



PROPORTION OF LOW BACK PAIN IN KATHAK DANCERS IN PUNE – A CROSS-SECTIONAL OBSERVATIONAL STUDY

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ABSTRACT **Background:** Knowing the proportion of low back pain in Kathak dancers is an important measure that should be taken to prevent dance related injuries since Kathak dance form involves various sharp turns and stamping of feet flat on the ground, known as “tatkar”. Also, pronated feet occurring in Kathak dancers has been shown to have an impact on the lower back. Hence, the proportion of low back pain in Kathak dancers was found out using the Nordic Musculoskeletal Questionnaire and the Modified Oswestry Low Back Pain Disability Index.

Study type: Cross-sectional Observational study

Purpose: To find out the proportion of low back pain occurring in Kathak dancers in Pune.

Overview of Literature: Studies have shown that the prevalence of low back pain is around 12% of all dance type of injuries, but the proportion of low back pain specifically in Kathak dancers remains unknown.

Method: 88 samples were chosen by convenient sampling.

Materials used: 1) Stationary 2) Nordic questionnaire sheet 3) Modified Oswestry Questionnaire sheet

Results: The proportion of low back pain occurring in Kathak dancers in Pune was found to be 59% with 94.31% having mild disability and 5.68% having moderate disability.

Conclusion: The proportion of low back pain occurring in Kathak dancers in Pune was found to be 59%.

KEYWORDS : low back pain, Kathak, classical dance, dance-related injury

INTRODUCTION:

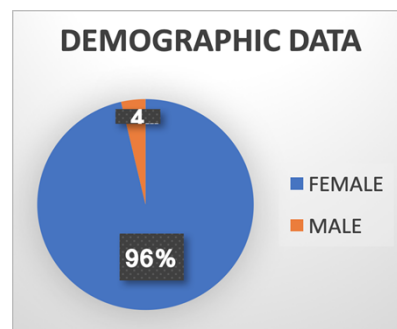
Kathak is one of the most popular and old classical dance forms worldwide. Kathak is one of the 8 major classical dance forms in India and has its origin in Uttar Pradesh. Among all the traditional classical dance styles in India, Kathak holds a prominent position. The word Kathak means storyteller, is derived from the word 'katha' i.e. a story. The dancer expresses the story through gestures of arms and upper body movements, facial expressions, stage movements, bends, turns and foot movements. This dance form mainly involves rhythmic foot movements adorned with small bells (ghunghroo) and movement harmonized to music. There are 3 main gharanas of Kathak- Jaipur, Banaras and Lucknow. Jaipur gharana of Kathak is famous for its spectacular footwork. Continuous stamping of feet on a hard surface as well as quick, sharp and sudden turns may have a negative impact on the lower back thus leading to pain and dance-related injury. Rather, low back pain has been commonly seen in dancers and athletes. In this study, Nordic Musculoskeletal Questionnaire will be used to find out the number of Kathak dancers having low back pain. Modified Oswestry Low Back Pain Disability Index will be used to find out the disability index and then classify the disability into mild, moderate, severe, crippled and 100% disability, thus stating the Kathak dancer's current level of disability.

MATERIALS AND METHOD:

We performed a cross-sectional observational study that included 88 Kathak dancers from all over Pune city. Samples were chosen by convenient sampling. All Kathak dancers between 15 to 30 years of age were involved in the study having minimum 4 years of experience with 6 hours of practice per week. Kathak dancers who have suffered from or were suffering from any pathological conditions such as osteoporosis, osteoarthritis, infections, inflammatory arthropathy, disc prolapse or any other degenerative conditions or have met with accidents, suffered from falls or trauma or have had fractures, were excluded from the study. The outcome measures included the Nordic Musculoskeletal Questionnaire and the Modified Oswestry Low Back Pain Disability Index. The materials required for the study included stationary and the questionnaire sheets. After obtaining approval from the ethical committee and permission from the head of the institution, the study was initiated. Permission was also taken from the Guru of that particular Kathak institution where the study was performed. Subjects were selected according to the inclusion criteria. Informed and written consent was taken from the subjects after the purpose of the study was explained. Once the consent was taken the procedure was explained and the Nordic questionnaire sheet to be filled was given to

the subjects. By obtaining the number of dancers with low back pain, the Modified Oswestry Low Back Pain Disability Questionnaire was given only to the ones with low back pain. The questionnaire sheets were then collected and scoring was done accordingly. After scoring was done, the disability was accordingly divided into minimal, moderate, severe, crippled or 100% disability.

Table:-1



RESULTS:

This study was done to find out the proportion of low back pain occurring in Kathak dancers in Pune. This cross-sectional study shows a 59% occurrence of low back pain in Kathak dancers among the Pune population with 94.31 % of dancers having minimal disability and 5.68% of dancers having moderate disability. The mean age was 20.9 The mean dancing experience was 5.98 ± 1.12 years.

