LEVEL OF PHYSICAL ACTIVITY AMONG SCHOOL CHILDREN AT TWO SELECTED SCHOOLS

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Bachelor of Science in Physiotherapy (B. Sc. PT)

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We the undersigned certify that we have carefully read and recommended to the Faculty of Medicine, University of Dhaka, for the acceptance of this dissertation entitled-

LEVEL OF PHYSICAL ACTIVITY AMONG SCHOOL CHILDREN AT TWO SELECTED SCHOOLS

Submitted by **Shanchita Bhowmik**, for partial fulfilment of the requirements for the degree of Bachelor of Science in Physiotherapy (B. Sc. PT).

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Declaration

I declare that the work presented here is my own. All sources used have been cited appropriately. Any mistakes or inaccuracies are my own. I also declare that for any publication, presentation or dissemination of information of the study. I would be bound to take written consent from the Department of Physiotherapy, Bangladesh Health Profession Institute (BHPI).

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Contents

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Acronyms

BHPI   : Bangladesh Health Professions Institute

BMI   : Body Mass Index

BMRC   : Bangladesh Medical Research Council

CRP   : Centre for the Rehabilitation of the Paralysed

IPAQ   : International Physical Activity Questionnaire

IRB   : Institutional Review Board

PA   : Physical Activity

SES   : Socio Economic Status

SPSS   : Statistical Package of Social Science

T.V   : Television

UK   : United Kingdom

USA   : United States of America

WHO   : World Health Organization

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Abstract

Purpose: To explore the level of physical activity among school children at two selected schools. *Objectives:* To find out the level of physical activity of the school children, to find out the level of physical activity between boys and girls school children and to find out the BMI of the school children. *Methodology*: Cross sectional type of study design was used to conduct the study where 200 participants were selected for this study. The data was collected by using a semi structure questionnaire (International Physical Activity Questionnaire) to evaluate physical activity level. Descriptive statistics was used for data analysis which was displayed through table, pie chart and bar chart. *Result*: Among 200 participants 26.5% (n=53) sometimes did physical activity, 39.5% (n=79) occasional did physical activity 23% (n=46), often did physical activity, 5% (n=10) quite often did physical activity, 6% (n=12) very often did physical activity. Among them 57% (n=114) were boys and 43% (n=86) were girls. Among boys participants 9% (n=10) did little physical activity, 43.8% (n=50) occasional did physical activity, 28% (n=32) often did physical activity, 8.7% (n=10) quite often did physical activity, 10.5% (n=12) very often did physical activity, among girls participants 50% (n=43) did little physical activity, 33.8% (n=29) occasional did physical activity, 16.2% (n=14) often did physical activity. *Conclusion*: The result of the study demonstrates that most of the school children occasional did physical activity and girls are more inactive than boys. This study can help to focus the awareness of physical activity. Girls should be motivated for school based physical activities, participation in outdoor sports and games, increase physical activity in urban area and also parents education about importance of physical activity.

Keywords: Physical activity, school children, sex, BMI, urban and rural area.

CHAPTER-I	INTRODUCTION

1.1 Background

Both developing and developed countries childhood obesity and physical inactivity is increasing in different rates (Vincent, 2010). According to world health organization (WHO) "A school aged youth should accumulate at least 60 minutes of moderate to vigorous intensity physical activity every day to ensure healthy development". Increased risk of become overweight in young children who do not get adequate sleep (Carter et al., 2011). The environmental features of modern lifestyles involve in obesogenic environment that are suggested to subsidize to the increasing prevalence of obesity in individual, the food which is energy compact, pleasant and cheap, which is widely available and also combined with increasingly sedentary habits it helps an extra energy intake over expenditure (Hussain et al., 2016).

Collins, (2010) stated that the term "Obesity" - derived from the Latin word obesus, meaning 'having eaten until fat'- it is describes that ingestion of more calories is caused for extreme accumulation of body fat, and energy requirements is fuel by the body needs. In the affluent countries childhood obesity was thought to be a problem. Nowadays in the developing countries this problem is also looking. Up to 200 million schools aged children are either overweight or obese and it was estimated by IASO/IOTF Internationally, within those children 40-50 million are categorized as obese. The data was based on 2007 National Family Health Survey, in India the percentage of people are 12.1% males and 16% females who are overweight or obese (Patil et al., 2014).

In worldwide overweight and obesity and their health significances have been recognized as major public health problems. In developed and developing countries a significant increasing development in the prevalence of overweight and obesity among children and adolescents has been known over the last few decades (Laxmaiah et al., 2007). Over nutrition and sedentary lifestyle obesity is a natural importance. Metabolic processes dysregulates by persistent obesity, including action of insulin on glucose lipid free fatty acid metabolism and which severely distresses processes controlling blood glucose, blood pressure, and lipids. Therefore it begins a group of

conditions such as dysglycemia, dyslipidemia, hypertension, and procoagulant state, which is known as the metabolic syndrome (Misra and Khurana, 2008).

According to World Health Organization (WHO) "The most important risks of non-communicable (NCDs) diseases included high blood pressure, high concentrations of cholesterol in the blood, inadequate intake of fruit and vegetables, being overweight or obese, physical inactivity and tobacco use". Physical activity and diet which are closely related to those five risk factors. Hence, it is well familiar that in preserving health and preventing diseases diet and physical activity play significant roles. Findings from a recent cardiovascular risk study among young Finns confirmed that in the development of cardiovascular disease dietary patterns have important role (Mikkila et al., 2007).

Increase of unhealthy dietary habit which is a real concern at present and it is done by young people including skipping breakfast and greater consumption of sweetened soft drinks, and the pathogenesis of childhood obesity which have a possible role by this habit (Collison et al., 2010). Data from a study showed on American adolescents directed that breakfast ingestion during school years was related with about a 30% lower likelihood of later becoming overweight or obese (Hazzaa et al., 2011). Furthermore, breakfast skipping is highly prevalent among adolescents in the United States and Europe which was showed by research studies and evaluations (Rampersaud et al., 2005) also in many Arab countries (Mikki et al., 2010).

The key element of energy expenditure in youth is health-enhancing physical activity participation which leads to developed cardiovascular and metabolic capability and also improved bone health (Tremblay et al., 2011). On the other hand, persistent physical inactivity is harmful to health and well-being (Tremblay et al., 2010).

The absence of physical activity is not simply called sedentary behaviour it also involves conscious activities which need little movement and low energy expenditure (Reilly et al., 2008). The absence of physical activity or exercise that fails to meet the standard physical activity recommendations for health is called physical inactivity (WHO, 2010). As studies have showing that too much time sitting is a health risk and is important to study sedentary behaviour individually from physical activity

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(Hamilton et al., 2007) one is engaging in the recommended levels of physical activity whether it independent or not (Healy et al., 2008).

Katzmarzyk et al. (2009) showed a relationship between sitting time and mortality from all causes, leisure time which is independent from physical activity levels. There were important relationship of sedentary time, light-intensity time and mean activity intensity including waist circumference and also clustered metabolic risk by independent of time spent in physical activity (Healy et al., 2008). Current evidence also demonstrated that the problem could be contributed to modify by interrupting sedentary time (Beers et al., 2008).

Although in the worldwide prevalence of overweight is increasing, a major public health problem is underweight and in the low income countries it is a leading cause of the burden of disease (Esmaeilzadeh & Kalantari, 2013). Morbidity and mortality is increased due to faltering growth of underweight (Ferrar & Olds, 2010).

Ogden et al. (2010) stated that the intense rising of overweight and obesity is remaining alarmingly high in children and adolescents, seen over the past three decades. Simultaneous with these increases has been a lessening in how long children sleep raising the question of a link (Carter et al., 2011). It is uncertain that body composition changes along with increases in body weight and detected with reduced sleep duration as almost all studies have used as the primary outcome for body mass index (BMI). Changing sleeping patterns could help to expose the mechanisms whereby sleep disturbs body composition by determining how body composition varies in children (Must & Parisi, 2009).

In the play time children are forced to use it for their extra studies. In the many schools games facilities and physical training sessions are limited or absent. There have no playground at all in some schools. Children are discouraged for go to school by walking or cycling due to risky roads. Children think that motorized vehicles are quicker and safer for transport and it is also very popular. Obesogenic lifestyles are responsible for both loss of open space for exercise and lack of parental time to supervise their children for play. The factors which are responsible for obesity should

be presented to propose interventional processes and therefore the data on prevalence of obesity in school children is very necessary (Hussain et al., 2016).

High risk children such as who are obese, and have high blood pressure have great health benefit by doing physical activity. It should be known that for achieve greater health benefit, which may provide by doing vigorous intensity activities and physical activity should be of at least a moderate intensity for functional health benefit. Cardiovascular and respiratory systems that stress by the aerobic based activities which have the greatest health benefit and on the other hand high influence weight bearing activities are required in case of bone health (Janssen & Leblanc, 2010).

1.2 Rational

Physical inactivity and childhood obesity is now becoming the current threat to the society and world as well as among the most of children in school. In our country most of the school going children is inactive and obese (Hussain et al., 2016). The aim of this study is to identify the level of physical activity among the school children at some selected schools in urban and rural area.

As a physiotherapy student it is important to know the physical activity level of the population as well as school children. The aim of this present study is to describe the prevalence of sedentary time, light, moderate and vigorous physical activity among 11-14 years school children at some selected schools in urban and rural area. Level of physical inactivity and sedentarism are increasing in young population groups which were observed in several developed countries.

The time used on specific sedentary behaviours such as television (TV) viewing or game console use is often defined as sedentary time. Chronic diseases such as the metabolic syndrome or cardiovascular disease (CVD), and increased risk of overweight and obesity has been associated with during childhood which is an independent risk factor for sedentary behaviour.

Physical activity habits in childhood, mostly during growth periods including puberty which had a long lasting effect on bone health. The most effective for increasing bone strength is by doing weight bearing and high impact activities, such as running or skipping. Physical activity is known as an important target in obesity prevention, it is also important for physical and mental health (Verloigne et al., 2012).

There have no research about level of physical activity among school children at two selected schools. This study is important to find out current level of physical activity among school children as well as the level of physical activity among boys and girls school children and their BMI. Because there are lots of benefit by doing physical activity and physical activity should be practiced in the daily life for the prevention of obesity and many disease and make them physically fit.

This study will help the researcher to identify the level of physical activity in school children and those who are not physically active or less active. This study will also help to improve the awareness of children and their parents, especially their poor physical activity level and the harmful effect because of this habit. So physiotherapist can help them and their parents to teach the important of physical activity and influence them to do physical activity for the prevention of disease, overweight and obesity.

1.3 Research question

What is the level of physical activity among school children at two selected schools?

1.4 Aim of the study

The aim of the study is to find out the level of physical activity among school children at two selected schools.

1.5 Objectives

1.5.1 General objective-

To find out the level of physical activity among school children at two selected schools.

1.5.2 Specific objectives-

- To find out the level of physical activity among boys and girls school children at two selected schools.
- To compare the sex and level of physical activity of the participants.
- To find out the level of BMI of the participants.
- To compare BMI and level of physical activity of the participants.
- To compare BMI and eating habit of the participants.
- To find out the level of physical activity between urban area and rural area school children of two selected schools.

1.6 Conceptual framework

Independent Variables

Dependent Variable

- Socio-demographic factors
- Knowledge about Physical activity
- Parents Education
- Height
- Weight
- Body Mass Index
- Diet
- Sleep time
- Obesity
- Leisure Time
- Study load
- Vigorous physical activity
- Moderate physical activity
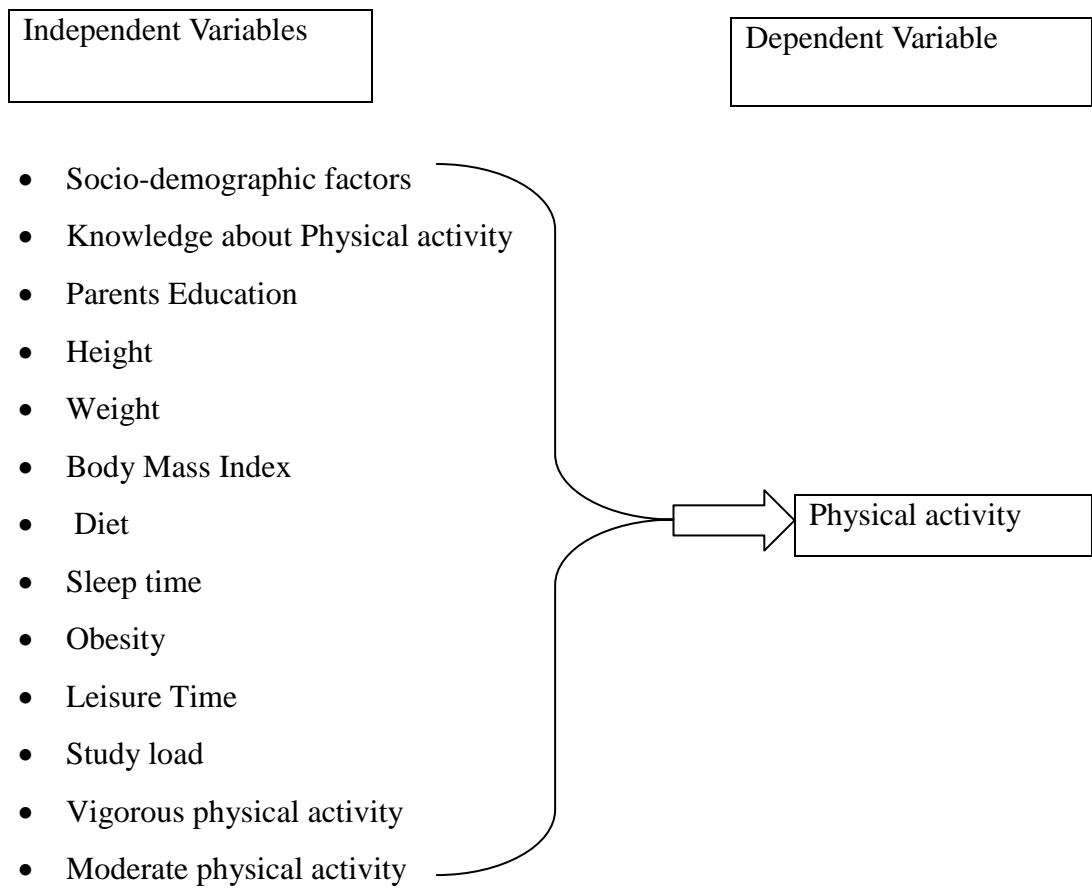
Physical activity

1.7 Operational definition:

Physical activity

Physical activity is defined as 'bodily movement that is produced by the contraction of skeletal muscle and that substantially increases energy expenditure.

Body Mass Index:

BMI was calculated from reported weight and height and categorized as underweight (<20), acceptable ($\geq$ 20 to <25), overweight ($\geq$ 25 to $\leq$ 30) and obese (>30).

