

# Benefits of Yoga on Various Factors of Importance on Performance Enhancement among Archers: Narrative Review

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## ARTICLE INFO

## ABSTRACT

Yoga improves physical and mental well being among sports personals including Archers. Although how effective is Yoga in improving various physical and mental health parameters related to Archer's performance is not summed up in any research studies so far. Hence this review was conducted. Of a total of 119 articles identified from PubMed, Google scholar, Embase and Library Genesis, 21 articles were found suitable for this review. Key terms used for search are "Yoga, Archery", "Yoga, Archer's performance", "Yoga, Archers, Physical health", "Yoga, Archers, Mental health", "Yoga, Archers, Mental health, Physical health". This review resulted in finding the effectiveness of practice of Yoga in improving various mental and physical health variables that play a significant role on performance enhancement among Archers. Majority of the studies mentioned the significance of Yoga in improving Hand-eye coordination, stability, confidence, patience, self-esteem, will power, concentration skills and in reducing stress and anxiety. Few referred studies also highlight the need for daily practice of Yoga based relaxation techniques to get rid of tiredness among Archers. To sum up, published studies cite the effectiveness of Yoga in stabilizing and improving both physical and mental health parameters, indicating a huge scope in enhancing performance among Archers.

**Keywords:** Archers, Archery, Yoga, Physical health, Mental health

## Introduction

Archery is a sport that require special skills and focus (Coomaraswamy, 1943). Physical fitness and related parameters of importance on shooting performance among Archers are endurance, shoulder strength, explosive strength, arm strength, back strength, abdomen strength, and balance (Akbar, 2019). Alongside, archery performance highly depends on mental health variables like aggression, tension, stress, anxiety and other emotions. As known, these factors uplift readiness, preparedness, confidence, motivation and concentration (Feng, 2022) that play a vital role in performance (Kumar, 2019). Influence of mind-based practices named as mental exercises on improving mental endurance and aiming shots among archers is projected in few of the articles (Yudho, 2022). Above all, hand-eye coordination is a crucial factor impacting performance of Archers, benefitted by practice of yoga-based relaxation techniques (Butler, 2018).

Salleh et al., listed the significant role imparted by competitive anxiety and arousal towards Archery performance. This study also mentioned that psycho-physiological variables like cognitive anxiety, somatic anxiety, heart rate, self-confidence and blood oxygen level contribute much on shooting performance among intermediate archers (Salleh, 2023). Archery performance among archers depends on stress, anxiety, physical and other mental health parameters. State anxiety is high among Archers as compared to other sports personnels (Kavita, 2015).

Extra hours of self-practice in addition to long hours of training results in physical and mental tiredness and instability among Archers. Undoubtedly, this is one of the attention seeking areas that trainers and trainees keep discussing about. Interestingly, studies published on effective interventions in stabilizing and improving performance among archers, are found mostly recommending Yoga-based relaxation techniques including meditation and yogic breathing in helping Archers get rid of the tiredness at both physical and mental level.

Alongside, regular practice of such relaxation techniques are known to improve self-motivation, confidence and enthusiasm among sports personnels including Archers. This benefit certified Yoga as a key to success by performance enhancement among Archers.

Yoga, a holistic mind body intervention not only helps in improving body fitness by increasing flexibility and stamina, but also enhances mental wellbeing by reducing stress, anxiety and low feeling which are very common among sports personals like Archers as failures are equally possible as success (Rajan, 2021). Although, anxiety, stress and worries from high expectations on achieving success are widely seen among Archers. As these variables affect the focus, aiming and performance among Archers, including Yoga in the days schedule is highly recommended (Haywood, 2024). In support to the above statements, a study reported the effect of practice of yoga on controlling anxiety, stress, worries, thus improving introspective attention, enabling better Archery performance (Li, 2021).

One of the experimental studies on Yoga and Archery mentioned the effect of Patanjali Yoga practice for six months on enhancing shooting performance among male archers (Sahu, 2020). Focus of another study was on attention among archers with Yoga practice including Trataka, Bhramari and Jala neti. Studies also signified benefits of specific Yoga practices in increasing shooting skills and score by improving hand-eye coordination one of the highly contributing factors on performance of Archers (Yadav, 2022). Practice of meditation, breath regulated *Anusara*, and different yoga practices based on Ashtanga, Iyengar and Kundalini yoga are proven beneficial in improving fitness, core strength, postural alignment and performance of Archers (Korde, 2019).

As known, performance of Archers depends on the training and readiness to practice daily for hours together. This also depends on dedication, good physical and mental health. Alongside, flexibility and strength of hands, legs and spine are few of the factors controlling performance of archers. Yoga gained much attention with its proven effect in increasing flexibility and strength of body, helping improve Archery performance (Rani, 2019). Additionally, effect of Yoga in improving mind body balance and stability is also reported (Phor, 2013).

Role of meditation along with other yoga practices in boosting parasympathetic activity, which play a significant impact in improving skills and focus among Archers is mentioned in one of publications (Li, 2019). Moreover, one of the latest publications reported the importance of specific strength training practices in improving physical and mental wellbeing, thereby resulting in performance enhancement among Archers (Chatla, 2023). Mindfulness based yogic practices are beneficial in cognitive function and shooting performance among archers (Wu, 2021). Generally, practice of Yoga help athletes to stay strong, focused, avoid distractions and win over physical and mental issues (Lohan, 2021). In all, published studies reported the effectiveness of Yoga in improving overall wellbeing thus enabling better performance among Archers and suggested need for more Yoga based experimental studies.

