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Effect of Headscarves on Physical and Quality of Life in Young Females: A Narrative Review

Nandini Bhatia[1], Dimple Choudhry[2], Zafar Mohammad[3], Himanish Dutta[4]

[1]MPT Scholar, College of Physiotherapy, Pt BDS PGIMS Rohtak
[2]Associate Professor, College of Physiotherapy, Pt BDS PGIMS Rohtak
[3]MPT Scholar, College of Physiotherapy, Pt BDS PGIMS Rohtak
[4]MPT Scholar, College of Physiotherapy, Pt BDS PGIMS Rohtak

Corresponding Author: Dr Dimple Choudhry

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ABSTRACT

Background: Headscarves means to draw the edge of the scarf over one's face to veil it completely or cover it completely. A woman after being married often start practice of covering head in front of their family members particularly the elder one. Believers of covering of face see it as a very positive and respectful practices that liberates women. This practice is found to be liberating and respectful. Consequently, women who cover their head with a piece of cloth for many hours a day can be a factor that increases stress on their neck. This emphasizes on the factors that may lead to changes in musculoskeletal parameters such as change in range of motion of neck and disability. This also emphasizes on the quality of life and interaction of these women amongst their neighborhoods and family members.

Objective: To find the effect of headscarves on musculoskeletal parameters such as cervical range of motion, craniovertebral angle, neck proprioception and quality of life in young females.

Study selection: This narrative review is conducted on data and information collected from google scholar and PubMed and the included studies on the association of veil and headscarves on musculoskeletal parameters and quality of life in young female.

Conclusion: There are many studies which shows different parameters on effect of hijab on musculoskeletal parameters and community interaction in females wearing hijab but just like regular practice of hijab in Muslim community, veil is also regularly practiced by females of Indian society particularly in states of Haryana and Rajasthan. Frequent head covering use can affect a person's physical and psychological well-being, especially for women who wear them for long periods of time. The additional weight and cover may affect social interaction and self-confidence in addition to causing postural problems, altered cervical spine mobility, and reduced neck proprioception.

Keywords: *Headscarf, Veil, Cervical Range of Motion, Craniovertebral Angle, Quality of Life.*

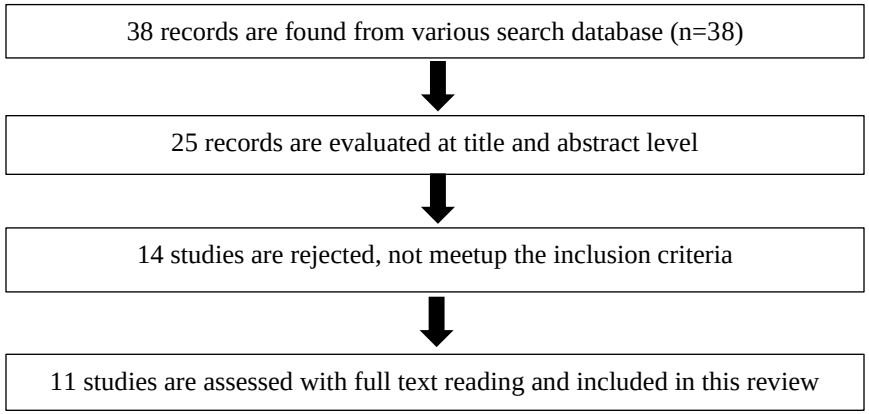
INTRODUCTION

Women are looked at as individuals who are not judged by their physical beauty but by their inner beauty and mind. Covering faces is considered as ethical because it promotes the faithfulness, respect and dignity. Either way, the practice of covering faces is seen whether in a positive or a negative way. It remains as an integral part of everyday life of some females and makes a part of their culture. This tradition is done to enhance the personality of women as well as of the family members. Covering faces is a means of rendering a women socially invisible. It is not usually difficult to guess behind the veil in most cases. But the practice of covering face covers the woman's most personal and communicative features.[1] Women residing in rural areas cover their face from dupatta (usually 2.5 cm long) or the end of the sari to cover the face properly while going outside the home. The tradition is perceived to enhance the status of the women as well as of the family among communities. These practices remain widespread and nearly most of the families promotes the practice of veiling. Covering of face plays a significant role in prohibiting women from working for a wage, leaving them dependent on their husbands or other family members for financial support. It also limits their ability for decision making and in turn making those females less confident, reduced self-efficacy and lack of community interaction. But this practice is still common because of belief that it forms an essential part of women's clothing and daily practice. Majority of the married women from rural areas keep their head covered irrespective of their age.[2]

