical treatment, it's likely that **underreporting** influenced the perceived prevalence. This can be attributed to sociocultural factors where discomfort linked to religious symbols like turbans is normalized, overlooked, or not reported due to a sense of cultural respect and identity preservation.

CONCLUSION:

This survey-based study found that while the majority of turban-wearing individuals did not report major musculoskeletal problems, a **considerable proportion (27.5%) experienced symptoms** such as **headaches, cervical spondylosis, neck stiffness, and upper back discomfort**. The findings suggest that **long-term and daily use of turbans, especially heavier styles, may contribute to postural changes and musculoskeletal stress**, particularly in the cervical and upper thoracic regions.

Although many participants normalized their discomfort or paid little attention to it, the results highlight the need for **greater awareness about the health implications of prolonged turban use**. Simple modifications such as using lighter materials, adjusting tying techniques, and incorporating **regular stretching and posture correction exercises** can help reduce symptoms.

Further studies with larger sample sizes and objective clinical assessments are recommended to strengthen the evidence. Balancing **cultural practices with musculoskeletal health** is essential to ensure the well-being of turban-wearing individuals.

QUESTIONNAIRE

PREVALENCE OF MUSCULOSKELETAL DISORDERS IN TURBAN WEARING PEOPLE

1.How long have you been wearing a turban ?

Less than 5 years

5 years

10-20 years

More than 20 years

2. What is the weight of your turban (approximately)?

0.5 kg

1 kg

1-2 kg

More than 2kg

3.How frequently do you wear your turban?

Daily

Occasionally

Rarely

Once in time in week

4. Have you ever experienced any discomfort while wearing your turban?

Yes

No

If yes, please specify the discomfort [headache,neck pain, back pain, shoulder pain]:_____

5. Do you feel that the weight of your turban affects your posture?

Yes

No

6. Do you have any pain or discomfort in the following areas due to wearing a turban?

Head (headache, scalp pain)

Neck (stiffness,pain)

Back(upper backpain)

None

7. How often do you experience pain or discomfort related to wearing your turban ?

Daily

Several times a week

Monthly

Never

8. Have you ever been diagnosed with any of the following musculoskeletal disorders ?

Cervical spondylosis (neck pain)

Trapezitis

Headaches

Upper cross syndrome

Back pain

None

9. Have you ever seeked any medical treatment for pain or discomfort caused by wearing a turban ?

a) Yes

b) No

If yes , what kind of treatment did you recieve? (physical therapy , medication, chiropractor):_____

10.How does wearing a turban affect your daily activities(eg. Work, sports)?

It significantly affects my activities

It somewhat affects my activities

It has no impact on my activities

Never paid attention to it

11. Do you perform any specific exercises or stretches to reduce discomfort from wearing your turban?

Yes

No

If yes ,please specify what kind of exercises or stretches you do

:_____

12. Have you made any modifications to how you wear your turban to reduce discomfort?

Yes

No

If yes , please describe the modifications(lighter material, different tying

technique):_____.

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