



Original Article

Comparison of Hamstrings Flexibility among Regular and Irregular Muslim Prayer Offerers

Arbela Sharif¹, Sajid Mehmood², Basit Mahmood³, Ayesha Siddiqa⁴, Muhammad Aleem Altaf Hassan^{5*}, Mahad Afzal⁶

¹Hajveri University, Sheikhpura

²Physical Therapy Department, University of Health Sciences, Lahore

³Physiotherapy Department, Aziz Fatimah Medical and Dental College, Faisalabad

⁴University of Sargodha

^{5*}University of Portsmouth, United Kingdom

⁶University of Management and Technology

ABSTRACT

Background: Muslim prayer (salaat/namaz) is a moderate exercise, the body's muscle contraction is both isotonic and isometric during its performance. Two main flexion postures of salaat Rukku and Sujood have a positive effect on the flexibility of the lower back and hamstring muscles. **Objective:** To explore the effects of Rukku posture on the flexibility of hamstring muscles in female students and to promote the physical benefits of Muslim prayers on the normal population. **Methods:** This cross-sectional study comprised 400 students, 200 of them were regular prayer offerers and 200 were irregular prayer offerers. Both groups were selected with the help of a questionnaire about the number of prayers offered regularly and posture used for praying and some other questions of inclusion and exclusion criteria. The flexibility of the hamstring muscles was measured by the chair sit and reach test and the straight leg raise test. SPSS v20 was used to calculate the data and the quantitative variables are represented as mean and standard deviation, both groups were compared through the paired sample t-test within groups and between groups performed. **Results:** On comparison of both groups regular prayer offerers and irregular prayer offerers for hamstring flexibility. It is found that the mean score of the chairs sit and reach test of the regular prayer offerers group is 0.9 for the left leg and 1.3 for the right leg and in irregular prayer offerers for the left leg is -2.0 and for the right leg is -1.8. The mean score of the straight leg raise test regular prayer offerers group, for the right leg, is 72 and for the left leg it is 64 and in the irregular prayer offerers group, it scores 54 for the right leg and 52 for the left leg. **Conclusion:** It concludes that Ruku posture has a significant positive effect on hamstring flexibility. Female students perform Muslim prayers regularly and five times have more flexible hamstring muscles when compared with irregular prayer offerers. Lack of physical activity and prolonged use of computer and mobile phones is causing poor body postures and musculoskeletal pains among the young population.

Access
the
article
online



SCAN ME

*Corresponding Author:

Muhammad Aleem Altaf Hassan,
University of Portsmouth, United
Kingdom

Email: aleen Hassan45@gmail.com

Keywords: hamstring flexibility;
irregular prayer offerers; Muslim
prayer

Citations: Sharif A, Mehmood S,
Mahmood B, Siddiqa A, Hassan
MAA, Afzal M. Comparison of
Hamstrings Flexibility among
Regular and Irregular Muslim Prayer
Offerers. The Healer Journal of
Physiotherapy and Rehabilitation
Sciences. 2023; 3(1):329-333.

INTRODUCTION

Muslim prayers (salaat/namaz) consists of meditation and physical movements of different parts of the body and are thought to improve equilibrium, joint flexibility and postural balance. Offering salaat, the Muslim believer performs different body postures and also recites specific supplications.^{1,2} Different postures of namaz improve psychological health confidence and also musculoskeletal fitness. The sequence of posture is defined and repeated many times. During each prayer, Muslims perform salaat five times a day, consisting of 40 Rakaat and each has a series of seven different postures.^{3,4}

Salaat starts in a posture of standing then the prayer offerer bends at the waist and grasps both knees with hands while keeping the spine straight, this posture is called bowing.⁵ The prayer offerers then again come to a standing posture before prostration, with forehead, hands, nose, knees and toe balls resting on the ground for many seconds the forearm and elbow joints should not touch the ground during this posture than prayer offerer sits for few seconds on his legs and again rises to stand, this pattern of body movement is called Rakah.^{6,7} Two main flexion movements of salat named Ruku (bowing 90-degree forward flexion) with both hands on knees and Sujood with forehead flat and hands on the floor are beneficial for upper body muscles.⁸

The duration of Ruku is 12 seconds the hands are placed on the top of the knees with fingers spread, hips flexed and parallel to the floor and knees are kept straight.⁹ In Ruku trunk, hip, back, pelvis, legs and thigh muscles are stretched along with the muscles of neck, shoulders and arms. This exercise is very beneficial for weak muscles of the back and regular stretching prevents back pain.¹⁰ Ruku can improve the flexibility of the spine and prevent the risk of nerve compression.¹¹ Ruku

completely stretches the muscles of the lower back, thighs and calves. That is why stretching in a standing position improves hamstrings flexibility.¹² In salaat postures, there is a stretching and isometric contraction of upper and lower body muscles and a duration of Ruku 12 seconds and the body bends on the knees.¹³ This posture is very similar to stretching exercises performed to improve the hamstring's flexibility. So the purpose of this study was to explore whether Ruku (bowing) has a positive effect on hamstring flexibility in regular female prayer offerers.^{14,15} The objective of this study was to compare the effects of Salaat posture Ruku on the hamstring flexibility of regular and irregular female Muslim prayer offerers.

