

ORIGINAL ARTICLE

Relationship Of Neck Pain and Functional Disability Associated with The Use of Hijab Among University Students of Lahore

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Abstract

Objective: The objective is to assess the relationship between neck pain and functional disability associated with the use of hijab among university students of Lahore.

Study Design: Cross-sectional study.

Setting: Data was collected from different University students

Methodology: A cross-sectional study was conducted on 137 hostile females using a non-probability convenient sampling technique. The data was collected from different hostels in Lahore. The premenstrual syndrome scale and Pittsburgh sleep quality index (PSQI) questionnaire were used for data collection.

Results: The mean age of study subjects was 22 ± 2.64203 years. The minimum age was 18 years, and the maximum age was 28 years. 31.8% of university females reported mild pain, 36.5% reported moderate pain, and 20.3% had severe pain. There was no disability (0-4 scores) in 20.3% hijab wearing females, mild disability (5-14 score) was seen in 30.4% hijab wearing females, moderate disability (15-24 scores) was found among 33.8% hijab wearing females, and there was severe disability (>34 scores) in 15.5% with p-value <0.001 and person correlation is ($r = .911$).

Conclusion: There is a significant relationship between neck pain and functional disability associated with wearing hijab in university students. As the duration of hijab-wearing increases, neck pain and functional disability also increase. There may be a possibility of decreased neck pain and functional disability by decreasing the duration of hijab-wearing. Future research should be conducted to find the relation between poor posture in hijab-wearing females and the duration of time they use to wear it.

Key Words: Hijab, Neck pain, functional disability (NDI),

Introduction

It has been predicted that females are up to 49.6 percent of the world's population.¹

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Many religions and societies, including Muslims, Christians, and Jews, expect females to wear a hijab. Hijab is an Arabic word that translates to "barrier or partition." Females wear it to cover their

heads, necks, and chests. Hijab themes have become more diverse due to fashion and modernism, but they still adhere to the boundaries of each culture. Today's hijab styles are adorned with a variety of accessories to make them appear both beautiful and heavy.²

The hijab—a headgear worn by Muslim women to cover their heads—is the most prominent manifestation of Islam's presence in the West.³ In Pakistan, approximately 95-98 percent of the population is Muslim, and most females wear hijabs. An estimated 9,210,133 Saudi women over the age of 15 wear the hijab.² The modern hijab has developed and been adorned with numerous elements to make it more opulent and substantial.⁴

Women must wear a headscarf as an aspect of their religious devotion in Islamic cultures. A headscarf is a scarf wrapped around the head and over the collar. In Islamic civilizations, women don the hijab generally and typically begin to do so when they reach adolescence. Muslims are the second highest religious category in the world, and it is anticipated that by 2040 they will surpass Christians as the two most prominent religious groups in the United States.^{5,6}

Therefore, continuous hijab wearing may affect neck motion range (ROM) and cervical spatial awareness. The neck permits three-dimensional mobility while maintaining horizontal ocular vision. Numerous motions occur at the junction of the lower cervical spine, which is ideally suited for stability and mobility.⁵

The musculature of the upper spine is densely bound with sensor-rich muscle fibers.⁶ As a result, neck ROM is routinely utilized as a standard procedure to diagnose neck pain with movement disabilities in clinical settings.⁵ The mobility of the cervical spine is maintained by delicate bone and

connective tissue components and permits mobility in multiple dimensions.⁷

A delicate cervical spine allows for the head's unique three-dimensional movement. Most of these movements occurred at the cranio-cervical junction, which oversees motion and stability. Wearing a hijab regularly for an extended period may cause cervical pain. It has been suggested that impairments in the cervical range of motion usually develop early. As a result, the most common symptom is frequently associated with cervical spine disorders, with a restricted range of motion in the cervical region.²

Neck pain is one of our modern society's most pressing public health issues.⁴ The fact that neck pain is more prevalent in women and increases in mid-thirties has substantial social consequences. According to the United States, neck pain is the fourth leading cause of disability in the 2010 Global Burden of Disease report.¹⁰

The Numeric Rating Scale (NRS-11), an eleven-point scale with extreme points extending from zero suffering at all (score 0) to the most incredible intolerable agony the individual has ever experienced, is one of the discomfort measures utilized medically to quantify the intensity of musculoskeletal disorder (score of 10).