Headscarves affect woman's living standard and decision-making ability for their community participation. Face to face interaction is degraded by covering their face. The women who cover their face tend to be less confident and increase dependency of decision making on their husbands and family members. These women tend to be less interactive and active in community participation. Women are even seen working daily while using the *ghungat* or veil increasing their chance of injury and the chance of fall. There is higher density of muscle spindle in the deeper neck muscles and upper cervical spine compared to the lower cervical spine. The measure for neck proprioception is called joint position error. Joint position error is found higher in females wearing headscarves compared to those females who do not wear them. Deficits in cervical proprioception as indicated by higher joint position error might be a predisposing factor for development of cervical pain and dysfunction.[3] Cervical spine mobility is maintained by the unique bony and soft tissue component of the cervical spine that allows for multidirectional movement of the head. A majority of the movement occurs in the upper cervical spine at the craniocervical junction, which allows for multidirectional movement while maintaining the visual gaze.[4] Wearing the headscarf for 6 hours or more resulted in a significant decrease in left cervical rotation.[5] Deficiencies in cervical mobility may start at an early phase of neck pain and can distinguish between people with subclinical neck pain and no neck pain.[6,7]

METHODS:

Studies are searched from the following search engine PubMed, Google Scholar, Research Gate to review the literature. Studies include cervical range of motion, craniovertebral angle, neck proprioception, self-efficacy and community interaction. Keywords used to search studies are Headscarf, veil, cervical range of motion, craniovertebral angle and quality of life.



Authors and Journal Year	**Objective**	**Design**	**Characteristics of Participants & Sample Size**	**Material and Methods**	**Outcome Measures**	**Result**
Gulamhussein Qurat –ul ain et al. (2015)[8]	To evaluate the effect of hijab on religiosity and psychological well being of Muslim women in the United States.	Cross-sectional study	A total of 50 females aged between 18 to 31 years were divided into 2 groups who wear hijab and who do not.	Using the snowball sampling technique, participants were asked to provide other potential participant's contact information. Depression, Anxiety and Self Esteem Scale were taken as variables for assessment.	The center for epidemiological studies depression scale (CES-D; Radloff, 1977) for depression, the beck anxiety inventory (BAI; Beck et al., 1988) assesses anxiety severity and the Rosenberg Self-esteem Scale (RSES; Rosenberg, 1965) is used for Self-esteem.	Participants showed high psychological wellbeing, with low depression and anxiety and high self-esteem. Significant correlations were found between hijab frequency and loose clothing ($r = .49$, $p < .01$), and among psychological wellbeing-related variables (depression, anxiety, and self-esteem; $rs = -.42$ to $.70$, $p < .01$). Loose fitted clothes and self reported religiosity were negatively associated with anxious

						and depressive symptoms.
Alqabbani SF et al. (2016)[9]	To find out the effect of wearing headscarves on neck proprioception.	Pilot study	12 females with mean age 27.5 +4.0 and 27.5-4.0 were divided into two groups: females who wear headscarves in routine(n=6) and females who do not wear headscarves in routine (n=6).	The participants were asked to assume a neutral head position and then they were told to memorize the actual position, after that they were asked to close the eyes and have to return to their neutral position. The difference between the actual and ending position was calculated.	Joint position error was assessed using a head mounted laser. The tasks involved relocating the head to neutral after flexion, extension, right rotation, and left rotation.	The joint position error was higher in females wearing headscarves compared to females who do not wear.
Alqabbani SF et al. (2018)[10]	To find the effects of headscarves on cervical spine mobility.	Cross sectional study	52 females (28.1±3.1) years were selected and were divided into 2 groups: 1.Headscarf group (n=26 females) 2.Never wore headscarf group (n=26 females).	The cervical range of motion device was used. CROM includes 3 inclinometers for the 3 planes of motion. The device was used to measure flexion / extension, lateral flexion and rotation. Subjects performed movements in an orderly manner: right rotation, left rotation, flexion, extension, right lateral bending, left lateral bending.	The cervical range of motion device was used (CROM).	The findings indicated that the headscarf group reported a significant limitation in all cervical range of motions. Additionally, females in the headscarf group who wore headscarf for 6 hours or more a day significantly less left rotation compared to those who wore it for less than 6 hours a day.
Devi L et al. (2019)[2]	To find the effect of purdah or ghungat in means to control women.	Cross sectional study	210 married women of the age group 15-49 years were selected Purdah or Ghunghat, a Powerful Means to	An interview schedule was prepared, non participant observations and	Face to face communications and interviews are reliable and efficient.	The study revealed that purdah or ghungat plays a significant role in prohibiting women from working for a wage