METHODS

This study was conducted at Hajvery University in which female students (n=400) aged between 18 to 25 years students (for hamstring flexibility). Students were divided into two groups of which half were regular and half were irregular prayer offerers. Both groups were selected with the help of a questionnaire about the number of prayers offered regularly and posture used for praying and some other questions of inclusion and exclusion criteria. The flexibility of the hamstring muscles was measured by the chair sit and reach test and the straight leg raise test.

SPSS v20 was used to calculate the mean±SD for both groups. Analysis within the group and between groups was performed. The flexibility tests were performed on each female of both groups. The chair sits and reach test is used to examine lower body flexibility, especially hamstring muscle. In this test, the subject sits on the edge of a chair against the wall or safety. One foot must remain flat on the floor. The other leg is extended forward with a straight knee, the

heel on the floor and the ankle bent at 90 degrees. Place one hand on top of the other with the tips of the middle fingers even. The subject is instructed to inhale and as they exhale, reach forward towards the toes by bending at the hip. Keep the back straight and head up. Distance is measured between the tip of the fingertips and toes. If the fingertips touch the toes, then the score is zero. If they don't touch the distance between fingers and toes (a negative score), if they overlap (measure by how much is the positive score)

Straight Leg Raise Test

The subject lies supine on a flat bench, at least two testers are required. One is to raise the leg while the other measures with the goniometer. The tester moving the leg places one hand on the front of the leg slightly below the knee and the other hand at the heel. The leg is forced into two extensions before lifting the leg and kept straight throughout the movement. The straight leg is raised as far as the point of maximum stretch. The angle of displacement of the leg is measured from the horizontal.

The fulcrum of the goniometer is held over the greater trochanter of the leg being tested while the moving arm is aligned with the midline femur, using the lateral epicondyle as a reference point. This procedure is repeated for both legs. The data is analyzed through IBM SPSS statistics 20. The quantitative variables are represented as mean and standard deviation the means and standard deviations of both groups are compared through the paired sample statistics Analysis within groups and between groups are performed.

Analysis showed that the regular group had a more flexible left leg score that is 0.9 and the irregular group did. Analysis showed that the regular group had more flexible right leg scores that are 1.3 than the irregular group which is -1.8.

RESULTS

Table I: Socio-Demographic Profile

Variables	Regular Group (Mean±S.D)	Irregular Group (Mean±S.D)
Age (years)	19.54±1.21	19.41±1.20
Weight (kg)	52.82±6.31	19.41±1.20
Height (m)	1.513±0.09	1.54±0.094
BMI	23.04±2.90	22.26±3.35

*S.D: Standard deviation

BMI: Body mass index

Table II: Paired Sample Statistics Regular versus Irregular CSR and SLR Left and Right leg

	Mean	n	Std. Deviation
Regular CSR Right	0.19	200	3.174
Irregular SLR Left	-2.06	200	3.84
Regular CSR Right	1.31	200	3.56
Irregular SLR Left	-1.80	200	4.06
Regular CSR Right	64.62	200	13.56
Irregular SLR Left	52.65	200	10.06
Regular CSR Right	72.05	200	13.53
Irregular SLR Left	72.05	200	9.25

The result showed that the regular group had more flexible left leg scores which were 64 than the irregular group which was 52. The results showed that the mean score of right leg flexibility in the regular group was high (72) and in the irregular group that was 52.

DISCUSSION

This study revealed that the habit of regular prayer offerings is decreasing in our society as well as young students' lack of physical and sporting activities. Muslims are blessed with salaah and they can maintain physical fitness without any regular exercise and sporting activities.¹⁶ This study also revealed an unhealthy lifestyle (late to bed and late to rise). Young females skipped their one or two prayers daily so there is a need for a lifestyle change. So that they can get complete benefits from offering prayers. Females can also prevent low back pain and poor body posture with the help of regular prayer offering habits.

Mechanical back pain is a common physical problem in young females. Tight back muscles and hamstrings are the most common cause of it.¹⁷ The results of this study are supported by many other studies conducted on the benefits of salat, many studies have proved systemic effects of salaah on the human body such as in the nervous system and cardiovascular system¹⁸ there are also an increasing number of studies showing benefits of Namaz on the joint, the range of motion, muscles strength and flexibility as this study has revealed the effects of Ruku posture at hamstring's muscles flexibility.¹⁹