For physical and mental health physical activity (PA) is important which is recognized as an important target for the prevention of obesity (Ness et al., 2007). According to this evidence, it has been suggested for children to participate in at least 60 minutes per day moderate-to-vigorous intensity physical activity (MVPA) (Janssen & Leblanc, 2010). For a lengthy time, being appropriately physically dynamic was measured the opposite of having a sedentary lifestyle. In several developed countries, levels of physical inactivity and sedentarism in young population groups are observed (Rey-Lopez et al., 2011).

WHO report that, there are 1 billion overweight people in the world in which 300 million people are obese (WHO, 2008). Currently, In the United States 14% of children and adolescents are overweight and at risk for overweight are 20%. In Australia around 16% of boys and almost 20% of girls are overweight (Booth et al., 2001). In Thailand, the prevalence of childhood obesity has been found to be 10.8% in urban the most wealthy region (Langendijk et al., 2003). A study in Beirut has found prevalence of overweight to be 26% both in boys and girls (Jabre et al., 2005). In Pakistan another study shows that 6% was obese and 8% overweight. Of all obese children, 70% belonged to the higher socio-economic status (SES) group, while of the underweight children, 63.3% were in the lower SES (Warraich et al., 2009).

Activities that do not increase energy outflow significantly above the resting level and includes activities such as sleeping, sitting, lying down and watching television and other forms of screen based entertainment is called sedentary behaviours (Pate et al., 2008). This behaviour has developed health problem during the last decades worldwide due to the changes in lifestyle habits and nutritional transition state. There is evidence that sedentary behaviours are associated with a range of health outcomes including obesity, metabolic syndrome, cardiovascular disease and all-cause mortality (Tremblay et al., 2010). Chronic diseases in children and adolescents are considered risk factor in sedentary behaviours (Pearson & Biddle, 2011).

Additionally to the positive relationship with health, positive returns in the labour market, has also been connected to physical activity. There is suggestion that former high school and college athletes (Stevenson, 2010) along with in adulthood those who are physically active classically do well in the employment marketplace in terms of earnings (Kosteas, 2012) and also occupation probability (Stevenson, 2010). For example, a long term perspective by using information, it was showed that monthly earnings and hourly salaries is positively related to physical activity, and it has similar results for men on the basis of twin data (Rooth, 2011).

According to a field experiment (Rooth, 2011), physical activity interpreted by employees as a positive signal that is, the possibility of receiving a call back for a job interview and it was higher for those people who declared to be physically active. The positive association between physical activity and salaries occurred only because of the rise in employment power participation (Stevenson, 2010). Production improvements can rise, as for example, from reduced absences due to illness or from enhanced performance by workers. It is also probable that career development promotes by facilitates networking which is done by physical activity (Janna et al., 2016). Moreover, non-cognitive skills may develop by physical activity, such as coordination skills, sociability, or discipline (Bailey, 2009), which are satisfied in the employment marketplace.

Finally, positive discrimination can cause by physical activity (Rooth, 2011), and it may describe achievement in persons work lives. A Report on Physical Activity and Health and have been powerfully highlighted by other scientific and health system compromise groups. Recent national policy documents, along with physical activity and guidelines about health from several countries, have expressed and distributed information on this newer focus.

An important fact is that adult populations of developed nations are inadequately active in leisure time with in more than half them and meet minimal health-related physical activity criteria (Bauman et al., 2002). Purposes that are also explicit or implicit in these new strategy documents relate to the maintenance of a systematic pattern of being physically active, underlining 'lifestyle' activity. It points to the types

of physical activity patterns which can be sustainable habitual behaviours and are important to the backgrounds of people's everyday lives.

It is broadly known that the prevalence of obesity in childhood is increasing worldwide. This is maintained by the results of a number of studies that highlight increased overweight and obesity in the UK and other countries such as the USA (Wang et al., 2008), Spain (Martin et al., 2008) and Denmark (Matthiessen et al., 2008). According to the Centre for Disease Control & Prevention, worldwide obesity rates have doubled among children and tripled among adolescents since 1980 (Freedman et al., 2007). Regarding physical activity among children and adolescents had been found by opposite trends. There is also evidence that current activity procedures underestimate the amount of activity needed to maintain a healthy lifestyle (Tudor-Locke et al., 2004).

International public health and health promotion organizations have identified the health risks across the lifespan associated with physical inactivity. The World Health Organization (WHO) estimates that 1.9million deaths throughout the world are attributable to physical inactivity and at least 2.6 million deaths are a result of being overweight or obese (WHO, 2004). Globally, physical inactivity is estimated to cause 10% to 16% of cases each of breast cancer, colon, and rectal cancers as well as type 2 diabetes, and 22% of coronary heart disease and the burden of these and other chronic diseases has rapidly increased in recent decades (WHO, 2004).

The values of sedentary lifestyle in diverse aspects have been described in some studies. The performance may be harmfully associated with different physical and psychological health consequences (Kriemler et al., 2010). Previous studies showed that during childhood and adolescence outlines of the behaviour recognized in childhood period developed relatively stable at a moderate level over time. Additionally, it persists during adulthood. These evidences accentuate the fact that planning to prevent the related complications by reducing sedentary behaviours should be started from early years of life (Telama et al., 2009).

Physical inactivity (PA) is another health problem that is expressively growing among children and adolescents, and it is measured as another significance of lifestyle

changes. It has been established that active children have more satisfactory metabolic control, lower adiposity and BMI as well as increased cognitive function compared to their inactive counterparts (Syvaoja et al., 2014).

In this nationwide study, they estimated the geographies of sedentary lifestyle including low physical activity and high screen time among Iranian children and adolescents. In the results it was showed that more than 50% of the population had proper level of physical activity and screen time. The most communal risky activities were low levels of physical activity and high levels of TV watching. The girls in the urban population were prevalent in high risk behaviour. With deference to regional modifications, the metropolitan area with Tehran and its neighbouring provinces (Qom and Alborz) had higher levels of screen time and lower levels of physical activity, and those provinces with lower socioeconomic conditions had higher levels of physical activity and lower levels of screen time.

It is well known that factors such as race/ethnicity, place of residence and socioeconomic status may have compounding effects on developing lifestyle behaviours (Kenney et al., 2014). In this study, the frequency of low level physical activity, high screen time, high TV watching and high computer working was reported in 34.11%, 18.62%, 50.68% and 9.63% of the studied population, respectively. The reported frequency for low level physical activity, high screen time, high TV watching and high computer working in the CASPIAN III among 10-18 years children was 61.5%, 45.9%, 64.7% and 19.6%, respectively (Baygi et al., 2015). The results of a systematic review on the worldwide prevalence of insufficient physical activity among adolescents showed that the prevalence of low physical activity varied from 18.7% to 90.6%, with a median of 79.7%. In all surveys, the prevalence was higher among girls than in boys, and the developing countries had a higher prevalence (Silva et al., 2015).

Hussain et al. (2016) stated that the students who did not participated in any of the outdoor sports were more prevalence of overweight 28.52% and obesity 28.52%. PA like outdoor sports have an outstanding effect on prevalence of overweight and obesity which was revealed in Ahmedabad in the year 2010 among adolescent school children aged 12-18 years (Goyal et al., 2010). Bharati et al. (2008) stated that

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overweight and obesity had one of the important correlates with child playing outdoor sports for less than 30 minutes a day which was showed in Wardha city in the year 2008 from a multivariate logistic regression among school going children. Students who played sedentary indoor games had maximum prevalence of overweight & obesity, students who did not played any of the sedentary indoor games had minimum prevalence of overweight & obesity (Hussain et al., 2016).

The children who participated in playing games for more than 4 hours a day on the computer had the 7.3 times higher prevalence of overweight and obesity which was showed from a multivariate logistic regression in Mangalore in the year 2010 among 12-15 year adolescents (M Shashidhar et al., 2010). In New Zealand in the year 2011 discovered that among young children aged 3-7 years who do not get enough sleep are at increased risk of becoming overweight (Hussain et al., 2016). Patil et al. (2014) showed that among 13-15 years students, the prevalence of overweight were 10% and obese were 3.34%. Prevalence of overweight was 4.55% among males, 17.74% among females and obesity were 1.44% among males, 6.45% among female. Overweight and obesity were individually more in females. Therefore overweight and obesity were significantly associated with sex (Patil et al., 2014).

Patil et al. (2014) stated that students, those did not participated in any of the physical activities among them 19.17% were overweight and 6.84% were obese. Statistically it was found highly significant. Students who watched T.V for more than 2 hours in a day were more 16.43% overweight, 6.84% obesity and followed by those watching less than 7 hours a week were 3.89% overweight and 0.00% obesity (Patil et al., 2014). Therefore overweight and obesity were significantly associated with T.V watching. In the year 2009 in Chennai reported that children watching television more than 2 hours had greater prevalence of overweight and obesity in the school children of 8-15 year (Shabana et al., 2009).

As compared to groups who were not consuming junk foods with the students who were consuming junk foods frequently were high prevalence of overweight 14.08% and obesity 7.04% and which were found statistically highly significant (Patil et al., 2014). in Texas in the year 2003 showed that consumption of low quality food, sweets, sweetened beverages, sweets, meats and food consumed specially from snacks

absolutely related with overweight status among aged 10 years children (Nicklas et al., 2003).

Even after correction of multiple risk factors, risk of having higher BMI in middle childhood was significantly increased due to less sleep and that have been involved in regulation of body weight. At ages 3 to 5 for each additional hour of sleep per night is connected with a decrease in BMI of 0.49 at age 7. This relates to a difference of 0.7 kg body weight in a child of median height, (Carter et al., 2011).

In the 2004–2005 National Health Survey-Australia, (2006) showed that 30% children ate four or more daily serves of vegetables or three or more daily serves of fruit at the age of 12–14 year olds. A similar review showed on Saudi adolescents that less than quarter of Saudi adolescents consumed vegetables and fruits daily (Al-Hazzaa et al., 2011). In many developing countries including India obesity in children and adolescents is progressively becoming a chief public health problem (Laxmaiah et al., 2007). In urban area the frequency is higher than in rural areas. In Punjab, Maharashtra, Delhi, and South India the results of studies among adolescents discovered that the prevalence of overweight was 11% and obesity was 29% which was high (Kaur et al., 2005).

In the age group of 11 to 17 years of age in Ludhiana, Punjab, 11.6% urban children were overweight and rural counterparts 4.7% were overweight. Among 1228 boys in the age group of 10 to 15 years in Pune, Maharashtra, studies indicated that 20% were overweight, where 5.7% were obese. In the age group of 9 to 15 years a study approved in Ludhiana, Punjab, on school children exposed that the overall prevalence of overweight were 11% and obesity were 14% individually. Among 5000 private school children another study agreed in Delhi, India, in the age group of 4 to 18 years in 2002 revealed that the prevalence of overweight was 29% by the Nutrition Foundation of India (Kaur et al., 2005).

Youth are eating high fat food and sugar in foods which is very common. Children were frequently consumed fast foods, fried potato and or chips, sugar sweetened drinks as well as sweets. Adolescents were consumed fast food more than three times per week which were 27.7% among males and 15.6% among females. These

percentages are lesser than the rates of fast food intake that were in recent times reported for adolescents from United Arab Emirates (Bin Zaal et al., 2009) Bahrain (Musaiger et al., 2011) and Saudi Arabia (Al-Hazzaa et al., 2011). Sugar-sweetened drinks with added sugar was the maximum frequently consumed food which is consumed for more than 3 times a week by more than two thirds of the adolescents. 67.2% Saudi adolescent males and 57.4% female individually consumed sugar-sweetened drinks more than 3 days a week (Al-Hazzaa et al., 2011). About 29.2% of high school students had drunk soda or pop at least once per day in the United States (Eaton et al., 2010).

A study showed that skipping breakfast was common habits among males and females. Depending on age-group, population and definition skipping breakfast was also observed 10% to 30% among American and European children and adolescents (Rampersaud et al., 2005). This has been also described among Arab adolescents. Skipping breakfast was also shown to be common in the Arab adolescents. In Bahrain, the greater percentage 62.8% females skipped breakfast compared to males the percentage is 37.2% (Musaiger et al., 2011). In Saudi adolescents, 71% males and 80% female skipped breakfast which is reported individually (Al-Hazzaa et al., 2011), and in the United Arab Emirates this was 10% among males, 19% among females (Bin Zaal et al., 2009).

It is well known that cognitive performance, quality of overall diet, body weight, and emotional well-being has negative influences for neglecting breakfast. However, it is reported that low frequency of intake of fruits, vegetables and milk, and high frequent intake of foods high in sugar and fat characterized unhealthy eating habits. These results are inconsistent with the WHO Global Strategy for Diet and Physical Activity recommendations (WHO, 2004) and it would increase the risk for chronic non communicable diseases such as coronary heart disease, diabetes, hypertension, and cancer if persisted during adulthood.

Screen time should not exceed 2 hours per day which is recommended by current guidelines (Davis et al., 2007). Children exceeded screen time in television and computer. The proportion of adolescents who met the recommendation is much lower than those in other Arabs countries (Al-Hazzaa et al., 2011) and western countries

(Fulton et al., 2009). This is an alarming as unfavourable body composition, decreased fitness, lowered scores for self-esteem and pro-social behaviour and decreased academic achievement has been linked with watching television for more than 2 hours per day (Tremblay et al., 2011). In other countries such as Australia especially among female adolescents high rates of physical inactivity have also been reported (Scully et al., 2007) Italy (Turconi et al., 2008) Baharin (Musaiger et al., 2011) and Saudi Arabia (Al-Hazzaa et al., 2011). It is indicate that there are many restrictions that limit female adolescents involve in physical activity and due to this cause females participate in less physical activity than males.

According to International Obesity Task Force criteria for BMI cut-offs for adolescents, most of the adolescents have values that are in the normal range in regard to BMI data (Abu-Mweis et al., 2014). The high rate of overweight among young people is stressing, and requires neutralizing methodologies to weight pick up. As Khader et al. (2011) showed that among the adolescents 13.7% were overweight and 10% were obese. One study among Jordanian adolescents living in Irbid showed that higher prevalence rates of overweight were 21% in females and 17% in males (Hamaideh et al., 2010). No adolescent was classified as underweight, which draw attention primarily onto obesity epidemic group of Jordanian adolescents.

Skipping breakfast among female gender living in urban area was found one study (Davis et al., 2008). In urban area children with high SES, high income neighbourhoods, higher parental education and fewer siblings which were associated with breakfast skipping behaviour in higher social class represented by socio-demographic characteristics. Skipping breakfast was independent predictor among female gender. Higher concern for body image might be a reason for breakfast skipping among (Mushtaq et al., 2011). Physical activity had significant independent inverse association with skipping breakfast (Ashwell et al., 2010).