			Control Women: A Study of Rural Muslim and Non-Muslim Women in Western Uttar Pradesh, India for the study.	focus group discussions were adopted as and when required to supplement data.		leaving them dependent on their husbands or other family members for financial support and reduce their ability to connect with others.
Kiyani SK et al. (2020)[11]	To assess the frequency of neck pain in modern hijab wearing females in twin cities.	Descriptive cross-sectional study.	A total of 747 females participated from 4 different universities of Rawalpindi Islamabad.	Northwick questionnaire (NPQ) for neck pain was used to assess the neck pain intensity, symptoms, numbness, impact on daily activities and social life. It consists of total 9 items that includes pain intensity, symptoms duration, social life, reading or watching.	NPQ consists of total 9 items. Each question is scored from 0 to 4 with option 1 to option 5 respectively. Entire % is measure by the NDQ score and then total % was calculated.	This study concluded that 48.3% of females wearing hijab or simple dupatta suffered from discomfort in their head region and 44% of females have restricted neck movements. the most common restriction was the movement of head to touch the chin to the chest.
Aziz K et al. (2021)[12]	To find out the effects of modern hijab on cervical range of motion in female students in a private college in Karachi.	Cross sectional study	A total of 384 subjects were selected using non-probability convenient sampling technique. Female students aged 18–23, who wore the hijab for at least 3 months and around 6 hours daily, were included in the study.	The CROM device was used to record and measure flexion, extension, lateral flexion and rotation of the participants. Investigator explained the movements to the participant and the participants performed the movement.	Flexion and extension were measured using a sagittal inclinometer; lateral flexion with a frontal inclinometer; and rotation using a transverse inclinometer with a magnetic necklace. Measurements were taken at the start and end of each movement.	It was determined that the females who wear hijab reported a significant limitation of CROM in all 6 directions. Furthermore, the most restricted is left rotation and it concluded that any type of weight on head leads to significant limitation in range of motion.

Abbas Z et al. (2021)[13]	To determine the effects of ponytail versus modern hijab wear on cerviocogenic headache and postural deviation.	Cross sectional study	280 female students between 18-30 years, who used to make ponytails or modern hijab wears/headscarves were recruited using non-probability convenient sampling technique.	Non-probability convenient sampling technique was used to collect data through a self-administered modified questionnaire including Visual analogue Scale (VAS).	self-administered modified questionnaire including Visual analogue Scale was used to collect the data.	Wearing hijab with tight ponytail increases chances of postural changes such as forward head posture and pain.
Hafiza Nosheen et al. (2022)[14]	To assess the relationship between neck pain and functional disability associated with the use of hijab among university students in Lahore.	Cross sectional study	137 hostile females (18-28 years) were selected from different hostels in Lahore using a non-probability convenient sampling technique.	The premenstrual syndrome scale and Pittsburgh sleep quality index (PSQI) were used for data collection.	The premenstrual syndrome scale and Pittsburgh sleep quality index (PSQI) questionnaire were used for data collection.	In hijab-wearing females, 20.3% had no disability, 30.4% had mild, 33.8% moderate, and 15.5% had severe disability ($p< 0.001$). There is significant relationship between neck pain and functional disability ($r=0.911$) associated with wearing hijab in university students. As the duration of wearing increases neck pain and functional disability also increases.
Shahid Mohd Dar et al. (2024)[15]	To find the correlation between the neck range of motion and neck proprioception among female students of IIUM, Malaysia.	Cross sectional study design	A total of 122 students between the age group of 20-26 years were selected using non-probability convenient sampling method. A poster and awareness message about the study were shared via WhatsApp groups and the researcher also	Participants performed six cervical movements-flexion, extension, lateral flexion (right/left), and rotation (right/left)—with three trials each; the average was recorded. Proprioception was assessed using the	The subjects cervical range of motion was measured by using universal goniometer and cervical joint proprioception was measured by joint position error test (JPE).	The findings of the study suggest that a significant no. of subjects experienced limitations in all CROM particularly in rotations. On contrary, JPE which reflects proprioceptive function was found to be abnormal in small percent of subjects across various cervical