## Method

Aim of this narrative review was to understand and collate the findings of Yoga based interventional studies on contributing factors towards performance enhancement among Archers. Search in PubMed, Google scholar, Embase and Library Genesis resulted in identifying 119 articles, published from 1940 to 2024. Of which, 21 articles were found meeting the objectives of this review. Key terms used to search the related articles were “Yoga, Archery”, “Yoga, Archers”, “Yoga, Archers, Physical health”, “Yoga, Archers, Mental health”, “Yoga, Archers, Mental health, Physical health”. More of related articles were found from Google scholar data base. Majority of the studies were reviews, letter to editor and concept papers. Interestingly, majority of the studies suggested a need for more experimental studies with Yoga as an intervention.

## Result

Findings of this review is a revelation of impact of Yoga in improving multiple physical and mental health factors resulting in accuracy and quality performance among Archers. Few studies promote Yoga over other physical activities with the strength gaining and calming down effect, which no other pharmacological and non-pharmacological interventions can contribute. In other words, studies find Yoga as one of the most effective interventions that can improve skills among Archers with its mind body approach. Archers' performance depends on physical health parameters like stability, flexibility, stamina, hand eye coordination, muscle strength and ability to hold on oneself appropriately till the chance. In addition, studies also mentioned the significant role of mental health variables like patience, calmness, attention, and being unaffected by competitive anxiety, worries, depression and stress. Generally, both physical and mental health parameters work hand in hand as both the domains have got equal significance on performance output among Archers. Yoga works differently as compared to other physical activities and exercises as practice of Yoga helps in improving physical and mental wellbeing. However, a combination of physical postures, yogic breathing techniques and meditation works better in achieving expected results, rather than practicing physical postures alone.

In addition to the benefits of Yoga practice on Archers, scope for Yoga based studies among Archers are high because there are not many Yoga based experimental studies published online. Beyond this, with the known effects, Yoga is gaining attention and popularity among sports personals including Archers. This is because, practice of Yoga is proven effective in regulating body weight, body mass index, improve body stamina, steadiness, flexibility and muscle coordination, which are equally significant factors impacting performance. As reported, Yoga improves hand eye coordination, one of the highly significant variables controlling performance accuracy and skills of Archers. Besides that, different Yoga practices mainly meditation and Yogic breathing techniques help gain emotional stability, calmness and self-confidence by bringing down stress and competitive anxiety.

### Discussion

Focus of this review was to sum up the details published in articles related to effectiveness of Yoga on factors influencing performance skills of Archers. Attempts to find the extent to which Yoga related interventions are impactful in improving skills resulted in identifying Yoga as an unavoidable intervention among Archers. This is because practice of Yoga improves both physical and mental fitness, which are equally important in improving shooting skills among Archers. However, secondary objective of this article was to identifying the variables that Yoga based interventional studies already focused on, so that this information is of help for planning up future studies in same domain.

As known, Yoga is a mind body practice, also comparatively a better intervention as compared to other interventions, with the proven effects known from experimental studies. Although, getting expected results depend on the type of intervention on most contributing variables. For example, one of the studies signified the impact of mindfulness on cognition and shooting skills in Archers (Wu, 2021). Another experimental study reported the benefits of Yoga to stay strong, focused, to avoid distractions and helping to win over physical and mental issues among sports personals including Archers (Lohan, 2021). Adding on, key messages of the reviewed articles was the need for studying most significantly contributing variables alongside applying the appropriate interventional module. This is of great importance to generate the best effect among the study participants, which judges the extent of success of a study.

However, as reported by Yoga studies of different field that longer the duration, better the effect, experimental studies in Archers reported best effects of Yoga practice even in short duration. This widens the scope of Yoga in improving physical and mental wellbeing, thus helping in performance enhancement among Archers, irrespective of the duration of practice. Above all, importance of reducing stress, anxiety and improving general wellbeing on performance among sports personals is reported in many of the experimental studies. Role played by these mental health parameters on regulating physical health, focus and performance is also reported, linking the mind body connection which makes Yoga different from other physical activities. As benefits of Yoga in reducing stress, anxiety, helping improve mental and physical wellbeing is reported by experimental studies, undoubtedly this is one of the best interventions for Archers.

Archers are prone to get tired physically and mentally due to long hours of training and self-practice sessions, which even affect their focus, motivation, emotional stability and self-confidence. Few studies recommend including more of relaxation-based Yoga practices like Meditation and Yogic breathing techniques known as *Pranayama* into daily routine of Archers. This can definitely be of great help to Archers that no other physical activities other than Yoga can help the practitioners gain expected results. In summary, practice of Yoga should be promoted among Archers to gain multiple phenomenal benefits at mind and body level, in addition to the note worthy impact of the practice on performance enhancement.

### Limitations and future directions

There are not many experimental studies on Yoga among Archers found online. Time of practice of the intervention is not mentioned in majority of the experimental studies. More experimental studies might give a future direction to researchers to identifying most effective Yoga practice and extend of effect on contributing factors resulting in performance enhancement among Archers.

### Conclusion

Yoga based specific strength training practices can improve performance among archers. Regular practice of Yoga improves hand-eye coordination, muscle endurance and concentration enhancement. Additionally, Yoga-based relaxation techniques are effective in keeping up the emotional stability, brining a refreshed feeling to mind and body. Summing up, practice of Yoga is highly beneficial in improving physical and mental wellbeing and performance among Archers.

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