Eating fast food and snacks among male gender in urban area with high SES and higher parental education which was significant independent predictors. Higher nutrition knowledge among girls remaining to their high concern with self-perception of body image by a possible explanation for the gender disparity and the socio-cultural matrix in South Asia that highlight boys in feeding practices (Mushtaq et al.,

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2011). Due to larger, more muscular ideal male body shape parents are less likely to encourage sons to lose weight. Sedentary lifestyle had significant independent association with eating fast food and snacks. Limitation on television publicizing of fast foods to children, in the developed countries applying taxes on energy-dense foods and food labelling have proved to be useful (Dehgan et al., 2005).

For increasing physical activity built environment, walking and cycling paths, public open spaces and parks, safe and inexpensive recreation and sports centres should be improved and duration of physical education in schools can be considered (Dehgan et al., 2005). Higher BMI and risk of being overweight had a significant independent relationship with sedentary lifestyle that including television viewing, working on computer and playing video games (Gomez et al., 2007). Higher energy intake had a relationship with increased television viewing (Mushtaq et al., 2011). In urban children sedentary lifestyle was more common among boys and those having higher social class described by high SES, high-income neighbourhoods, higher parental education, fewer family member and less crowded housing. Urban area and high SES related with sedentary lifestyle (Gomez et al., 2007). Sedentary lifestyle especially by viewing television among the children that results to reduce the time spent which was shown in Behavioural interventions (WHO, 2009).

Overweight had individual relationship with physical activity and sedentary lifestyle and sedentary lifestyle and physical activity might need to be target separately by preventive strategies (Mushtaq et al., 2011).

3.1 Study design

This study aim was to find out the level of physical activity among school children at two selected schools. In this study cross sectional type of study design was used. Cross sectional study design was used for large number of participants to collect data.

3.2 Study area

Data was collected from two selected schools in the urban and rural area.

3.3 Study population

The study population was the students of two selected schools children in the urban and rural area.

3.4 Sample size

The equation of sample size calculation are given below

$$n = \left\{ \frac{Z\left(1 - \frac{\alpha}{2}\right)}{d} \right\}^2 \times pq$$

Here,

Z $(1 - \frac{\alpha}{2})$ = 1.96

P= 0.5(here, p = prevalence) (Hovsepian et al., 2016)

q = 1-p

= 1- 0.5

= 0.5

d= 0.05

The actual sample size for this study was calculated as 384. In this study, 200 samples were taken to conduct the study due to limitation of the study.

3.5 Inclusion criteria

- Age group between 11-14 years.
- Both boys and girls participants.
- Participants of Dhaka city and village school children.

3.6 Exclusion criteria

- Participants who were not willing to participate.
- Participants with psychological problem.
- Participants who perform less than 10 minutes of activity per day.
- Participants with physical disability and major health problems.

3.7 Sampling technique

Due to limitation of time at least 200 samples were selected through convenience sampling and it is the quicker, easiest and cheapest methods of sample selection. Samples were selected according to inclusion and exclusion criteria.

3.8 Data collection method and tools

The students of urban and rural area of some selected schools children who were available asked to participate in the study. Data was collected by using a semi structured questionnaire with simple wording, because all participants are school children and they understood better in Bangla. The tools that needed for the study were- Consent paper, questionnaire, paper, pen, file, calculator, computer, weight machine and printer. A pilot study was done according to questionnaire.

3.9 Data collection procedure

Data was collected through questionnaire and provide demographic information such as age, sex, school name, weight, duration of physical activity and leisure time etc.

3.10 Questionnaire:

The semi structured questionnaire was used for collecting the data for the outcomes of the study. The questionnaire was composed of three parts. The first part was composed of some information about personal about personal information such as age, sex, school name, height, weight. The second part of the questionnaire provided information about the knowledge physical activity, consideration as physically active person, playground, barriers of physical activity, way go to school, assembly time physical exercise, traditional game, eating habit, spending free time at home and sleep time. The third part of the questionnaire provided the International Physical Activity Questionnaire (IPAQ) which is the valid and widely used questionnaire.

3.11 BMI calculation

Microsoft office excel 2010 was used to do the calculations.

Body mass index (BMI) = weight in Kg/ (Height in meter) 2

WHO (2013) classified BMI as-

Table-1: Classification of BMI

Classification	BMI in kg/m2
Underweight	>18.50
Normal	18.50-24.99
Overweight	$\geq$ 25.00
Obese	$\geq$ 30.00

3.12 Data analysis

Descriptive and inferential statistics were used for data analysis. Data was calculated in frequency and presented by using percentage (%), pie chart, bar chart and table by SPSS software version 20.In inferential statistics Chi Square test used to show association between variables.

3.12.1 Chi Square test

Chi square x^2 test is a nonparametric test of statistical significance for bivariate tabular analysis with a contingency table. Chi square helps us analyse data that come in the form of counts.This test can be applied to nominal or categorical data. The most common application for chi square is to determine whether or not a significant difference exists between the observed counts of cases falling into each category and the expected counts based on the null hypothesis. It is often used to compare two proportions.

3.12.2 Situations for Chi Square test

- Test of association between two events in binomial samples.
- Test of association between two events in multinomial samples.

3.12.3 Assumptions for Chi Square test

- The data must be in the form of frequencies counted in each of a set of categories.
- The total numbers observed must exceed 20.
- The expected frequency in any one fraction must not normally be less than 5.
- All the observations must be independent of each other. In other words, one observation must not have an influence upon another observations.

3.12.4 Calculation of (x^2) Statistic

Chi square is the sum of the squared differences between observed (O) and the expected (E) data divided by the expected (E) data in all possible categories.
In contingency table problems, writer creates an index that computes for each outcome cell,

$$\frac{(\text{Observed count} - \text{Expected count})^2}{\text{Expected count}}$$

If O stands for observed count and E for expected count, the mathematical notation the formula looks like this:

$$x^2 = \sum_{i=1}^{k} \frac{(O-E)^2}{E}$$

3.13 Ethical consideration

The proposal was submitted and prepared to the Institutional Review Board (IRB) and Bangladesh Health Profession Institute (BHPI) and approval was obtained from the board. The World Health Organization (WHO) and Bangladesh Medical Research Council (BMRC) guideline was al followed to conduct the study. A written/verbal consent was taken from participate before collecting of data. During the course of the study, the samples who were interested in the study had given consent forms and the purpose of the research and the consent form were explained to them verbally. The participants were informed clearly that their information would be kept confidential. The participants were informed or given notice that the research result would not be harmful for them. It was explained that there might not a direct benefit from the study for the participants but in the future case like them might get benefit from it. The participants had the rights to withdraw consent and discontinue participation at any time. It should be assured the participant that his or her name or address would not be used.

CHAPTER–IV:	RESULTS

In this study cross sectional study design was used to find out the level of physical activity among school children at two selected schools using semi structure questionnaire (International Physical Activity Questionnaire). Total number of participants was 200.

Socio-demographic information

Age

The study was conducted with 200 participants. Among them 11 years were 19.5% (n=39), 12 years were 38% (n=76), 13 years were 33% (n=66), 14 years were 9.5% (n=19). Most of them were 12 years 38% (n=76) and 13 years 33% (n=66) were second most common.

Table-2: Age of the participants

Age of the participants	Number	Percentage (%)
11 years	39	19.5%
12 years	76	38%
13 years	66	33%
14 years	19	9.5%
Total	**200**	**100%**

Sex

In total 200 participants were selected. Among them Boys were 57% (n=114), Girls were 43% (n=86).
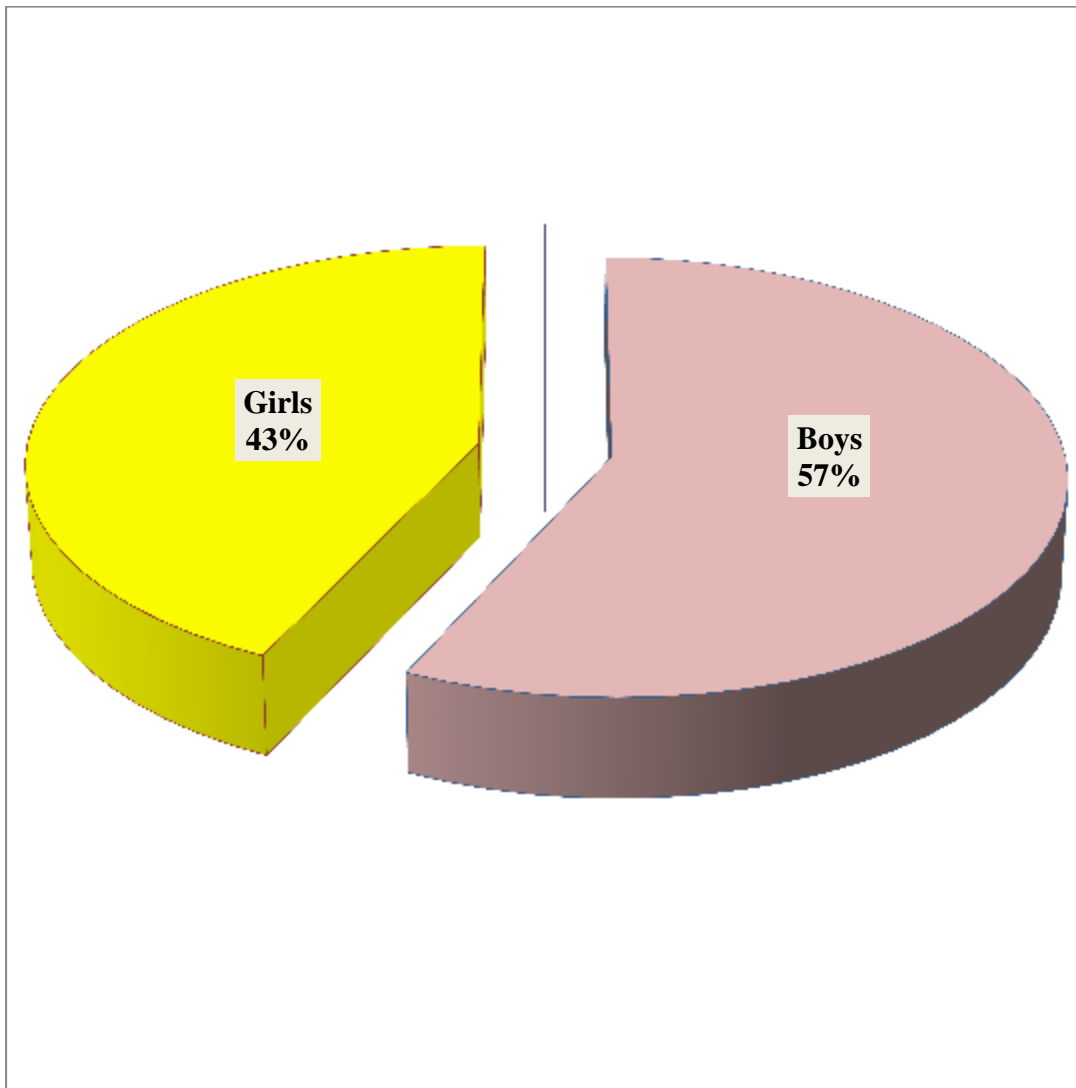
Figure-1: Sex of the participants

Level of Physical activity of the participants

In total 200 participants 26.5% (n=53) sometimes did physical activity, 39.5% (n=79) did physical activity 23% (n=46), often did physical activity, 5% (n=10) quite often did physical activity, 6% (n=12) very often did physical activity.

Table-3: Level of physical activity of the participants

Level of physical activity	Number	Percentage (%)
Little	53	26.5%
Occasional	79	39.5%
Often	46	23%
Quite often	10	5%
Very often	12	6%
Total	**200**	**100%**

Body Mass Index (BMI)

In total 200 participants 41% (n=82) were underweight, 44% (n=88) were normal, 13% (n=26) were overweight, and 2% (n=4) were obese.
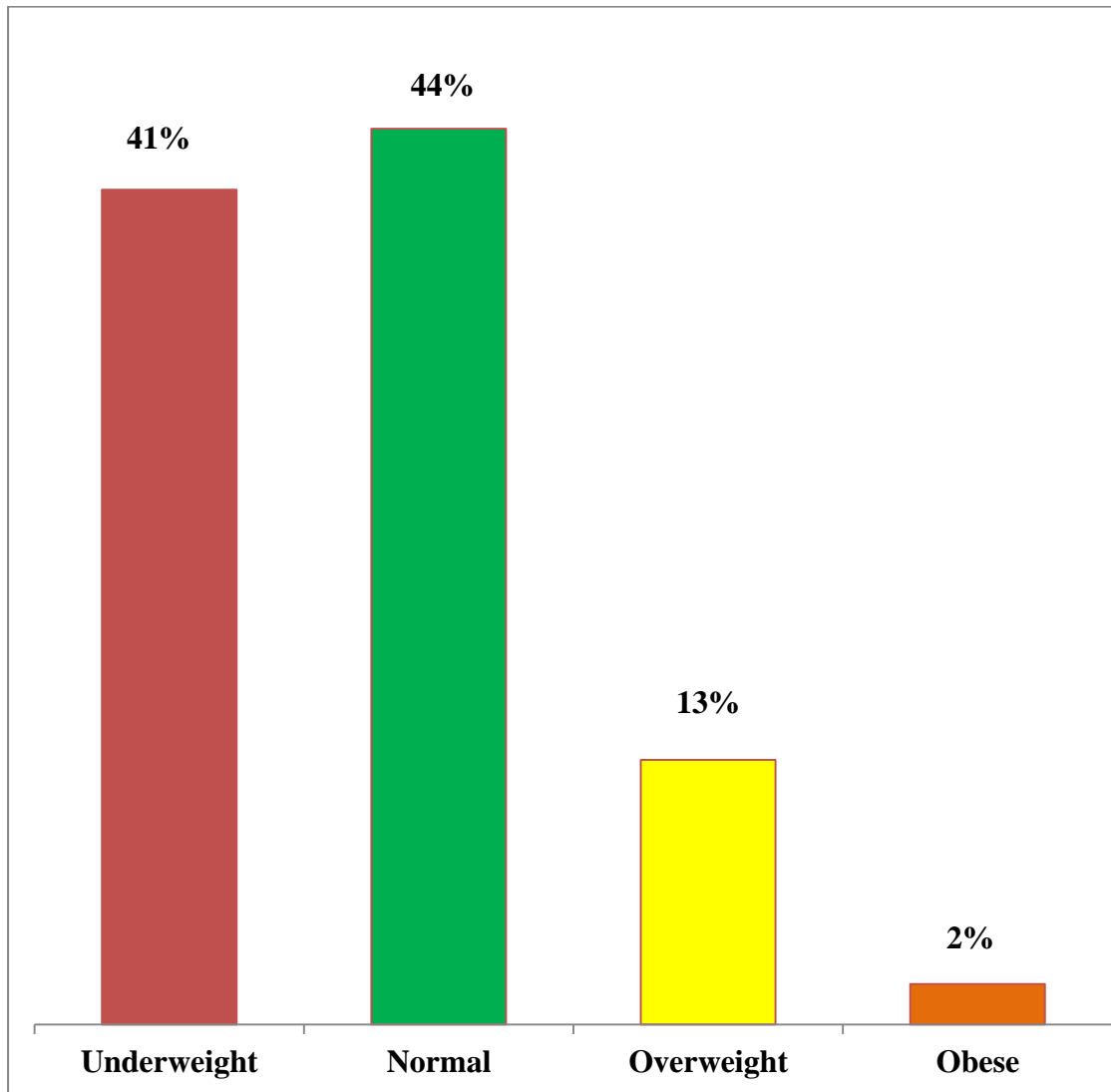
Figure-2: BMI of the participants