Table 2:-

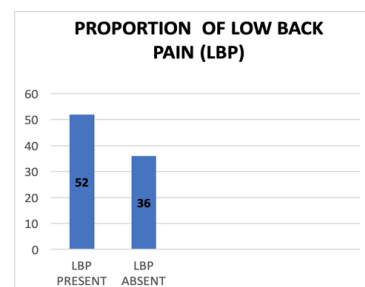


Table 3:-

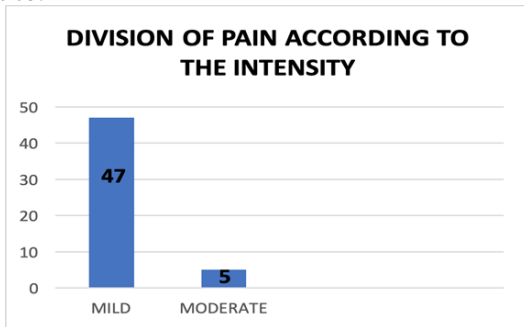
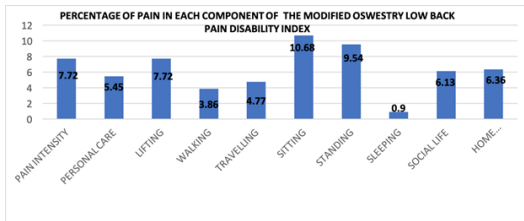


Table 4:-



DISCUSSION:

Kathak is a classical dance form from North India characterized by fast, rhythmically sophisticated footwork, quick turns, delicate hand positions and storytelling. Kathak dancers dance barefeet since they wear ankle bells, thus emphasizing on stamping of feet and sharp rhythmic shifts. This study shows a 59% occurrence of low back pain in Kathak dancers in Pune. Long hours of practice at a stretch without any other form of bodily exercise may have led to the occurrence of low back pain in these individuals. The individuals who were a part of the study were not involved in any other kind of dance, sports or gym exercises. Repetitive banging of the feet flat on the ground has been shown to have an impact on the arches of the feet. A study by Shweta Chandan and colleagues proves the occurrence of pronated feet in 25% of Kathak dancers and excessively pronated feet in 65% of Kathak dancers. It was concluded from this study that Kathak dancers have deviation in the foot posture i.e. pronated foot posture which may indicate towards predisposition of foot, knee and back related problems.^[10] The Framingham Foot study by Hilton Menz and colleagues proves the association of pronated feet with low back pain. Foot posture showed no association with low back pain. However, pronated foot function was associated with low back pain in women [odds ratio (OR) = 1.51, 95% CI 1.1, 2.07, P = 0.011] and this remained significant after adjusting for age, weight, smoking and depressive symptoms (OR = 1.48, 95% CI 1.07, 2.05, P = 0.018).^[6]

CONCLUSION:

This cross-sectional study shows a 59% occurrence of low back pain in Kathak dancers among the Pune population. Out of the Kathak dancers suffering from low back pain, 94.31 % of dancers have minimal disability while 5.68% of dancers have moderate disability.

Conflict of Interest:

None

Limitations and Future Scope:

The ratio of male to female is not equal. Maximum hours and years of practice were not defined. Study was irrespective of the various gharanas of Kathak dance form. Further study can be done to compare the intensity of low back pain in Kathak dancers before and after a certain strengthening protocol is given to the dancers. A further study can also be done considering various gharanas of Kathak as well as the effect of the disability on their Kathak careers.

Clinical Significance:

By finding out the proportion of lower back pain in Kathak dancers and categorizing them into minimal, moderate, severe, crippled and 100% disability, awareness can be spread and preventive measures and treatment can be given accordingly. Strengthening of the neck and the lumbar stabilizing muscles, hip and knee muscles and foot intrinsic muscles should be given in order to avoid the disabilities caused due to Kathak and make the dancers less prone to injuries.

REFERENCES:

- 1) Modified Oswestry Low Back Pain Disability Questionnaire. [1] Available on <https://www.st-marys.org/assets/pdfs/2017/back-pain-questionnaire.pdf>
- 2) Happiness Anulika Aweto, Oluwapelumi Mariam Awolesi, Rachael Olumayokun Alao. Jan-June-2014. Musculoskeletal pain and injury in professional dancers: Prevalence, predisposing factors and treatment. Indian Journal of Physical Therapy-An Indian National Journal. Volume-2, Issue-1, page 6. [2] Available on www.researchgate.net
- 3) Nathalie Roussel, Margot de Kooning, Schutt A, Liesbeth Daenen. September 2012. Motor Control and Low back pain in dancers. Indian Journal of Sports Medicine. 34(2)*[3] Available on www.researchgate.net
- 4) Swain CTV, Bradshaw EJ, Whyte DG, Ekegren CL. 2017 May. Life history and point prevalence of low back pain in pre-professional and professional dancers. Phys Ther Sport. ;25:34-38[4]
- 5) Roopika Sabharwal, Sonia Singh. February 2017. Foot postural deviations in female Kathak dancers. International Journal of Physiotherapy. Vol 4(1), page38-43.[5]
- 6) Hylton B.Menz, Alyssa B. Dufour, Jody L. Riskowski, Howard J. Hillstrom and Marian T. Hannan. Dec 2013. Foot posture, foot function and low back pain: the Framingham Foot Study. Rheumatology (Oxford). 52(12):2275-82. [6]
- 7) Joanne O. Crawford. June 2007. The Nordic Musculoskeletal Questionnaire. Occupational Medicine, Volume 57, Issue 4, 1. Pages 300-301. [7]
- 8) Davidson M, Keating JL. Jan 2002. A comparison of five low back disability questionnaires: reliability and responsiveness. Physical Therapy. 82(1):8-24 [8] Available: www.ncbi.nlm.nih.gov/pubmed/11784274
- 9) Nishant, Harvinder Singh Chhabra and Kulwant Singh Kapoor. Oct 2014. New Modified English and Hindi Oswestry Disability Index in Low Back Pain Patients Treated Conservatively in Indian Population. Asian Spine Journal. 8(5): 632-638. [9]
- 10) Shweta Chandan, Savita Tamaria, Davinder Gaur, Charu Chadha, Priyanka Sharma. June 2018. Cross-Sectional Study of Foot Posture Index, Navicular Drop and Arch Index in Kathak Dancers. International Journal of Research and Review. Volume 5, Issue 6, Pages:157-164. [10]