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EFFECT OF YOGIC PRACTICE ON SLEEP QUALITY AND RECOVERY AMONG BEGINNER HOCKEY PLAYERS

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ABSTRACT

This study uses a sample of 60 athletes from Gwalior city to investigate how yoga practices affect the quality of sleep and recuperation among beginning hockey players. Hockey players frequently have sleep disturbances and delayed recovery due to the intense physical and mental demands of the sport, both of which are critical for peak performance. The study addressed these problems by giving one group of athletes a 6-week yogic intervention that included pranayama (breathing exercises), asanas (postures), and Yoga Nidra (guided relaxation). Meanwhile, the control group continued their usual training regimen. The Pittsburgh Sleep Quality Index (PSQI), a standardized instrument for assessing subjective sleep length, quality, and interruptions, was used to gather data on sleep quality. Heart Rate Variability (HRV), an objective indicator of autonomic nervous system function, and cortisol levels—a crucial stress hormone—were used to gauge recovery. A 40% decrease in PSQI ratings, indicating improved sleep quality, was one of the experimental group's notable gains. Furthermore, their cortisol levels decreased, indicating less stress, and their HRV ratings increased, indicating improved recovery. According to the research, adding yoga to an athlete's regimen can significantly improve their sleep and recuperation, making it a useful, non-invasive way to improve sports performance. This study offers useful information about the mental and physical advantages of yoga for beginning hockey players.

Keyword: Sleep Quality, Recovery, Pranayama and Heart Rate.

INTRODUCTION

Sleep is essential for both general health and athletic recovery, especially for novice athletes adjusting to the demanding physical and mental demands of competitive sports. As a high-intensity, intermittent sport, hockey necessitates ideal recuperation in order to sustain optimal performance and avoid injuries. Nonetheless, research has indicated that athletes frequently have sleep disruptions as a result of training load, competition stress, and travel (Watson, 2017; Chtourou et al., 2019). According to Mah et al. (2011), inadequate sleep can have a detrimental effect on cognitive processes, reaction times, and physiological recuperation, all of which can have an impact on athletic performance. The benefits of yoga, an age-old Indian discipline, for improving both mental and physical health are becoming more widely acknowledged. Numerous processes, such as stress reduction, hormone balance, and autonomic nervous system modulation, have been linked to yoga's ability to enhance sleep quality (Rusch, 2017; Tsai et al., 2019). One meditative relaxation method that has shown great promise in encouraging deep relaxation and minimizing sleep disturbances is

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yoga nidra (Amrit, 2015). Furthermore, it has been discovered that certain asanas (postures) and pranayama (breathing exercises) stimulate the parasympathetic nerve system, which lowers cortisol levels and increases heart rate variability (Manjunath & Telles, 2005). These physiological alterations help athletes sleep better and recover more quickly. Although a lot of study has been done on the advantages of yoga for overall health, less is known about how it specifically affects novice hockey players' sleep and recuperation. By assessing the effects of a systematic 6-week yoga intervention on sleep patterns and recovery metrics among beginning hockey players, this study seeks to close this gap. This study aims to offer useful insights into how holistic, non-invasive techniques can improve athletes' mental and physical performance by including yoga into training regimens.

Sleep is essential for physical recovery, especially for muscle regeneration, hormone balance, and cognitive renewal, according to research (Mah et al., 2011). Performance, stamina, and injury prevention are all directly impacted by the quality of an athlete's sleep (Watson, 2017).

Yoga has been shown to improve sleep via a number of processes, such as hormone modulation, stress reduction, and relaxing (Rusch, 2017). People with insomnia have reported better sleep quality when they practice yoga nidra, a type of guided meditation (Amrit, 2015). However, research on how particular yoga poses affect athletes—particularly hockey players—is still in its infancy.

METHODOLOGY

Participants

For this study, 60 novice hockey players between the ages of 18 and 22 were chosen. The participants were split into two groups: the control group, which went about their daily lives without any yogic intervention, and the experimental group, which engaged in yoga. Every participant had identical training loads and schedules and came from similar athletic backgrounds.