Self-consideration as physically active:

The figure showed that among 200 participants, 73.5% (n=147) considered themselves as physically active, 26.5% (n=53) considered themselves as not physically active person.
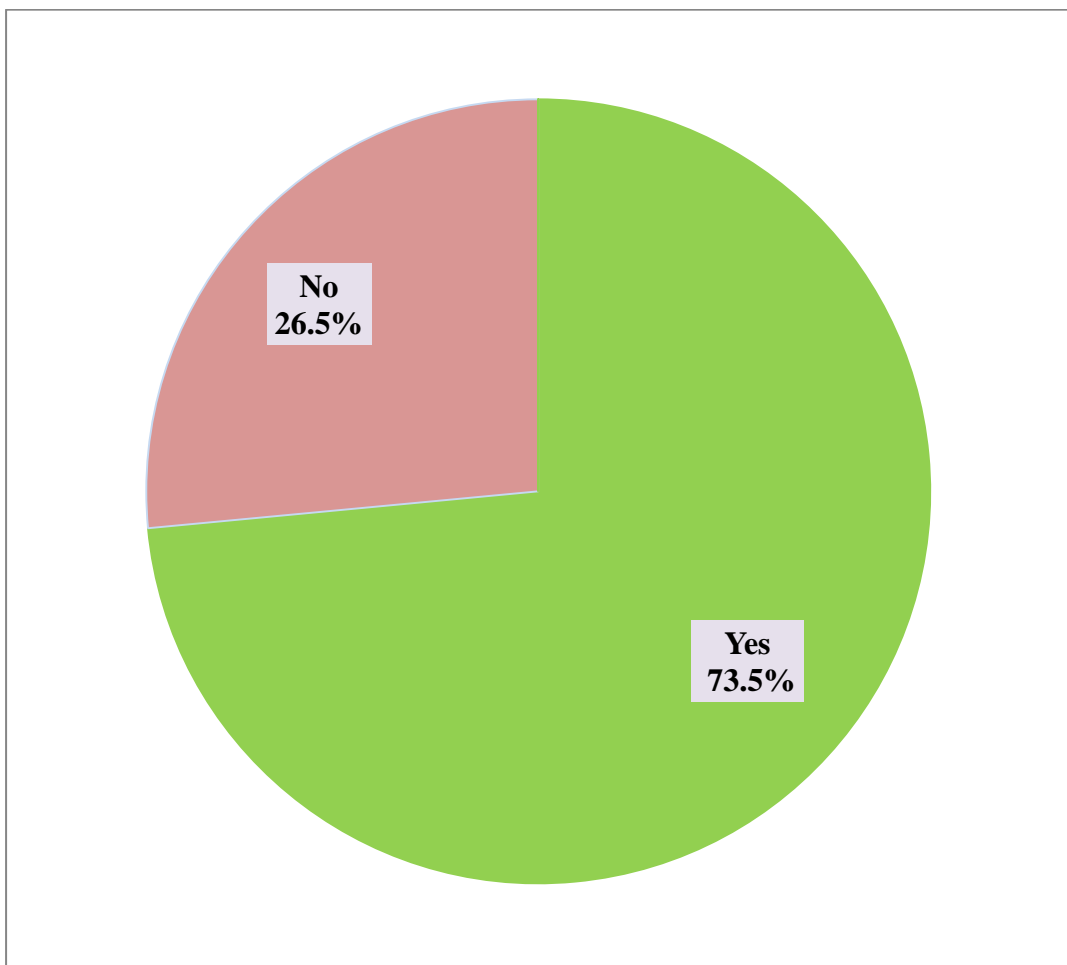
Figure-3: Self-consideration as physically active of the participants

Way go to school or come back from school

In total 200 participants 64.5% (n=129) go to school or come back from school by walking, 14% (n=28) go by bicycle, 13% (n=26) go by rickshaw, 5.5% (n=11) go by auto and 3% (n=6) go by bus.
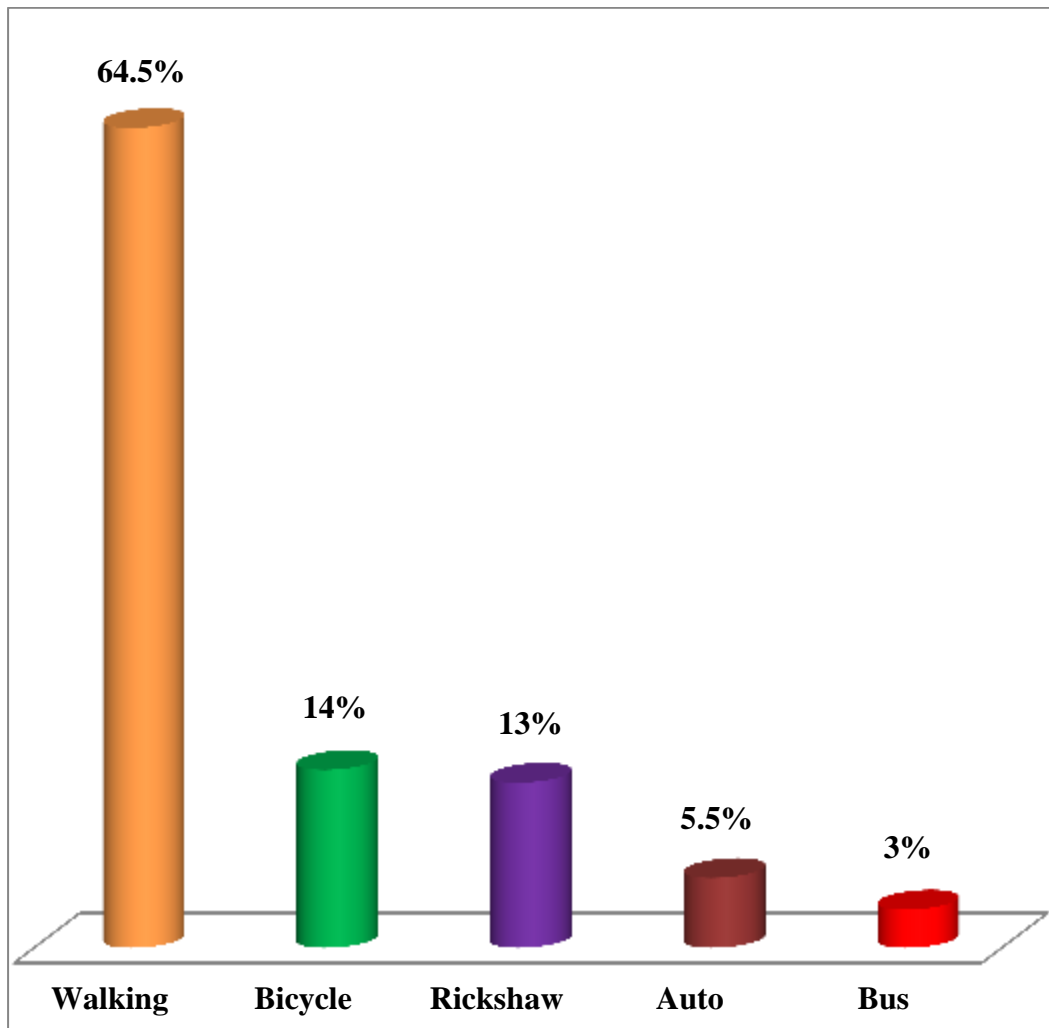
Figure-4: Way go to school or come back from school of the participants

Traditional games played in free time

Among 200 participants 8% (n=16) played kanamachi, 5.5% (n=11) played bouchi, 9.5% (n=19) played gollachut, 3% (n=6) played kutkut, 8.5% (n=17) played kabadi, 4% (n=8) played hadudu, 3% (n=6) played dariabandha, 58.5% (n=117) didn't played those game.
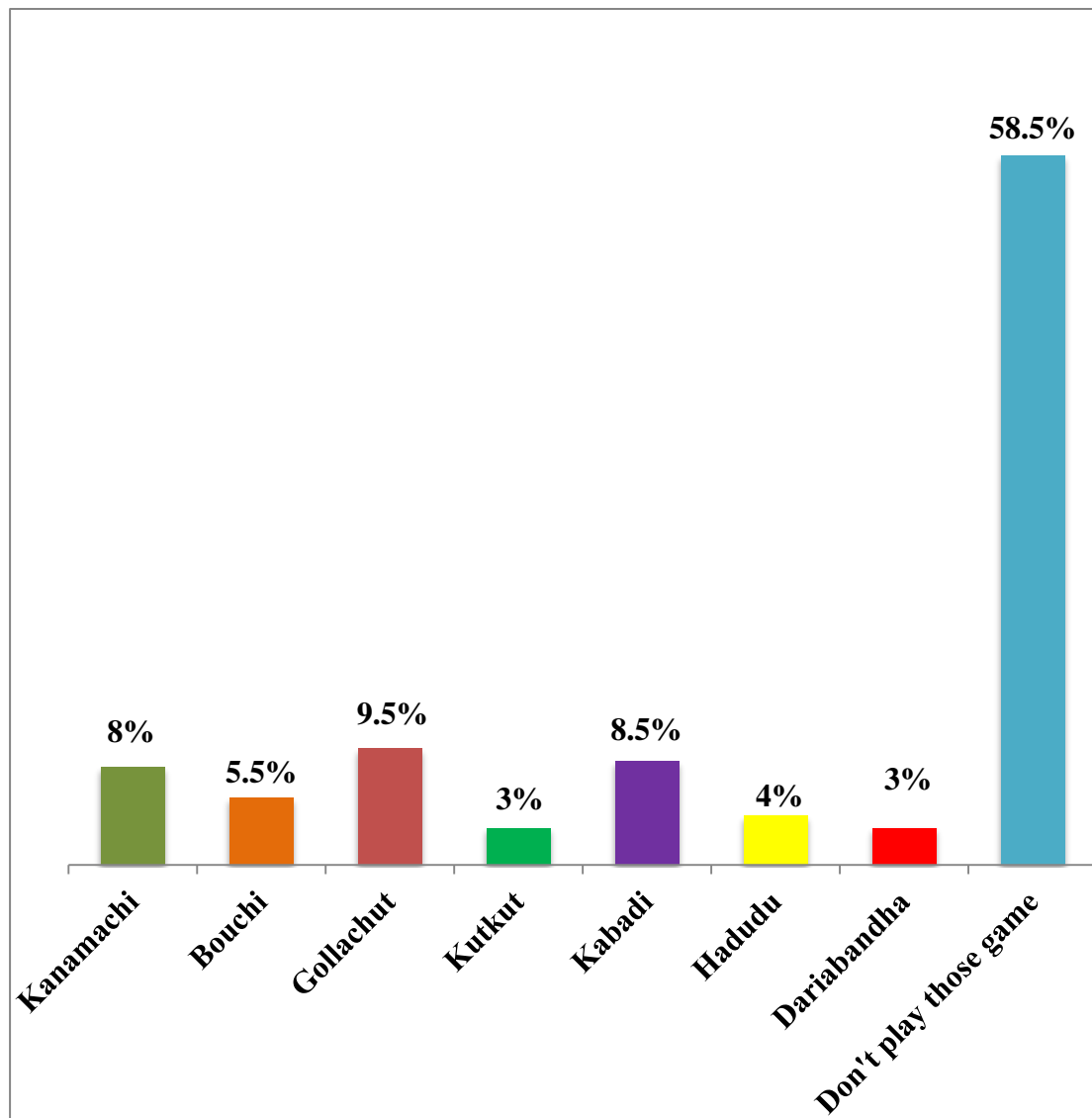
Figure-5: Traditional games played in free time of the participants

Spending free time at home

Among 200 participants, 63.5% (n=127) were reading books, 18% (n= 36) were watching TV, 2.5% (n=5) were playing video games, 6.5% (n=13) were playing indoor games (Ludu, Daba, Carom etc), 8.5% (n=17) were passing time by using internet, playing games or other things and 1% (n=2) were done none of them.
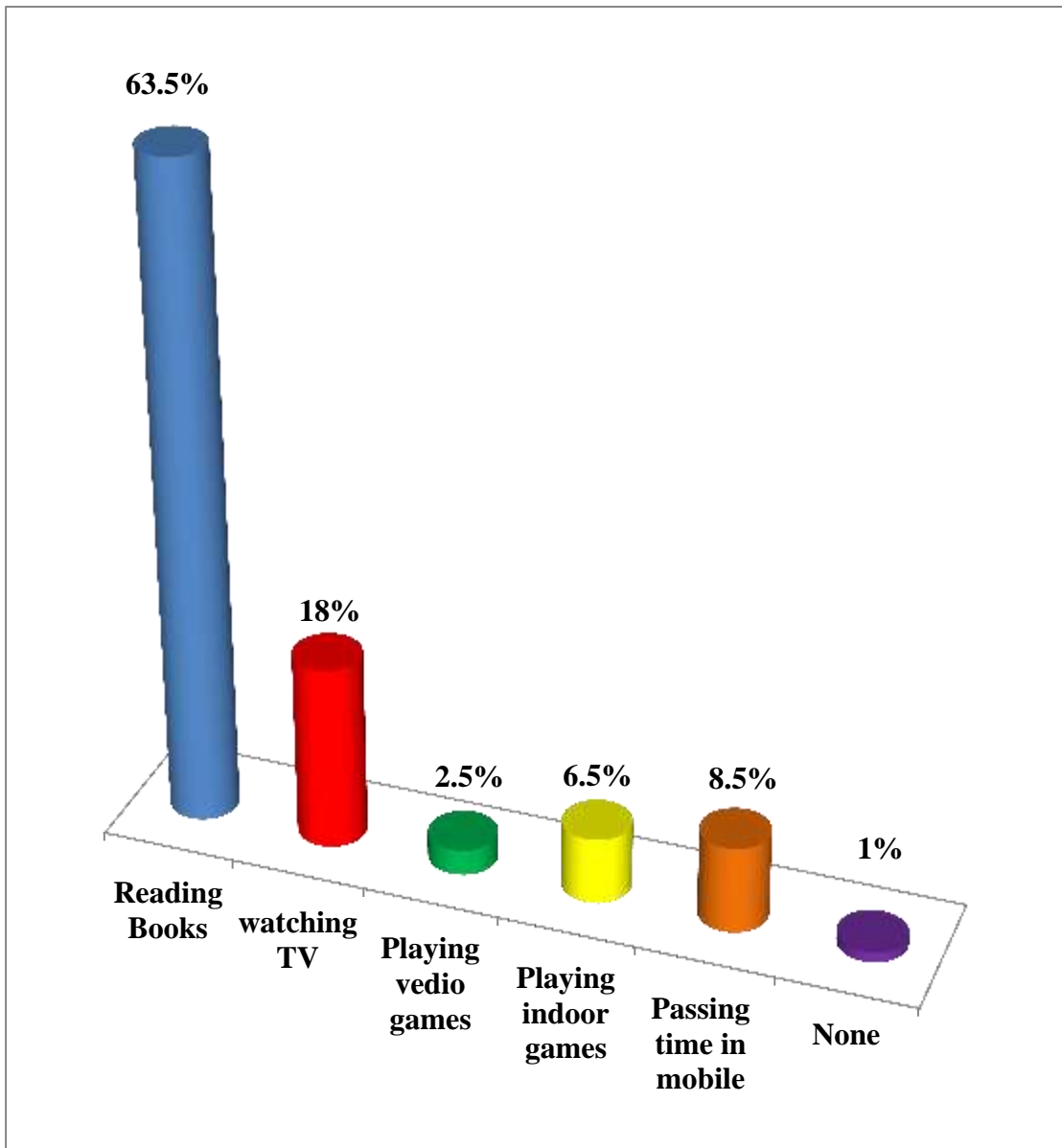
Figure-6: Spending free time at home of the participants

