VIEWPOINT

Kabaddi and Health

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ABSTRACT

Kabaddi is a team sport, which is said to be an amalgam of seven different sports. It promotes the entire spectrum of health- musculoskeletal, sensorimotor, cardiorespiratory, autonomic, endocrine and metabolic, psychosocial, and financial- while ensuring that injuries and other hazards are minimized. Kabaddi represents a useful tool for promotion of health, and should be incorporated into all fitness regimens. In this article, the authors explore how the game of kabaddi offers an opportunity to optimize holistic health.

Keywords: Exercise medicine, social health, sports endocrinology, sports medicine

Kabaddi is an ancient game, which enjoys the status of national sport of Bangladesh, as well as official state sport of many Indian states[1]. A contact team sport, it is played by seven-member strong teams. In recent years, kabaddi has witnessed a great surge in popularity. In this opinion piece, we review how kabaddi is a perfect way of experiencing and enhancing holistic health.

Kabaddi involves one player, a raider, entering the opposing side of the court, aiming to touch as many opponents as possible, and returning to his/her side, white uttering 'kabaddi kabaddi kabaddi' continuously, without losing breath. How does this help the player achieve comprehensive health?

MUSCULOSKELETAL HEALTH

The sport requires flexibility and fitness, as well as energy, coupled with endurance, to succeed. Training for kabaddi, therefore involves focus on both aerobics, and resistance exercises, involving the trunk as well as all limbs. Kabaddi, thus, becomes a perfect way to achieve comprehensive physical fitness, ensuring balanced development of all muscle groups, acting at all joints.

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CARDIORESPIRATORY HEALTH

The game of kabaddi involves continuous vocalization of the word 'kabaddi', for a period of up to 30 seconds. This promotes cardiorespiratory endurance, and encourages aerobic strength and stamina. One may wish to measure "single breath kabaddi counting time" as a means of assessing cardiorespiratory reserve. This can be used as a person-friendly, socially acceptable concept in respiratory rehabilitation as well as general health promotion.

SENSORIMOTOR HEALTH

Success at kabaddi requires excellent coordination between the various senses - eyes, ears, touch and the locomotor system. Mind-body and eye-limb coordination is also needed. Kabaddi practice enhances these processes and leads to holistic health.

AUTONOMIC HEALTH

One important aspect of health is autonomic hygiene, or autonomic balance[2]. By this, we imply a state of balance between sympathetic and parasympathetic tone, leading to optimization of autonomic response. Kabaddi is a unique game, in that it expects both sympathetic (running, tackling) and parasympathetic (defending, breath-holding) activities from its players. This leads to a perfect autonomic balance.

PSYCHOSOCIAL HEALTH

Being a team sport, kabaddi fosters the spirit of teamwork, and contributes to social and emotional well-being. At the same time, each player gets equal opportunity to raid and thus, individual sportsmanship is also

nurtured. This is in contradistinction to other sports, where one-upmanship may be a desired quality, or where forward players are given more attention than others. By promoting collaboration and cooperation, kabaddi can contribute to societal peace and well-being.

FINANCIAL HEALTH

One aspect of health that is often missed is financial well-being. Sports can be an expensive pastime for some. Kabaddi, however, is a game which places no financial demands on its players. No expensive kit or maintenance is required to excel in the game. Rather, kabaddi has served as a vehicle for financial upliftment of many of its enthusiasts, who have turned professional, or secured well-paying jobs on the basis of their performance.

ENDOCRINE AND METABOLIC HEALTH

There is an upper cap of 85 kg (for men) and 75 kg (for women) to participate in competitive kabaddi. This enjoins the player to maintain his or her baro-metabolic health, by adhering to a balanced diet and following a regular exercise regimen. Kabaddi players work hard to prevent and manage obesity.

As in other sports, playing kabaddi is associated with the release of "happy hormones", such as dopamine, oxytocin, serotonin, and endorphins. It is noteworthy that kabaddi is the state game of Haryana, and "Happy Hormones" is the name of Haryana's team at the annual Colors of India event organized during the annual Endocrine Society of India conference (personal communication, SK).

Substance abuse is a major threat to health. Kabaddi is a drug-free sport and its coaches and leaders have set an exemplary no-tolerance policy for drugs, which is followed by all players.

NATIONAL HEALTH

Kabaddi is an ancient India sport, with roots in Tamil Nadu, which is mentioned in the Mahabharata (Abhimanyu's story) as well. In recent times, kabaddi has succeeded in bridging the urban-rural divide, as well as gender bias, to create a feeling of national pride across all strata of society. Kabaddi has spread its wings for beyond India[3], and beyond South Asia as well. In this manner, it contributes to national prestige and health.

