

Does badminton participation contribute to holistic health benefits among recreational players

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Introduction. To date, much research has focused mainly on the physiological responses of elite badminton performance or the physiological characteristics of elite players. Little is known regarding the physiological and socio-psychological responses and adaptations among recreational badminton players. The present study employs a holistic approach towards understanding the wellness benefits of playing badminton among recreational players, which involve examining the physical health status and investigating the perception of health benefits (i.e., physical, psychological, emotional and social aspects) acquired from badminton participation.

Methods. A purposive sampling technique was utilised, with 119 recreational badminton players, aged above 18 years old, participated in the study. A physical health status assessment involving measurement of physiological and physical parameters such as: Body composition, Balance, Strength, Flexibility, Cardiorespiratory fitness, Bone density and other health profiles (cholesterol, diabetes, hypertension) was conducted. All participants answered a set of self-administered 'Badminton Health Benefits Questionnaire' (BHBQ) regarding their perceived holistic health benefits (i.e. physical, psychological, emotional and social aspects) acquired from playing badminton. All data was analysed using Statistical Package for Social Science (SPSS) version 24.0. Descriptive statistics such as frequency, percentage, mean, and standard deviation, was utilized to interpret the collected data. Inferential statistics such as independent t-test and ANOVA were used to compare the differences among the variables.

Results. In terms of physiological and physical status, recreational badminton players demonstrated healthy blood glucose level of <6.0mmol/L, despite differences in age. As for blood lipid profile, the participants demonstrated desirable triglycerides level at <2.3mmol/L and cholesterol at <5.2mmol/L as recommended by Malaysia Ministry of Health (2017). Most participants also have ideal blood pressure of <130/85 mmHg across ages. It was observed that people who have longer involvement in playing badminton (1 year and above) demonstrated a more optimum blood pressure (120/80 mmHg) and also having better recovery heart rate. The average T-score on the bone density was >0.3 across different age groups, indicating that bone health could be maintained even among citizens aged above 40 (T-score >0.3, Z-score >0.9). Additionally, recreational badminton players generally showed ideal body fat percentage for men is 21.3±6.7% and women is 28.4±7.1%. Recreational badminton players revealed greater grip strength capabilities, with male demonstrating greater grip strength (mean= 39.8 ± 7.2kg) when compared to the adult Malaysian population norms (mean =30.8 ± 8.6kg) (Kamarul, Ahmad & Loh, 2006). In term of perceived health benefits, the study shows positive results (mean score >3.0) regarding the perceived holistic benefits (i.e., physical, psychological, emotional and social aspects) acquired from badminton participation among recreational players. Amongst the four aspects of health benefits, there is clear indication that the participants ranked emotional health and social health benefits higher as compared to psychological and physical health benefits.

Discussion. The positive blood analysis of health markers suggested that badminton could potentially reduce cardiovascular mortality as well as the chance of acquiring cardiovascular illness such as hypertension. The healthy ideal bone density result implies that recreational badminton players possess low risk of bone osteoporosis. The potential long-term benefits of recreational badminton on body composition can be observed, as participants who involved longer in recreational badminton tends to have lower body fat percentage and higher lean muscle mass. Thus, suggesting that playing badminton recreationally is beneficial in developing both physical and physiological wellness. Regarding perceived holistic health benefits, the recreational badminton players consistently ranked

emotional and social health benefits higher as compared to psychological and physical health benefits. This provides partial evidence that badminton can provide emotional stability benefits and social engagement, which could be considered as a potential reason for people to join badminton groups.

Conclusion. Regularly playing badminton can both improve and maintain the physical health status of participants. Despite the known health benefits of playing badminton, the emotional and social health benefits derived from badminton participation should be emphasized by agencies and organizations in promoting badminton to the public/community. The emotional and social health benefits, such as aspects of fun, enjoyment, social support and networking should be highlighted.

Keywords: badminton participation, health benefits, physical health, social health, mental health

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