Last 7days physical activity in free time

1. **Running**

Among 200 participants 13.5% (n=27) didn't ran, 27% (n=54) ran 1-2 times, 32% (n=64) ran 3-4 times, 12% (n=24) ran 5-6 times, 15.5% (n=31) ran 7 times or more in the last 7 days.
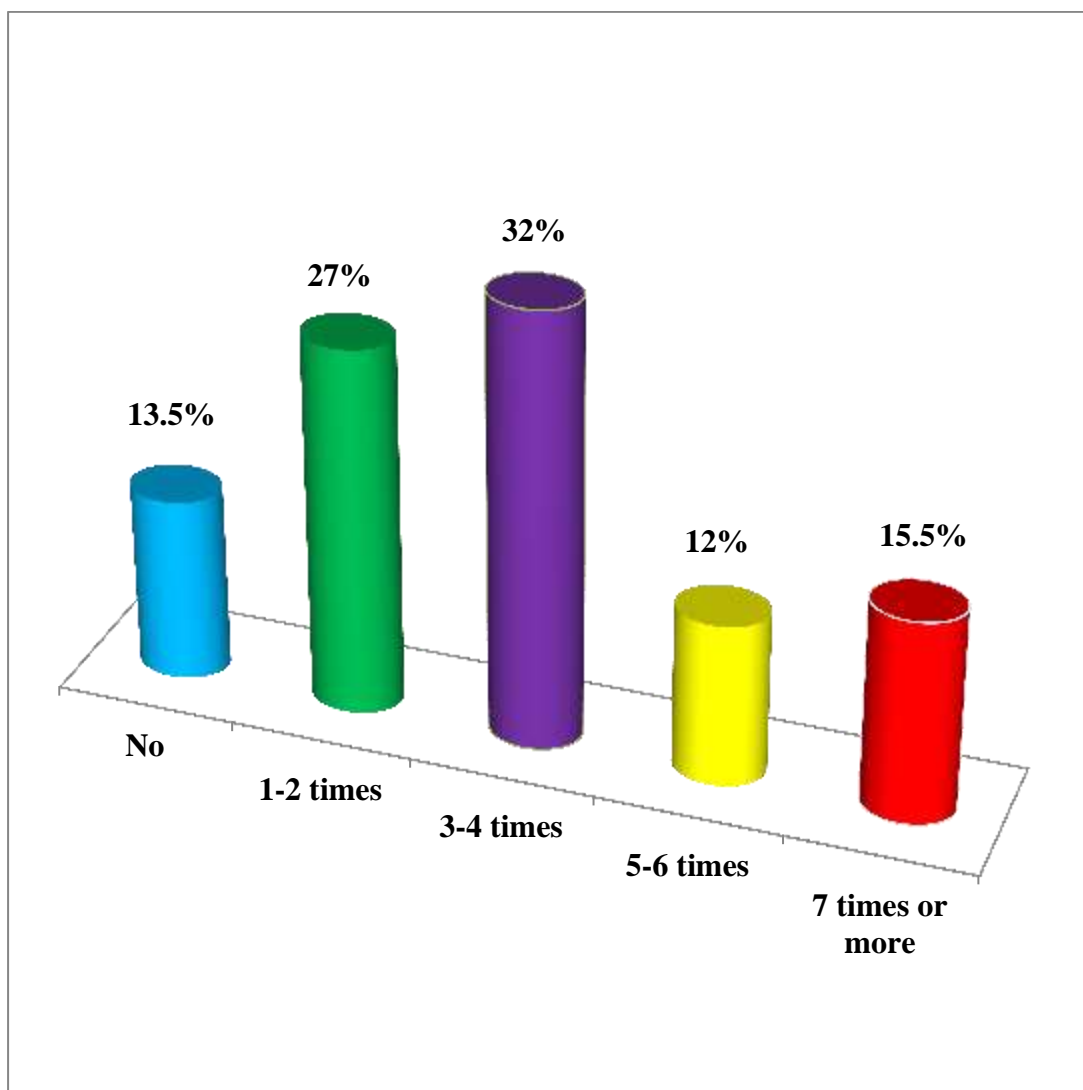
Figure-7: Running did in free time of the participants

2. Cricket

Among 200 participants 46% (n=92) didn't played cricket, 20.5% (n=41) played cricket 1-2 times, 10.5% (n=21) played cricket 3-4 times, 10.5% (n=21) played cricket 5-6 times, 12.5% (n=25) played cricket 7 times or more in the last 7 days.
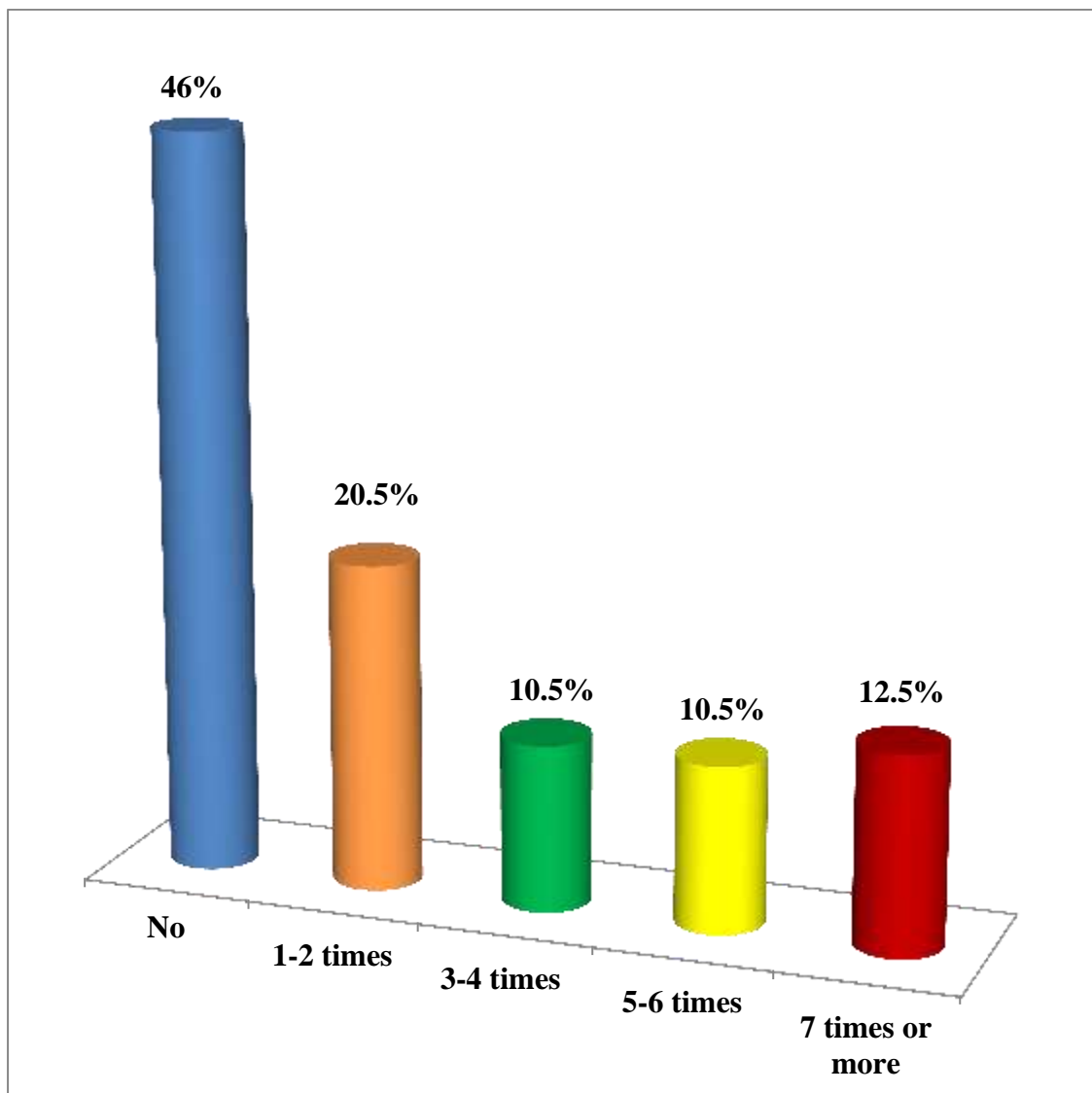
Figure-8: Cricket did in free time of the participants

3. Football

Among 200 participants 63% (n=126) didn't played football, 23% (n=46) played football 1-2 times, 10% (n=20) played football 3-4 times, 1% (n=2) played football 5-6 times, 3% (n=6) played football 7 times or more in the last 7 days.
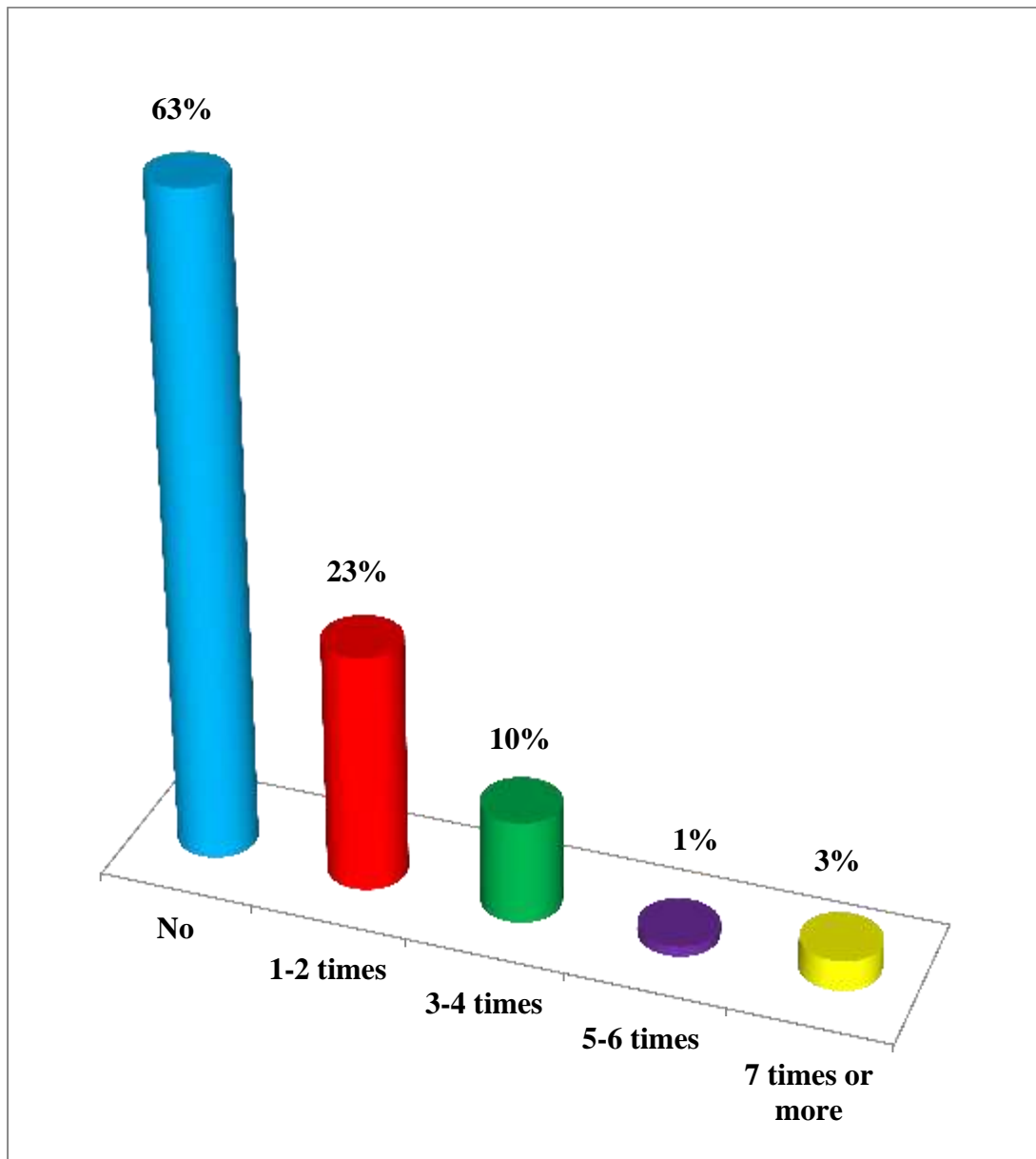
Figure-9: Football did in free time of the participants

