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Prevalence of Forward Head Posture in Professional Indian Tabla Player

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ABSTRACT
Background: The Tabla is a percussion instrument with a membranophone that originated in the Indian subcontinent.It consists of two single-headed, small drums with barrel shapes that are somewhat varied in size and shape; daya, also known as dahina, denotes the right and baya, also known as bahina, denotes the left. The tabla player sits with knees folded and back unsupported with the neck slightly bent, shoulders flexed, elbow extended with repetitive wrist and finger movement. Repeated hand movements like wrist flexion- extension, ulnar and radial deviation, striking. Beginner table players will tend to focus their movements on hands and wrists. However, as one gains more experience as a tabla player and starts to increase their speed and volume, they will typically start using more of their shoulders and eventually their back to generate force and power. Thus, as the tabla player with more years of experience showed more risk of musculoskeletal disorders. The study revealed that musicians working in an elevated arm position had a high prevalence of neck and shoulder pain than those working in more neutral position. Playing a percussion instrument demands great force and effort, which may make percussionists prone to playing-related musculoskeletal disorders (PRMDs) of all of the percussion instruments in India, tabla is the most popular. Playing for long and intense periods of practice in uncomfortable postures (Wahlstrorm and Wiklund, 2009) leads to PRMDs. Among Indian percussion instruments it has been reported that Tabla players are found to suffer from PRMDs.
Methods: The study enrolled 69 participants. The MB ruler was used to assess the forward head posture in tabla players.
Results: Participants were found out to be more in the age group of 24-26 years i.e. 57% (39) and less in the age group of 18-20 years i.e. 20% (14).The total number of participants included in the study was 69, among them 94% of participants are male and only 6% were female.
This study concludes that there is prevalence of forward head posture in professional Indian tabla players that is 63.77%.
Keywords: Forward Head Posture, Craniovertebral angle, Playing Related Musculoskeletal Disorder, Tabla players

I. INTRODUCTION:

The Tabla is a percussion instrument with a membranophone that originated in the Indian subcontinent.It consists of two single-headed, small drums with barrel shapes that are somewhat varied in size and shape; daya, also known as dahina, denotes the right and baya, also known as bahina, denotes the left. The tabla player sits with knees folded and back unsupported with the neck slightly bent, shoulders flexed, elbow extended with repetitive wrist and finger movement. Repeated hand movements like wrist flexion- extension, ulnar and radial deviation, striking [(1).] Beginner table players will tend to focus their movements on hands and wrists. However, as one gains more experience as a tabla player and starts to increase their speed and volume, they will typically start using more of their shoulders and eventually their back to generate force and power. Thus, as the tabla player with more years of experience showed more risk of musculoskeletal disorders [(2).] The tendency to stay seated for long periods of time can cause changes in the alignment of the spine, leading to improper posture, such as a rounded shoulder and forward head posture (FHP). FHP also limits the functional movement in the head and neck area these limitations are caused by irregular rotation and gliding movement inside the articular capsule whilst moving the joint. Extended

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periods of FHP can result in a decreased number of sarcomere, as well as causes shortening of the muscle fibers, which can affect muscular contraction [3].

II. MATERIAL AND METHODS:

The study was carried out in Pune region. The participants were included according to inclusion and exclusion criteria. To assess the forward head posture MB ruler was used and demographic data was collected. The consent was taken of the participants.

All the data were collected and analyzed by using MS Excel 2019.Data were reported in the form of mean and percentage.

III. RESULT:

The research was conducted to assess the forward head posture in tabla players. A total of 69 participants were included in the study. Among 69 participants 44 of them had decreased carniovertibal angle (<49.5*) and 25 of them were above (>49.5*) normal which suggest that they have forward head.This study concludes that there is moderate prevalence of forward head posture in professional Indian tabla players that is 63.77%.

IV. DISCUSSION:

This study concludes that there is moderate prevalence of forward head posture in professional Indian tabla players that is 63.77%. The study included participants in the age group of 18-26 years and the mean age of the participants was 22.85. Graph1 shows that no of participants were 39 in the age group of 24-26 years i.e. 57%, 16 in 21-23 age group i.e. 23% and less in the age group of 18-20 years i.e. 20% (14). In this study, we included 69 professional tabla players in pune region and among them 94% were males and remaining were females which can see in graph no 2. Graph 3 shows that 63.77% of participants had decreased carniovertibal angle (<49.5*) which suggest that they have forward head. The prevalence found out in the study is 63.77% in tabla players, as it was stated in previous study that there is high risk of musculoskeletal disorder which can be caused due to repetitive movement and altered posture leading to muscle fatigue, pain, swelling, etc. The study done by Neha Sable et.al have proven that beginner tabla players will tend to focus their movements on hands and wrists. However, as one gains more experience as a tabla player and starts to increase their speed and volume, they will typically start using more of their shoulders and eventually their back to generate force and power. Thus, as the tabla player with more years of experience showed more risk of musculoskeletal disorders. Tabla players sits with knees folded and back unsupported with the neck slightly flexed, shoulders elevated, elbow extended with repetitive wrist flexion-extension and excessive finger movements. Many tabla players may not be aware of their posture while playing. Without conscious attention to maintaining proper alignment, it's easy to develop FHP, especially when concentrating on complex rhythms.

Extended periods of practice can lead to muscle fatigue and strain on these muscles as players focus on their technique and rhythms, they may unconsciously adopt a forward head position, leading to muscle imbalances over time. Thus the tabla player with more years of experience and the more frequency of playing tabla per week increases the risk of musculoskeletal disorder as it leads to overuse of muscle leading to fatigue and pain. Prolonged adaptation of forward head posture can eventually lead to muscular imbalance causing shortening and associated elongation of the muscles of the cervical spine. Adaptation of the faulty posture during activity of daily living may lead to all the pathological problems associated with it. Studies have also concluded that altered postures may hasten the degenerative changes that take place later in life. Presence of risk factors were found out in players who were in stress, poor posture, insufficient rest, performance frequency, lack of fitness and faulty techniques in players.

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