11, 12 Neck pain is a prevalent condition that is the second leading cause of disability.¹³

Personality disorder, low job joy, inactivity, headaches, female gender, bad work physical environment, and ergonomics are all associated with chronic neck discomfort.¹⁴

Blau described a headache syndrome caused by tying hair in a ponytail or within a bun for an extended period, and the pain was relieved 6 minutes after loosening the hair. Research on the headache induced by

the hijab has been undertaken, but no study has been conducted on the seven difficulties of neck discomfort caused by it.¹⁵

The study's rationale is to make people aware of neck pain and disability caused

by hijab; by taking a break from the constant hijab, neck pain can be decreased and prevent neck disability.

Material & method

Study Design

It was a Cross-sectional survey.

Sampling Technique

A convenience sampling technique was used for data collection.

Place of Study

Different universities of Lahore.

Data Collection Method

The data was collected from 148 hijab-wearing females from different universities in Lahore. The Ethics review committee approved it. Written consent was taken from all participants. The questionnaire contains demographic data (age), duration of wearing hijab, neck fatigue, how they tie their hair, neck disability index (NDI), and VAS to measure pain and disability will be used to collect data.

Results

Table 1: Descriptive Statistics of neck pain on a visual analog scale.

Neck pain on the visual analog scale	Frequency	Percentage
No pain	17	11.5
Mild pain	47	31.8
Moderate pain	54	36.5
Severe pain	30	20.3
Total	148	100.0

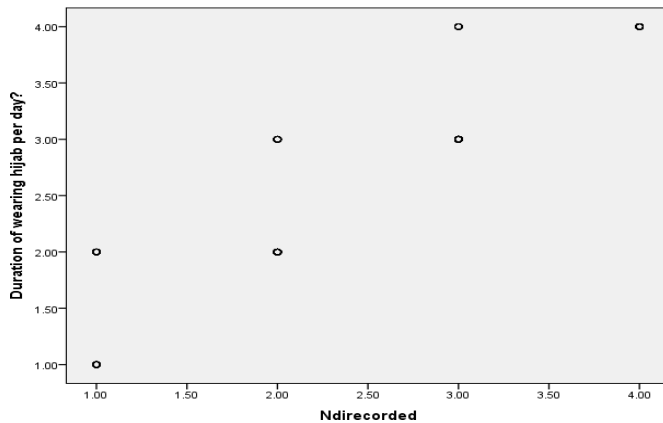
Table 2: Descriptive Statistics for NDI recorded

NDI Total 2	Frequency	Percent
No Disability	30	20.3
Mild Disability	45	30.4
Moderate Disability	50	33.8
Severe Disability	23	15.5
Total	148	100.0

Table 3: Correlation between duration of wearing hijab with VAS and NDI

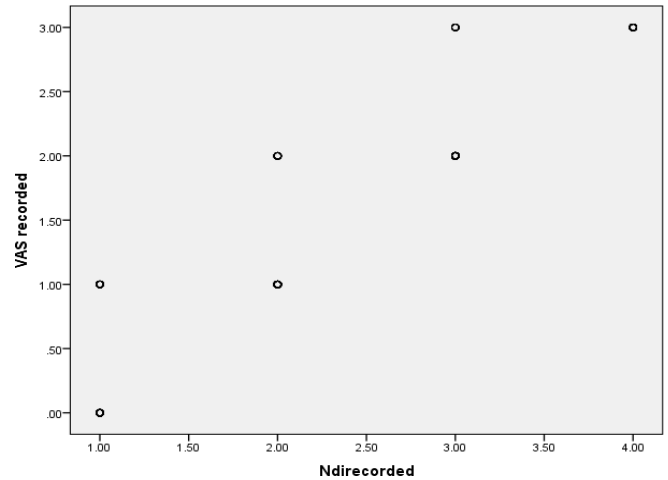
		Duration of hijab-wearing per day	VAS	NDI
Duration of wearing hijab per day	Pearson correlation	1	1.000**	.911**
	Sig. (2-tailed)		.000	.000
	N	148	148	148
VAS	Pearson correlation	1.000**	1	.911**
	Sig. (2-tailed)	.000		.000
	N	148	148	148
NDI	Person correlation	.911**	.911**	1
	Sig. (2-tailed)	.000	.000	
	N	148	148	148