4. Bicycling

Among 200 participants 49.5% (n=99) didn't bicycling, 17% (n=34) did bicycling 1-2 times, 9.5% (n=19) did bicycling 3-4 times, 5% (n=10) did bicycling 5-6 times, 19% (n=34) did bicycling 7 times or more in the last 7 days.
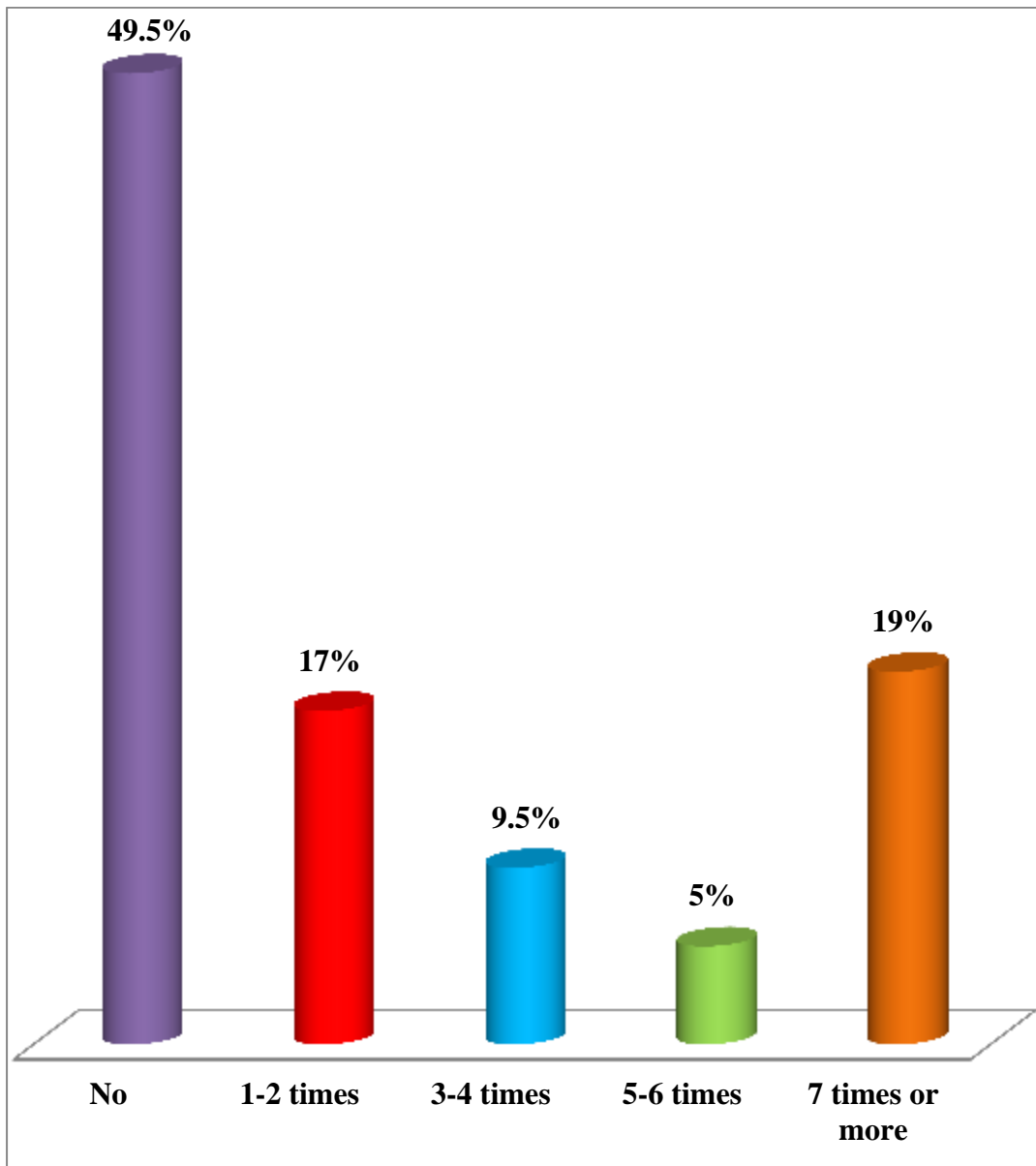
Figure-10: Bicycling did in free time of the participants

5. Basketball

Among 200 participants 88.5% (n=177) didn't played basketball, 4% (n=8) played basketball 1-2 times, 6% (n=12) played football 3-4 times, 1% (n=2) played basketball 5-6 times, 0.5% (n=1) played basketball 7 times or more in the last 7 days.
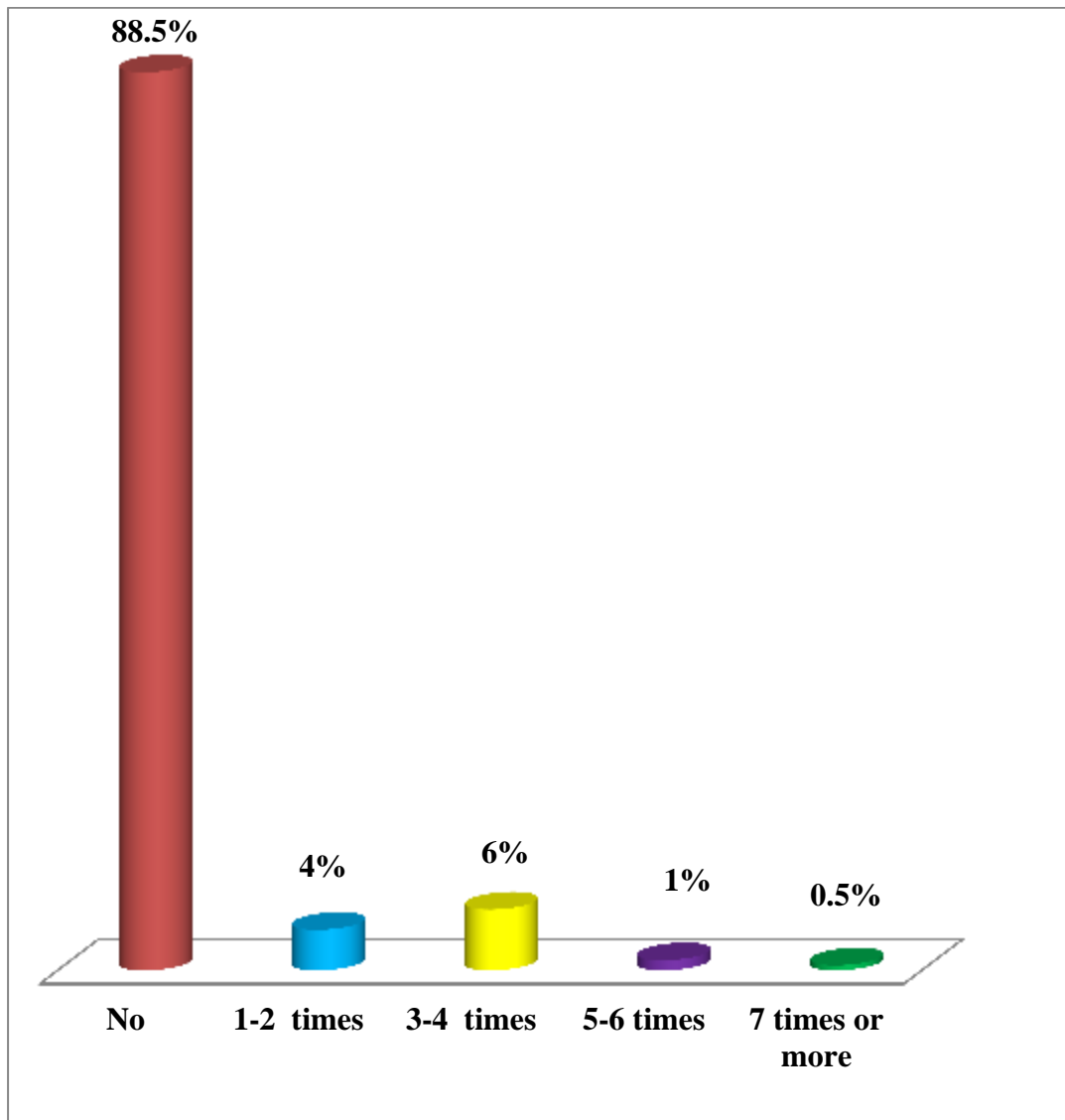
Figure-11: Basketball did in free time of the participants

6. Dance

Among 200 participants 75% (n=150) didn't dance, 13.5% (n=27) did dance 1-2 times, 9% (n=18) did dance 3-4 times, 1.5% (n=3) did dance 5-6 times, 1% (n=2) did dance 7 times or more in the last 7 days.
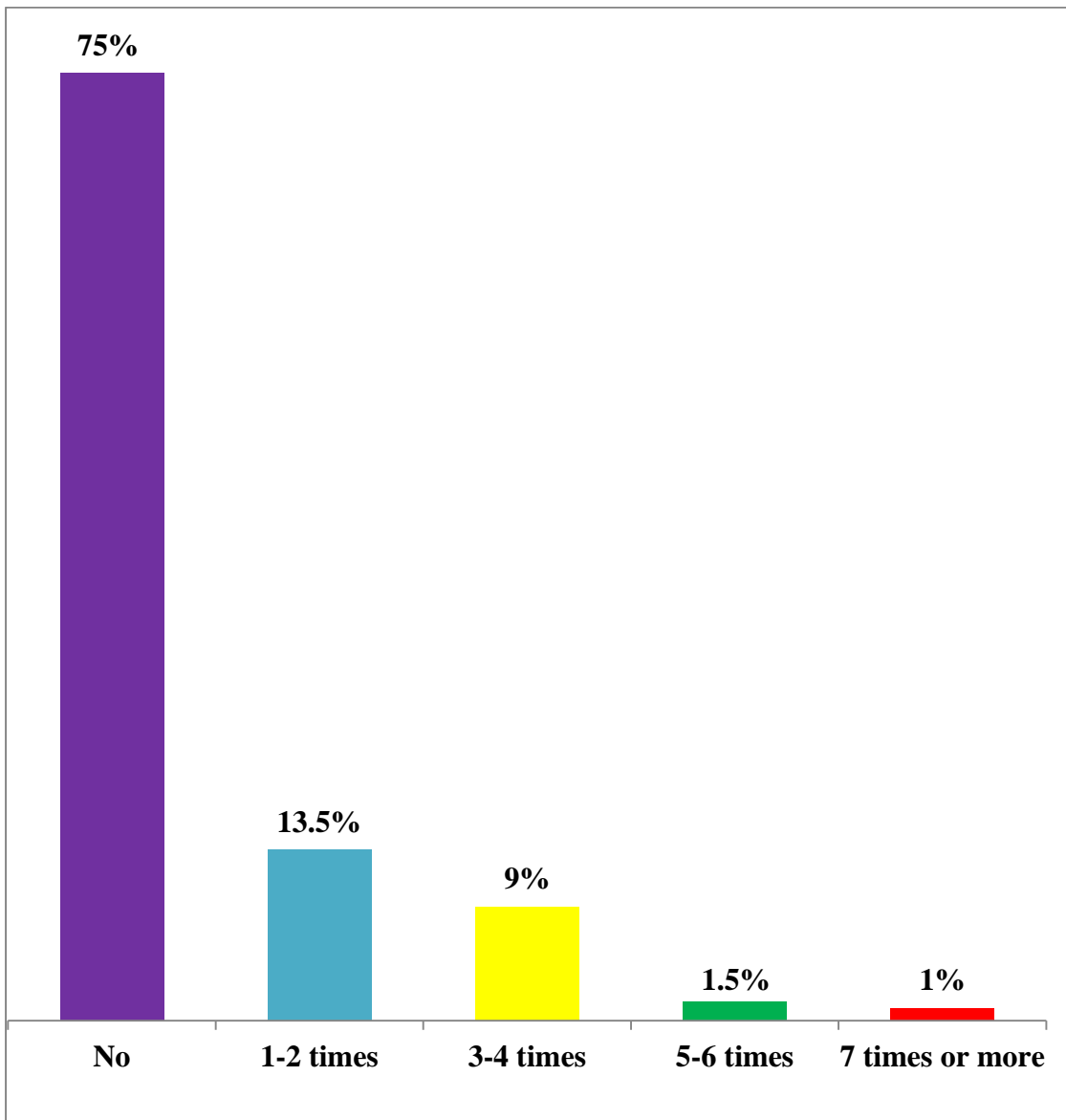
Figure-12: Dance did in free time of the participants

7. Badminton

Among 200 participants 71% (n=142) didn't played badminton, 16.5% (n=33) played badminton 1-2 times, 8.5% (n=17) played badminton 3-4 times, 1.5% (n=3) played badminton 5-6 times, 2.5% (n=5) played badminton 7 times or more in the last 7 days.
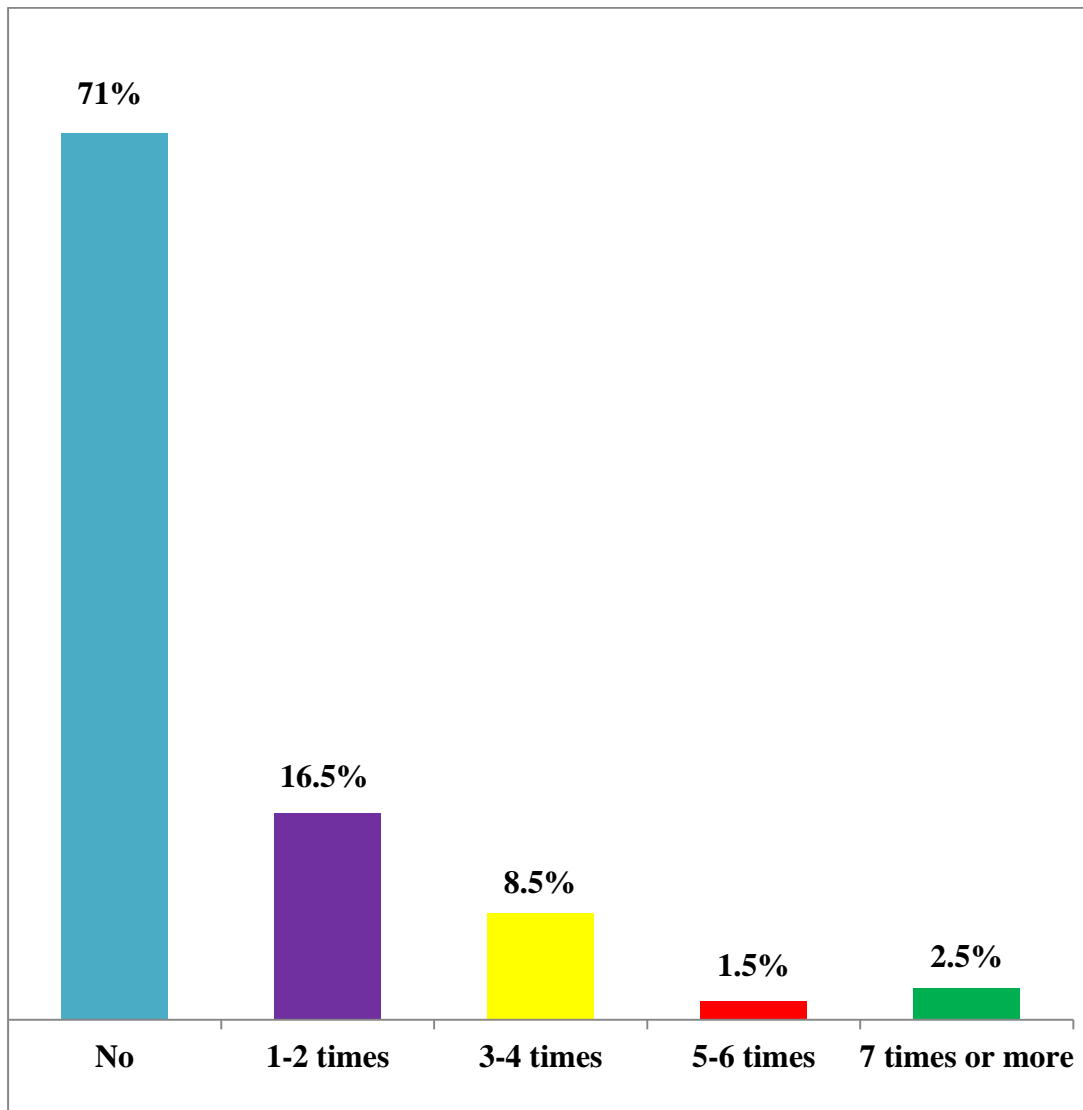
Figure-13: Badminton did in free time of the participants