			personally reached out to hostel group members.	JPE test, where blindfolded participants repositioned their head after movement.		movements. There is an unexpected negative correlation between these variables expect right lateral rotation
Abbas S et al. (2024)[16]	Effects of craniocervical flexion exercises and scapular stabilization exercises in neck pain and forward head posture among females wearing headscarves	Randomized clinical trial	A total of 50 females (20 to 40 years) were recruited using non-probability purposive sampling method.	Subjects were divided into two groups. Craniocervical flexion exercises group A (n=25) and Scapular stabilization exercises group B (n=25). Before treatment evaluation was completed by using NPRS and NDI as subjective measurements Baseline and post-4-week treatment data were analyzed using SPSS 21.	NPRS and NDI were used as subjective measures, while goniometer and plumb line were used as objective assessment tools.	Both groups showed improvement in posture and cervical mobility. After 4 weeks, significant changes were seen in NPRS and NDI ($p<0.05$). The Craniocervical flexion group showed greater improvement than the scapular group in most outcomes, except plumb line and NDI. NPRS showed no significant difference between groups ($p>0.05$).
Saifi S et al. (2025)[17]	To find out the effect of wearing a headscarf on forward head posture and dynamic balance in young collegiate females.	Cross sectional study	The sample size of 100 females was categorized into 2 groups (wearing a headscarf and not wearing a headscarf).	Measurements were done by the photographic method for forward head posture (craniovertebral angle, sagittal head tilt) and by Y balance method for dynamic balance.	Photographic method and Y-balance	The findings reveal that the group wearing a headscarf exhibits a significant differences in both FHP and DB compared to those who do not wear the scarf. the practice of headscarf contributes to abnormal head positioning and altered DB.

DISCUSSION

The present review synthesizes findings from various studies examining the physical and psychological impacts of headscarf usage among women, particularly focusing on cervical spine function, posture, proprioception, balance, and mental health. significant association between wearing a hijab or headscarf and limitations in cervical range of motion (CROM) and proprioception. There is a significant association of neck musculature with regards to wearing hijab or headscarves in terms of cervical range of motion (CROM) and neck proprioception.

Regular practice of covering face can deplete the confidence and interaction abilities in these females. According to Gulamhussein Qurat-ul-Ain et al. (2015)[8] women who wore the hijab reported reduced levels of anxiety and despair and greater levels of self-esteem. On the other hand, Devi L et al. (2019)[2] emphasized the restrictive nature of purdah or ghunghat, often limiting women's physical freedom and economic independence, which may indirectly influence musculoskeletal health through reduced physical activity. Veil can directly impact the physical as well as social life of these females. By affecting the social life veil can directly impact their ability of doing things and decision making by themselves or for themselves. Decision making abilities and efficacy of these females can be altered by regular practice of this on-going tradition. Aziz K et al. (2021)[12] found that cervical mobility was significantly restricted, with left rotation being the most impacted movement, especially in people who wore the hijab for lengthy periods of time. According to Shahid Mohd Dar et al. (2024)[15], CROM restrictions were seen in almost every direction; however, joint position errors (JPE) were comparatively less impacted, indicating that proprioceptive accuracy was somewhat preserved despite decreased mobility. Hijab veil affect the musculoskeletal parameters of a physical well being. Covering your head or face in daily day to day activities increases load on neck and its musculature and affects the neck mobility. Cervical spine mobility is maintained by unique bony and soft tissue component that permits smooth movement. A Study by Saifi S et al. (2025)[17] demonstrated a higher prevalence of forward head posture (FHP) and altered dynamic balance in headscarf-wearing females. Some women work with covering their face on daily basis that can directly affect their neck muscles strength and neck functional capacity. The impact on physical abilities and social life can be interrelated and bidirectional. Proprioception plays an important role in sensorimotor control of posture and movement. There is a high density of muscle spindles in the cervical spine muscles serving as a primary receptor of proprioception. Alqabbani SF [9,10] studied about the cervical range of motion and neck proprioception in regard to hijab practice. The studies showed that headscarves affect the cervical mobility and its proprioceptive properties. Designing and styling of headscarf can affect the head position error and values of range of motion if it is continuously practiced in daily activities.

Quite a few studies showed the quality of life being affected associated with the use of headscarf. It affects the social well being and confidence level of the individual but some of the females still feel that the practice of covering face doesn't affect their individual values. Interestingly, intervention-based findings by Abbas S et al. (2024)[16] revealed that both craniocervical flexion exercises and scapular stabilization exercises led to significant improvements in pain and

posture. Thus, targeted physiotherapy interventions can lessen the adverse effects of prolonged headscarf use.

CONCLUSION

Headscarves tend to affect the cervical spine mobility and other musculoskeletal parameters of the individual. Headscarves or covering of face will no doubt be part of their lives but having a constant weight on the head can typically affect the musculature of the neck muscles and gives excessive load on the part of the posterior neck and its muscles. The association of being under a piece of cloth for majority of hours in a day can typically affect the interactive values and community norms of these individuals. These daily practices can leave these females dependent and are not enough confident to make decisions. These are typically bounded to do household chores thus spending most of their times working indoors. The above studies showed the problems faced by these females physically as well as psychologically. Musculoskeletal parameters are typically altered such as restriction in cervical range of motion, postural changes and neck proprioception.

Overall, a balanced understanding and individualized approach are essential in addressing the biomechanical and psychosocial challenges associated with regular headscarf use. Thus, the conclusion can help in further studies to explore the preventive measures and design considerations to lessen these effects.

Declaration by Authors

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