Figure 1:



There is a significant positive relationship between the duration of hijab and neck disability as $r = .911$ and $p < 0.01$, so as the duration of hijab increases, the neck disability also increases

Figure 2:



There is a significant positive relationship between pain and neck disability as $r = .911$ and $p < 0.01$, so as the pain increases, the neck disability will also increase

Discussion

Hijab is an Arabic word that translates to "barrier or partition." Females wear it to cover their heads, necks, and chests.² In this study, 148 university females, used head covers either with a simple dupatta or a modern hijab with a mean age of 22.8378 ± 2.64203 years. The minimum age was 18 years, and the maximum age was 28 years.

In the current study relationship between neck pain and disability associated with hijab. The total duration of hijab-wearing, neck fatigue, and how they tie their hair were assessed. Their neck pain and functional disability of neck were noticed.

In its definition of chronic pain, the International Association for the Study of Pain (IASP) describes neck discomfort as pain felt throughout the back and neck

spine, from the superior nuchal line until the first thorax spinous process.

The result shows that 11.5% wore hijab for 3-5hrs, 31.8% for 6-8hrs, 36.5% for 9-11hrs and 20.3% for >12 hrs. The majority of them, 58.1%, tie their hair with a bun or Jura, and 21.6% tie their hair in a ponytail.

Another comparable study showed that a substantial proportion of ladies (50.3 percent) tied their hair with a Bun or Jura, increasing weight on their heads and, eventually, causing neck pain.⁴ Similar research has been published, demonstrating that increasing the weight above induces an increase in neck discomfort. According to one study, military pilots' helmet-mounted equipment is connected with an increased prevalence of neck discomfort (19.0%, 22.2%).¹⁶

The result shows that 88.5% of university students feel neck fatigue while wearing hijab. A visual Analogue scale (VAS) is a measuring instrument to measure pain. It is an easy and recurrent method to assess pain with different intensities of pain and the efficacy of the treatment. The scale consists of 0-10 numerical. "0" means "no pain," and "10" means "Extreme pain." The current study shows that 31.8% hijab wearing females have mild pain, 36.5% have moderate pain and 20.3% have severe pain.

Another comparable study showed that females who wore a hijab for 5 to 8 hours were more likely to experience neck discomfort. In our survey, 50.2% of females said that they cover their heads for 5 to 8 hours every day.,⁴

The NDI has become a standard instrument for measuring self-rated disability due to neck pain and is used by both clinicians and researchers. In 1989, Howard Vernon established Neck Disability Index (NDI). There are ten items, each scoring 0-5. The highest score is 50

In the current study, 30.4% hijab wearing females have a mild functional disability, and 33.8% have a moderate functional disability. Matthias Wille and Sania Khawar Kayani et al. conducted similar studies and stated that 48.3 percent of females reported discomfort in their head area, while 44 percent reported limited mobility. The most prevalent limitation, reported in 36% of cases, was the movement of the head to connect the chin to the chest.^{4,17}

The current study shows that significant positive relationship between the duration of hijab-wearing neck pain ($r = 1.00$) and functional disability as the ($r = .911$) and the ($p < .001$).

Conclusion

This study concluded that digital goniometers' internal consistency and test-retest reliability are reliable. According to this study, a digital goniometer can calculate the hip joint range of motion (PROM).