8. Skipping

Among 200 participants 33% (n=66) didn't skipping, 30.5% (n=61) did skipping 1-2 times, 20.5% (n=41) did skipping 3-4 times, 7% (n=14) did skipping 5-6 times, 9% (n=18) did skipping 7 times or more in the last 7 days.
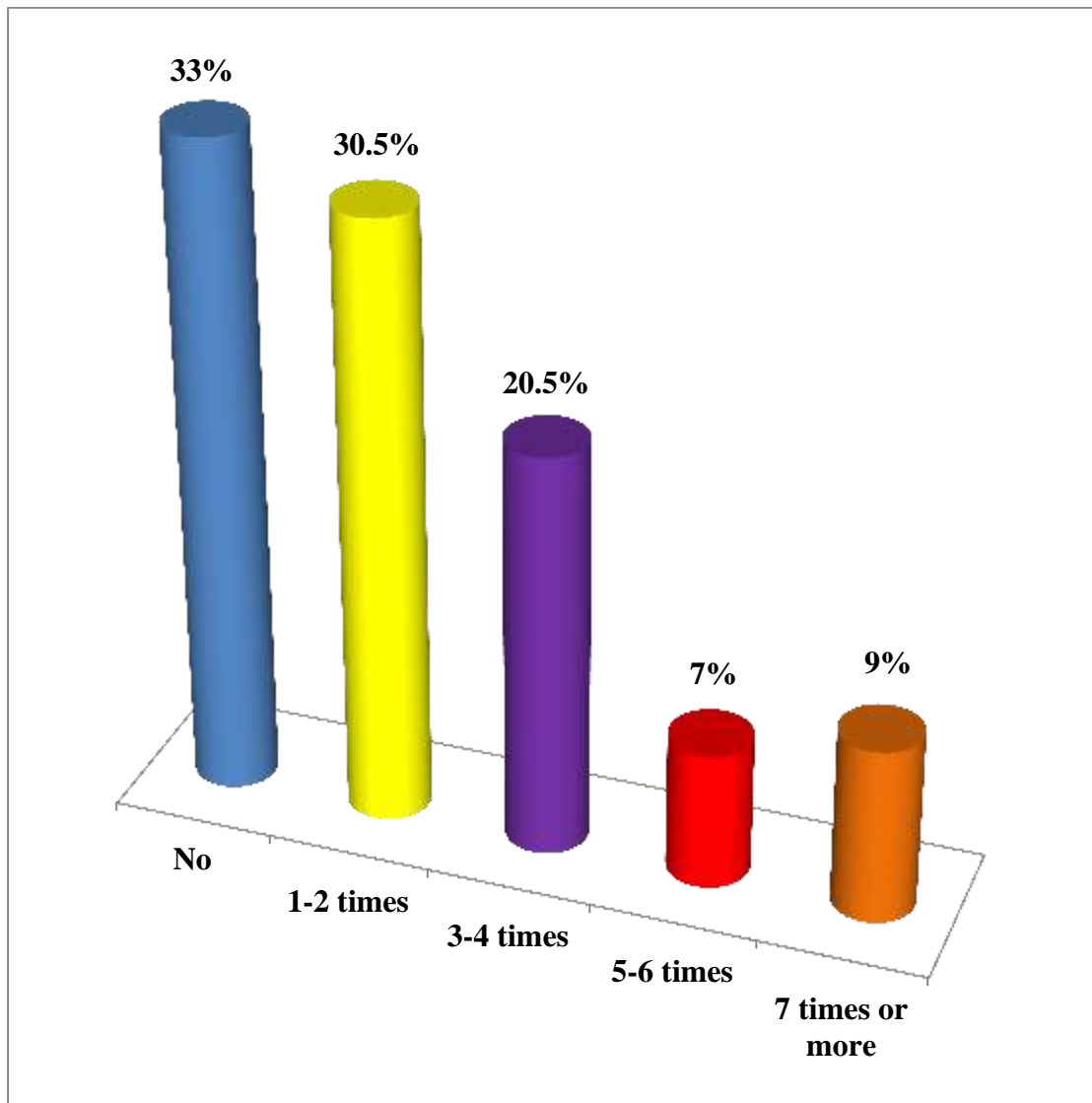
Figure-14: Skipping did in free time of the participants

9. Swimming

Among 200 participants 61% (n=122) didn't swimming, 18.5% (n=37) did swimming 1-2 times, 11.5% (n=23) did swimming 3-4 times, 4.5% (n=9) did swimming 5-6 times, 4.5% (n=9) did swimming 7 times or more in the last 7 days.
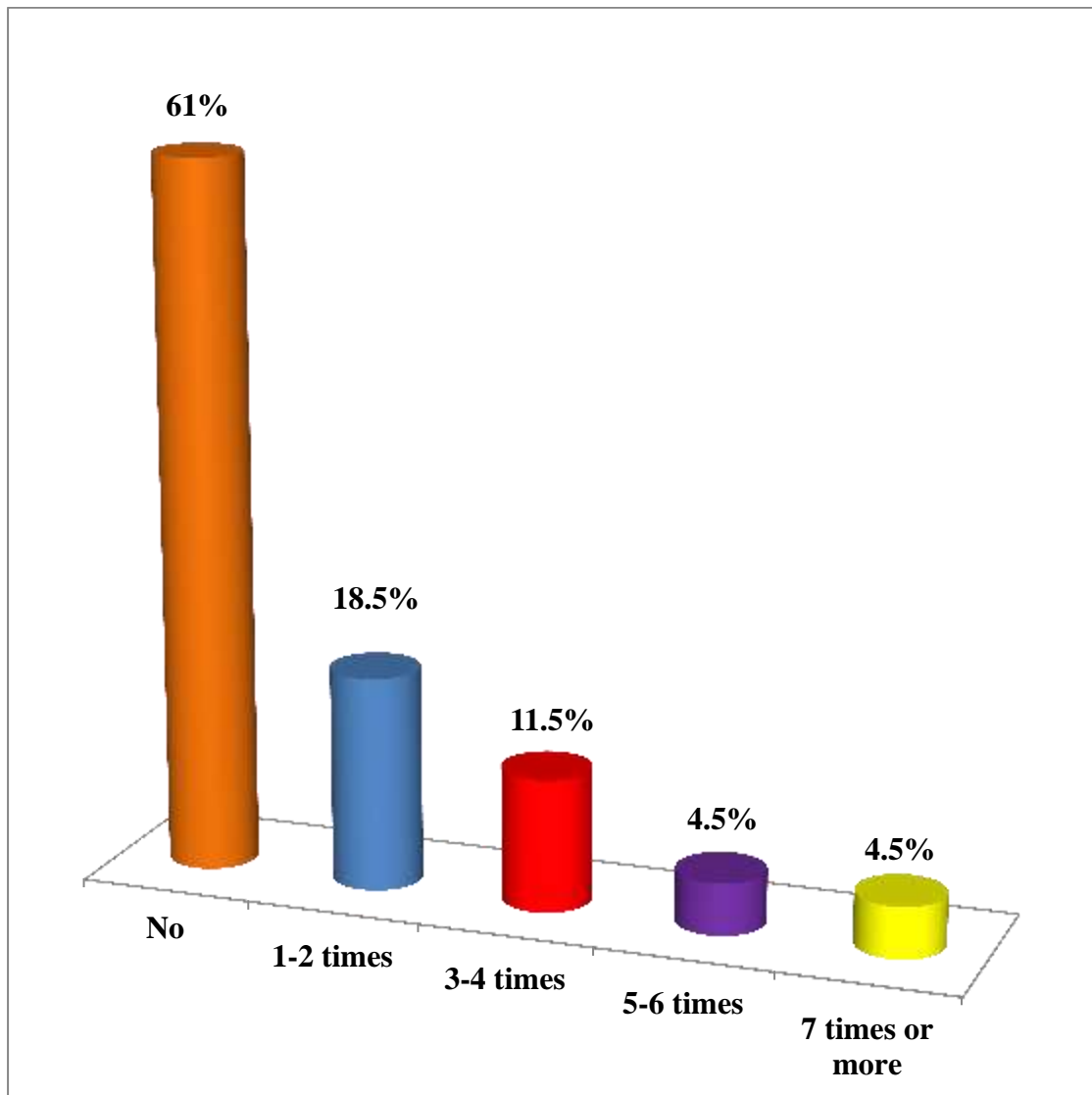
Figure-15: Swimming did in free time of the participants

10 Tree climbing

Among 200 participants 57% (n=114) didn't tree climbing, 22% (n=44) did tree climbing 1-2 times, 10.5% (n=21) did tree climbing 3-4 times, 5.5% (n=11) did tree climbing 5-6 times, 5% (n=10) did tree climbing 7 times or more in the last 7 days.
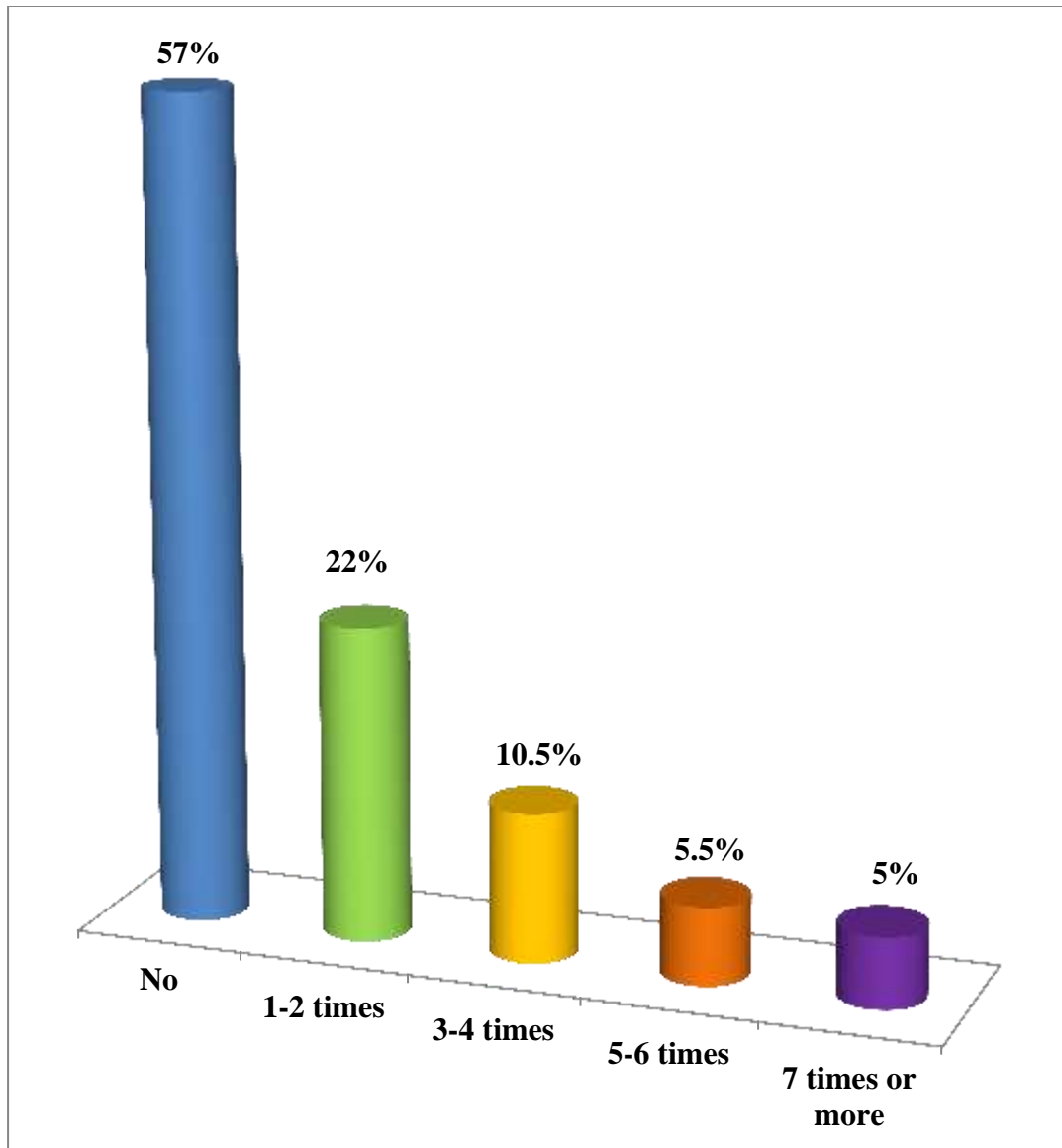
Figure-16: Tree climbing did in free time of the participants