CHALLENGES

No game is without its challenges to health, and this is true for kabaddi as well. Being a contact sport, kabaddi may lead to physical injury[4,5]. Musculoskeletal injuries, especially at the knee and ankle joints, may occur in kabaddi players. Competitive players therefore undergo regular rehabilitative sessions. Guidance of expert sports medicine specialists and coaches is required to minimize and mitigate the effect of such injuries. Though a competitive sport, kabaddi does not exhibit the kind of sledging, fighting or unruly behavior that is often noticed in some other sports. This bonhomie extends to kabaddi fans and aficionados as well, who do not indulge in destructive activities that seem to be a part and parcel of some other games.

THE WAY FORWARD

Kabaddi, as a game, has made great strides in recent years. Its true potential; however, still remains to be unlocked. An amalgam of multiple sports, including athletics, gymnastics, judo, wrestling, boxing and rugby, kabaddi is a game which addresses the entire spectrum of health. More efforts are needed to spread awareness about the benefits of this game. Our policymakers and administrators do work hard to accomplish this goal.

Health care professionals can contribute by practicing, promoting and propagating this team sport, at all platforms possible, as a vehicle for comprehensive health[6]. Kabaddi can easily be incorporated into medical programs, including those for cardiorespiratory rehabilitation; weight loss diabetes and hypertension management, psychosocial rehabilitation, and general health promotion. It can be a value addition in team-building exercises, and can be used to promote reconciliation and harmony. All this can be achieved without the need for expensive gadgets, equipment, or ancillary supplies. Health care professionals should also promote healthy nutrition as a means of achieving better performances on the sports field[7]. Systematic research on these, and other facets of kabaddi will help understand the strength of this game. This, in turn, will allow us to utilize it effectively to accomplish our goal: fitness and functionality for all health and happiness for all.

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Screen All Men with Metabolic Syndrome and Type 2 Diabetes for Hypogonadism

Testosterone therapy may improve insulin sensitivity in men with higher baseline insulin resistance levels and adult-onset testosterone deficiency, suggests a study recently published in the journal *Diabetes, Obesity and Metabolism*[1].

This study designed as a randomized, placebo-controlled, double-blind randomized controlled trial (RCT) enrolled 184 men who had metabolic syndrome and hypogonadism. Of these, 113 received testosterone undecanoate and 71 received a placebo. Following the RCT, all men were given TU in an open-label phase. The analysis focused on men who were not taking antiglycemic agents, with 81 men in the testosterone undecanoate group and 54 men in the placebo group. Inter-group comparison of homeostasis model assessment of insulin resistance (HOMA-IR) was conducted at 30 weeks within the RCT, while intra-group comparison was done on men who received testosterone during the RCT and open-label phases (study cohort) and men who initially received placebo during the RCT and later switched to testosterone during the open-label phase (confirmatory cohort). The objective of the study was to examine and report on the alterations in the ΔHOMA-IR after testosterone therapy in men diagnosed with hypogonadism and metabolic syndrome.

There was a significant reduction in median HOMA-IR levels at various time points, after 18 weeks, compared to baseline in men receiving testosterone, both in the study and confirmatory cohorts. "Baseline HOMA-IR was significantly associated with ΔHOMA-IR in both cohorts, whilst baseline waist circumference (WC) (not ΔWC) was significantly associated only in the study cohort." There was also a marked reduction in median fasting glucose (30 weeks: –2.1%; 138 weeks: –4.9%) and insulin levels (30 weeks: –10.5%; 138 weeks: –35.5%) after testosterone treatment. Men in the placebo group did not show significant changes in HOMA-IR. Baseline HOMA-IR was identified as the main predictor of decrease in HOMA-IR following testosterone treatment.

The study findings indicate that baseline HOMA-IR levels and not baseline WC or change in WC better predict changes in HOMA-IR over time, with a greater percentage change observed in insulin levels compared to fasting glucose levels. The decline in HOMA-IR was evident only after 18 weeks of testosterone and was maintained for the study duration. In men with metabolic syndrome or type 2 diabetes who are not on antiglycemic therapy, improvements in HOMA-IR may be more significant than what is reflected by changes in fasting glucose levels alone. Those who had higher baseline HOMA-IR tended to experience greater reductions in HOMA-IR after receiving testosterone.

Therefore, it is recommended to include screening for hypogonadism in the management of men with metabolic syndrome or central obesity or type 2 diabetes, conditions marked by insulin resistance. Interventions targeting insulin sensitivity, such as testosterone therapy for hypogonadism, may have a more significant impact on overall metabolic health beyond what can be assessed through changes in fasting glucose alone.

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