Author Contributions

Conception and design: *Hafiza Nosheen Asif Khan*

Collection and assembly of data: *Dr. Aameena Amjad*

Analysis and interpretation of the data: *Hafiza Nosheen Asif Khan*

Drafting of the article: *Dr. Aameena Amjad*

Critical revision of article for intellectual content: *Dr. Aameena Amjad*

Statistical expertise: *Hafiza Nosheen Asif Khan*

Final approval and guarantor of the article: *Hafiza Nosheen Asif Khan*

Conflict of Interest: *None declared*

References

1. Hupfeld S. A mathematical ANALYSIS OF THE INITIAL STABILITY OF A SHORT FEMORAL PROSTHESIS.
2. Boström KJ, Dirksen T, Zentgraf K, Wagner HJFihn. The contribution of upper body movements to dynamic balance regulation during challenged locomotion. 2018;12:8.
3. Pratt AL, Ball CJBmd. What are we measuring? A critique of a range of motion methods currently used for Dupuytren's disease and practice recommendations. 2016;17(1):1-11.
4. Lelental B. The immediate and sustained effects of mobilizations with movement on the hip range of motion and power and shoulder range of motion and strength: Institute of Technology Carlow; 2018.
5. Monir JG, Tams C, Wright TW, Parsons M, King JJ, Schoch BSJJoS, et al. Preoperative factors associated with loss of range of motion after reverse shoulder arthroplasty. 2021;30(10):e621-e8.
6. Russo RR, Burn MB, Ismaily SK, Gerrie BJ, Han S, Alexander J, et al. How do level and experience affect a joint range of motion measurement? 2018;75(3):739-48.
7. Dumont GDJCSM. Hip instability: current concepts and treatment options. 2016;35(3):435-47.
8. Canham CD, Domb BG, Giordano BDJ Jr. Atraumatic hip instability. 2016;4(5):e3.
9. Volz C. Biomechanical and Anatomical Asymmetries of the Lower Extremities Associated with Curve Sprinting in Track Athletes: Southern Connecticut State University; 2019.

10. Gradoz MC, Bauer LE, Grindstaff TL, Bagwell JJJ. Reliability of hip rotation range of motion in supine and seated positions. 2018;27(4).
11. Hancock GE, Hepworth T, Wembridge KJ. Accuracy and reliability of knee goniometry methods. 2018;5(1):1-6.
12. Norris ES, Wright E, Sims S, Fuller M, Neelly KJ. Research. The reliability of smartphone and goniometric measurements of hip range of motion. 2016;3(4):77-84.
13. Ore V, Nasic S, Riad JJH. Lower extremity range of motion and alignment: A reliability and concurrent validity study of goniometric and three-dimensional motion analysis measurement. 2020;6(8):e04713.
14. Jones BR. The Effect of Q Angle on Vertical Jump in Female Athletes. 2013.
15. Luedtke K, Schoettker-Königer T, Hall T, Reimer C, Grassold M, Hasselhoff-Styhler P, et al. Concurrent validity and reliability of measuring range of motion during the cervical flexion rotation test with a novel digital goniometer. 2020;21(1):1-10.
16. Kraus K, Kraus E, Gojanovic B, Fourchette FJ. Concurrent validity of 2D and inertial goniometer motion assessment. 2019;25(3):134-9.
17. McGovern RP, Christoforetti JJ, Martin RL, Phelps AL, Kivlan BR. Evidence for reliability and validity of functional performance testing in evaluating non-arthritis hip pain. 2019;54(3):276-82.
18. Huang J, Tian F, Zhang Z, Shi W, Lin J, Chen L, et al. Reliability and concurrent validity of angle measurements in lower limb: EOS 3D goniometer versus 2D manual goniometer. 2020;24:96-102.
19. Harris JD, Mather RC, Nho SJ, Salvo JP, Stubbs AJ, Van Thiel GS, et al. Reliability of a hip range of motion measurement among experienced arthroscopic hip preservation surgeons. 2020;7(1):77-84.
20. Fenato Junior A, GARCIA L, Perdoná GdSC, Maranhão DA. Measurement of pelvic retroversion during hip flexion: evaluation with accelerometers. 2020;28:69-73.