Many researchers have focused on the effects of salaah on the geriatric population and it is revealed that salaah plays an important role in maintaining the range of motion in the cervical and lumbar spine. Elders praying regularly have less depression and cardiac events and have a better quality of life.²⁰ Namaz postures also have a positive effect on the balance of all age groups. Studies on the female population have proved that Namaz postures prevent low back pain. Muscular activity of 17 various body muscles was checked by electromyography²¹ during various postures of Namaz and was found

similar to many exercises included in rehabilitation protocols.²² Still, there is a need to explore more about Namaz and its benefits. There is also a need for experimental research that could prove scientifically that Namaz is a blessing. Also, there is a need to improve awareness about the medical benefits of Namaz.²³

CONCLUSION

The study concluded that Ruku's posture has a significant positive effect on hamstring flexibility. Female students perform Muslim prayers (salaah/namaz) regularly and five times have more flexible hamstring muscles when compared with irregular prayer offerers. Lack of physical activity and prolonged use of computer and mobile phones is causing poor body postures and musculoskeletal pains among the young population. Awareness of the spiritual and physical benefits of salat must be increased because namaz can play a remarkable role to maintain physical fitness.

DECLARATIONS

Consent to participate: Written consent had been taken from patients. All methods were performed following the relevant guidelines and regulations.

Availability of data and materials: Data will be available on request. The corresponding author will submit all dataset files.

Competing interests: None

Funding: No funding source is involved.

Authors' contributions: All authors read and approved the final manuscript.

REFERENCES

1. Abdullah MJJoM, Sciences H. Effects of Repetitive Strain/Stress Injury on the Human Body. 2019; 13(12): 494-500.

2. Bennett-Overstall F. *Wonder Full Women. Attune & Bloom. Eat, Move & Meditate with the Seasons*: Balboa Press; 2022.
3. Capin JJ, Bade MJ, Jennings JM, Snyder-Mackler L, Stevens-Lapsley JEJPT. Total Knee Arthroplasty Assessments Should Include Strength and Performance-Based Functional Tests to Complement Range-of-Motion and Patient-Reported Outcome Measures. 2022; 102(6): pzac033.
4. Chantia A, Misra PJF-BHJTAoFC. *Hinduism and Health Justice*. 2021: 82.
5. Crockett MK. *Telerehabilitation in Patients with Knee Injuries: Experiences and Opinions from Active Gym Members*: The University of Alabama; 2022.
6. Das A, Das DK. Therapeutic effect of yoga in management of obesity.
7. Feinberg M. *More Power to You: Declarations to Break Free from Fear and Take Back Your Life (52 Devotions)*: Zondervan; 2020.
8. Fenton C. *The Healing Power of the Pineal Gland: Exercises and Meditations to Detoxify, Decalcify, and Activate Your Third Eye*: Simon and Schuster; 2022.
9. Friel D. *Yoga and Reiki as Self-Care Interventions for Professional Nurses: A Weekend Retreat*. 2022.
10. Gebeyehu Ahemed E. Effect of aerobic dance on motor fitness variables of female sport science students of debre birhan university, Ethiopia: Haramaya university; 2020.
11. Buxton JD, Prins PJ, Miller MG, et al. The effects of a novel quadrupedal movement training program on functional movement, range of motion, muscular strength, and endurance. 2022; 36(8): 2186-93.
12. HU H-JJotSoD. Practical implementation of user-centered innovative design course: aimed at increasing fun for exercise among the elderly. 2021; 5(2): 2_21-2_30.
13. Karve RGJCEDDPS. Chapter-4 Yoga Leads To Fitness and Benifits. 2019; 95: 65.
14. Knect UD. *Back Pain Goodbye: Overcome Back Pain & Reclaim You Rlife in 12 Weeks Or Less*: Ursula D. Knect; 2019.
15. Masculimality NZD. Reviewing the 2020 SGA Elections.
16. McCornack H. *Yoga, singing, and the singer: a balance of effort and ease*. 2021.
17. Salvo SG, Renee MJJMTE-BP, Practice. *Career Longevity: Wellness, Wellbeing, and Self-Care*. 2022: 56.
18. Jalal AH. *Morphological, Neuromuscular and Cardiovascular Disease Risk Profiles Among Asymptomatic Sedentary Males Performing Salaah (Islamic Prayer)*: University of Johannesburg (South Africa); 2021.
19. Sanfilippo L. *Yoga Therapy for Insomnia and Sleep Recovery: An Integrated Approach to Supporting Healthy Sleep and Sustaining Energy All Day*: Singing Dragon; 2019.
20. Sarkingobir Y, Sharu AU, Sahabi M, Ashafa NAJIJoEliIS. Religious and Health Benefits of Salah/Prayer: A Review. 2022; 2(2): 58-70.
21. Soheyla N. Effect of core training on physical and technical characteristics of novice rhythmic gymnasts/Soheyla Nazari: Universiti Malaya; 2019.
22. Yadav PK, Agashe C. Impact of supervised physical exercise program on positive mental health of geriatric Males population of Chhattisgarh. 2019.
23. Lim E-J, Hyun E-JJJoer, health p. The impacts of pilates and yoga on health-promoting behaviors and subjective health status. 2021; 18(7): 3802.