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A Comparative Study of Blood Pressure between Rural and Urban Inter-College Level Players of Chandigarh

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ABSTRACT

The objective of this study was to compare the blood pressure between rural and urban inter-college players of Chandigarh. A sample of sixty inter-college level players (rural N_1=30 and urban N_2=30) age group of 18-25 years, were selected from different colleges affiliated to Panjab University Chandigarh, India. Height of players was measured by anthropometric rod to the nearest 0.5 cm. The weight was measured with weighing machine to the nearest 0.5 kg. Blood pressure was measured by using a sphygmomanometer. The independent samples t-test was used for data analyses. Results indicated that urban players had more body weight, height, systolic and diastolic blood pressure (p<0.05) values as compare to rural players.

1. Introduction

The pressure exerted by circulating blood upon the walls of blood vessels is defined as blood pressure (Samavat et al., 2013). People with high blood pressure are at high risk of cardiovascular disease (Wilson et al., 1998). Blood pressure is a recognized risk factor for cardiovascular disease, and the evidence for Blood pressure tracking from adolescent to adulthood is strong (Liu et al.,1996). Living conditions of rural and urban areas manipulate the level of physical activity (Sjolie & Thuen, 2002). Physical activity influencing the blood pressure is well recognized in many studies among adults (Raitakari et al., 2008). Rural residence is commonly associated with a more dynamic, physically active lifestyle as compare to urban area. Rural area is generally linked to a more demanding, physically active way of life that is beneficial to control high blood pressure. On the other hand, changes in lifestyle due to living in urban settings may also influence the blood pressure values. Some previous studies (Nielsen & Andersen, 2003; Al-Hazaa et al., 1994; Cooper et al,. 1976; Montoye et al., 1972) suggested that more active subjects exhibited lower systolic and diastolic blood pressure and have a reduced risk of developing hypertension. Contradictory studies have been published on physical fitness components of urban and rural children (Ewing, 1982; McMurray et al.,1995; Wikczewski et al., 1996; Mazzuco et al.,2006; Gaurav et al.,2015). Therefore, the purpose of this study was to compare the blood pressure between urban and rural players of Chandigarh.

2. Materials and methods

Subjects: A sample of sixty inter-college level players (rural N_1=30 and urban N_2=30) age group of 18-25 years, were selected from different colleges affiliated to Panjab University Chandigarh, India. The purposive sampling method was used to select the subjects for the present study.

Methodology:

Height was measured using the standard anthropometric rod to the nearest 0.5 cm and the weight was measured with weighing machine to the nearest 0.5 kg. Blood pressure was measured using a standard mercury sphygmomanometer (Kirkendall et al., 1981).

Statistical analyses:

Values are presented as mean values and SD. Independent samples t tests were used. Data was analyzed using SPSS (Statistical Package for the Social Sciences).

3. Results

Table-1: Physical Characteristics of Rural and Urban Players.

Variable	Rural Players (N_1 = 30)		Urban Players (N_2 = 30)	
	Mean	SD	Mean	SD
Weight (kg)	59.65	9.59	61.93	8.47
Height (cm)	168.26	6.60	170.83	5.92

Table-1: depicts the physical characteristics of rural and urban players. On analyzing the physical characteristics of the 30 rural players, the mean weight is 59.65±9.59 kg and mean height is 168.26 ±6.60 cm. On analyzing the physical characteristics of the 30 urban players, the mean weight is 61.93 ± 8.47 kg and the mean height is 170.83±5.92 cm. Results indicated that urban players had more body weight values as compare to rural players.

Table-2: Comparison of Systolic Blood Pressure and Diastolic Blood Pressure between rural and urban players.

Variable	Rural Players (N_1 = 30)		Urban Players (N_2 = 30)		Mean Difference	SEDM	t-value
	Mean	SD	Mean	SD			
Systolic Blood Pressure (mmHg)	120.33	14.61	123.77	13.85	3.43	3.677	0.934
Diastolic Blood Pressure (mmHg)	69.17	8.65	73.40	11.19	4.23	2.583	1.639*

*Significant at 0.05

Table-2: depicts the comparison of resting systolic blood pressure and diastolic blood pressure between rural and urban players.

Systolic Blood Pressure

In rural players mean systolic blood pressure was 120.33±14.61 mmHg and 123.77±13.85 mmHg in urban players. There was decrease in systolic blood pressure in rural players as compared to urban players.

Diastolic Blood Pressure

In rural players mean diastolic blood pressure was 69.17±8.65 mmHg and 73.40±11.19 mmHg in rural players. There was statistically significant decrease in diastolic blood pressure in rural players as compared to urban players.

4. Discussion

The objective of this study was to compare the blood pressure between rural and urban inter-college level players of Chandigarh. The physical description of between rural and urban inter-college level players showed that urban players had more body weight and height values as compare to rural players. The results of the present study indicated that urban players had more values of systolic and diastolic blood pressure as compared to rural players. The cause of higher blood pressure in urban players may be attributed to the different urban life style of the players than those of the rural counterparts. The present results supported by the study of Gaurav et al.(2015), indicated that rural boys of Punjab had significantly lower body weight, systolic and diastolic blood pressure values as compare to urban boys. It was reported by Iversen et al. (2005) that population of rural areas have overall improved health and health behaviour practices compared with their urban counterparts. Players living in rural area are commonly associated with a physically active lifestyle as compare to urban area. The present study was consistent with study of (Irgil et al., 1998) where urban adolescents had higher blood pressure than rural areas. Some previous studies reported that rural children were fitter than their urban counterparts (Wikczewski et al., 1996; Mehtap & Nihal, 2005). The results of the present study are similar with the results of the study conducted by Uppal and Sareen (2000), find out that the rural area students had better cardiovascular health as compared to urban area students. The present results also agreed by the study of Gaurav et al. (2015), indicated that rural boys had significantly better physical fitness as compare to urban boys.

5. Conclusion

There were differences in body weight, height, systolic and diastolic blood pressure between rural and urban players. On average, urban players had more weight, height, systolic and diastolic blood pressure than rural players.

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