Intervention

The experimental group participated in a 6-week yogic practice regimen, consisting of daily 45-minute sessions. The sessions included:

- Pranayama (Breathing Techniques): emphasized breathing rhythmically to increase lung capacity and promote mental calmness.
- Asanas (Postures): postures that are mostly restorative and designed to ease tense muscles and encourage relaxation.
- Yoga Nidra: a guided meditation technique to promote profound relaxation and enhance the quality of your sleep.

Measurements

The Pittsburgh Sleep Quality Index (PSQI), which assesses subjective sleep quality, length, and interruptions, was used to measure the quality of the sleep. The Recovery-Stress Questionnaire for Athletes (RESTQ-Sport) was used for subjective evaluations of recovery, and objective indicators including cortisol levels and heart rate variability (HRV) were gathered both before and after the intervention. Paired Sample t-test was applied to compare the groups at 0.05 level of Significance.

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RESULTS

TABLE NO. 1
COMPARISON OF SLEEP QUALITY AND RECOVERY AMONG HOCKEY PLAYERS

Variable	Group	Pre-Test Mean ± SD	Post-Test Mean ± SD	t-value
PSQI Score	Experimental	8.4 ± 1.2	5.0 ± 1.1	5.63*
	Control	8.3 ± 1.3	8.1 ± 1.2	0.82
Cortisol Level (µg/dL)	Experimental	21.0 ± 2.5	15.8 ± 2.2	4.75*
	Control	20.9 ± 2.4	20.6 ± 2.3	0.91
HRV (ms)	Experimental	38.5 ± 3.6	48.3 ± 4.2	6.34*
	Control	39.0 ± 3.8	39.5 ± 3.9	0.88

*Significant at 0.05 level significance.

The results revealed that the experimental group experienced a statistically significant improvement in sleep quality and recovery markers when compared to the control group. Specifically, PSQI scores decreased markedly ($t = 5.63$, $p < 0.05$), suggesting enhanced sleep quality among those practicing yogic interventions. Similarly, cortisol levels, a stress biomarker, showed a significant reduction ($t = 4.75$, $p < 0.05$), while heart rate variability (HRV) significantly increased ($t = 6.34$, $p < 0.05$), indicating better autonomic recovery. Participants attributed these changes to the calming influence of pranayama and Yoga Nidra, which they reported helped in enhancing mental clarity and deep relaxation. In contrast, the control group did not exhibit statistically significant changes in any of the measured variables.

DISCUSSION

The findings of the present study indicate that incorporating yoga into the training routines of beginner hockey players significantly improves both recovery and sleep quality. The substantial reduction in cortisol levels observed in the experimental group suggests that yoga is effective in mitigating stress, a common contributor to sleep disturbances. Additionally, the significant increase in heart rate variability (HRV) among participants highlights enhanced parasympathetic nervous system activity, which is associated with better autonomic regulation and faster physiological recovery.

These outcomes support the hypothesis that yogic practices such as pranayama and Yoga Nidra facilitate deeper relaxation post-training, thereby promoting better recovery. This is in line with existing literature that demonstrates yoga's ability to foster both mental and physical balance through modulation of neuroendocrine and autonomic pathways (Ross & Thomas, 2010).

CONCLUSION

The present study concludes that the integration of yogic practices, including pranayama and Yoga Nidra, into the training regimen of beginner hockey players has a statistically significant positive impact on recovery and sleep quality. The experimental group demonstrated a marked decrease in cortisol levels and PSQI scores, along with a significant increase in HRV, indicating improved autonomic balance and reduced psychological stress. These physiological and psychological adaptations suggest that yoga serves as an effective complementary approach to enhance athlete well-being, optimize recovery, and potentially improve long-term performance outcomes. Future research may explore the longitudinal effects of such interventions across various levels of athletic proficiency and sport disciplines.

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