Last 7 days physical activity in free time

The figure showed that among 200 participants 54% (n=108) sat down in free time, 6% (n=12) stood around or walked around, 17.5% (n=35) ran or played a little bit, 13% (n=26) ran around and played a quite bit, 9.5% (n=19) ran and played hard most of the time in last 7 days.
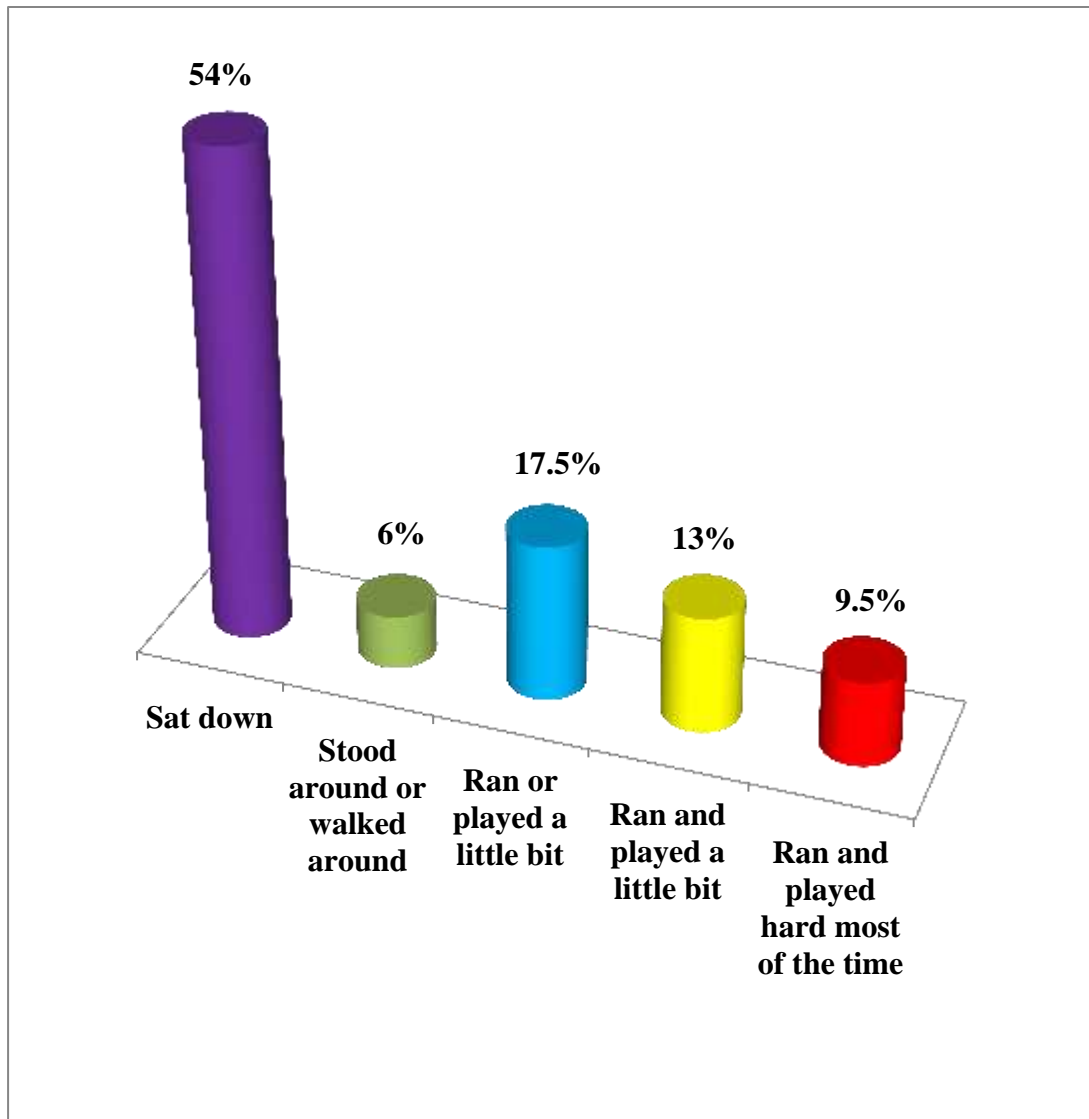
Figure-17: Last 7 days physical activity in free time of the participants

Last 7 days physical activity in lunch time (Besides eating lunch)

The figure showed that among 200 participants 66% (n=132) sat down in lunch time (besides eating lunch), 22% (n=44) stood around or walked around, 8% (n=16) ran or played a little bit, 2.5% (n=5) ran around and played a quite bit, 1.5% (n=3) ran and played hard most of the time in last 7 days.
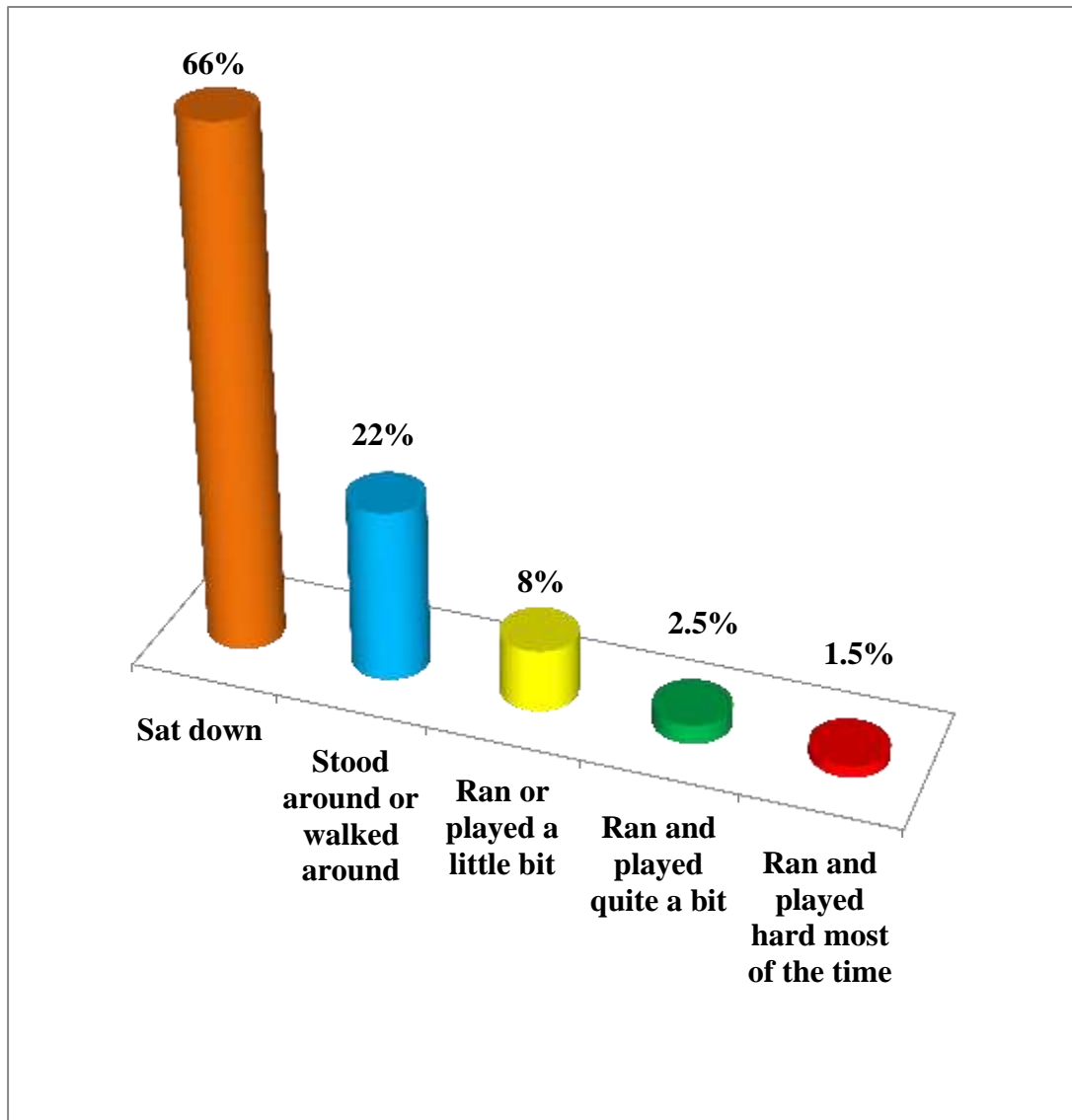
Figure-18: Last 7 days physical activity in lunch time (Besides eating lunch) of the participants

Last 7 days physical activity in the evenings

The figure showed that among 200 participants 22.5% (n=45) didn't active in the evening, 15.5% (n=31) active only 1 time, 38% (n=76) active for 2 or 3 times, 12% (n=24) active for 4 or 5 times, 12% (n=24) active for 6 or 7 times in the last 7 days evening.
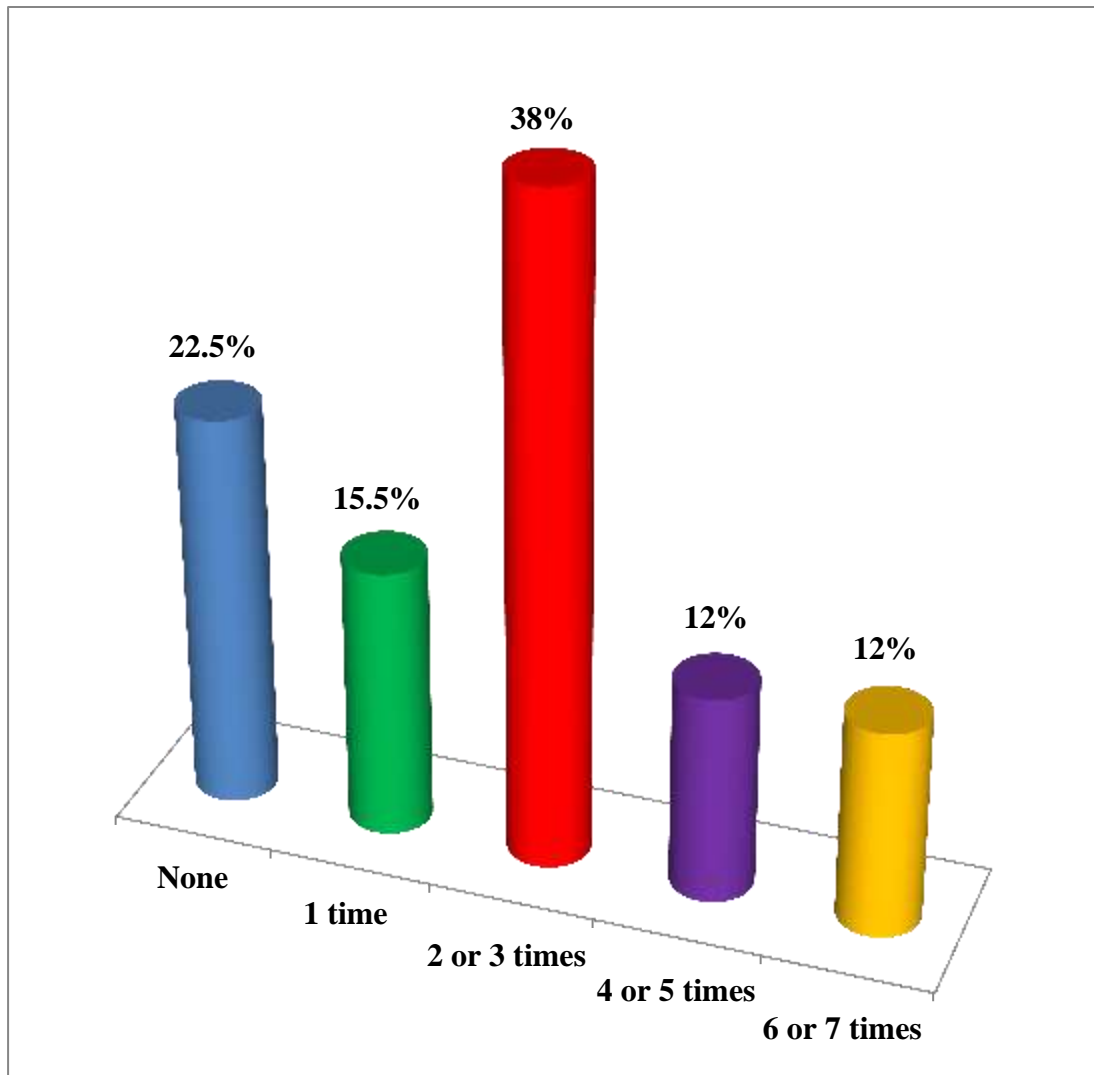
Figure-19: Last 7 days physical activity in evening of the participants

Last weekend physical activity

The figure showed that among 200 participants 21% (n=42) didn't active in the last weekend, 15% (n=30) active only 1 time, 37% (n=74) active for 2-3 times, 16% (n=32) active for 4-5 times, 11% (n=22) active for 6 or more times in the last weekend.
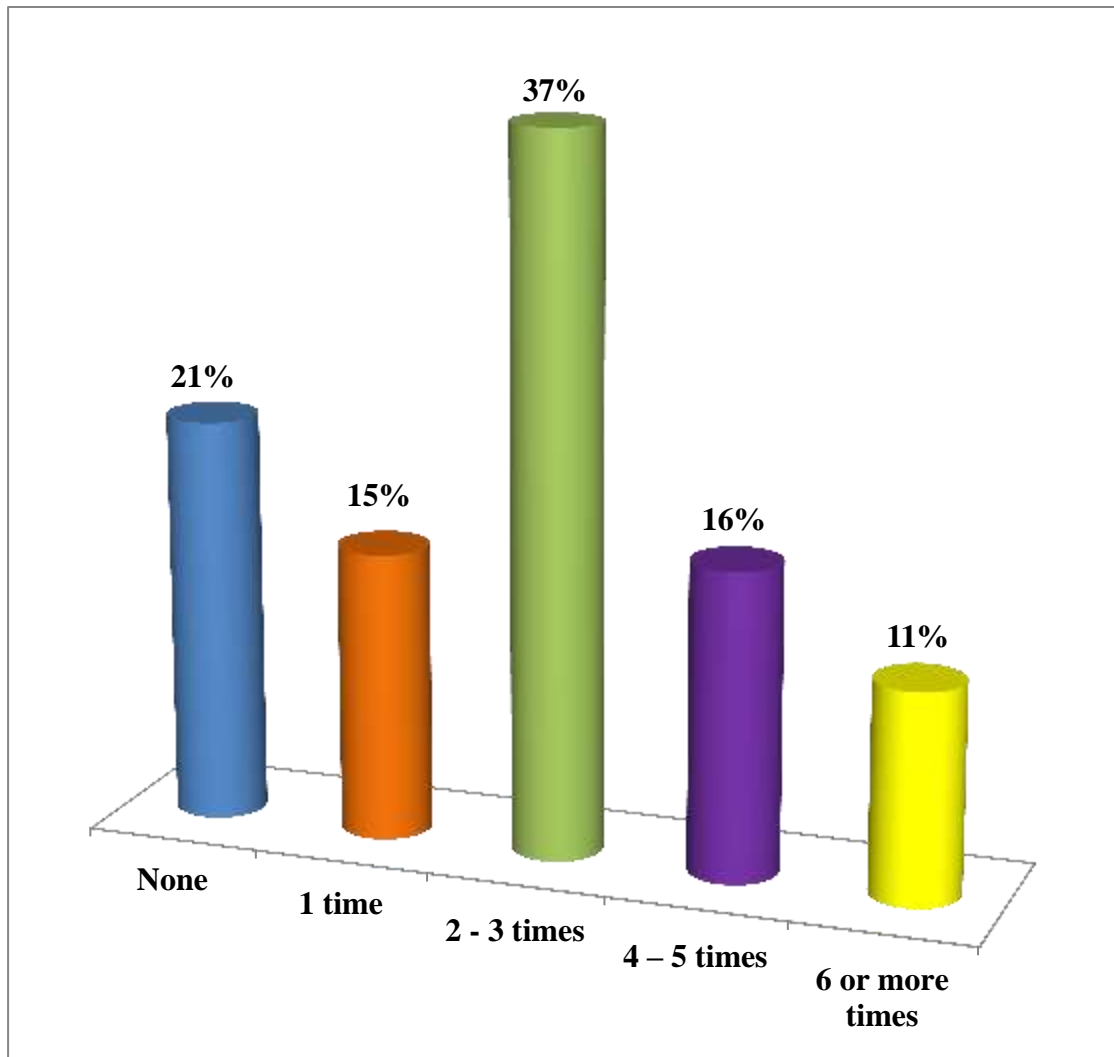
Figure-20: Last weekend physical activity of the participants

Shortness of breath felt during physical exercise

The figure showed that among 200 participants 67.5% (n=135) never felt shortness of breath, 13% (n=26) rarely felt shortness of breath, 14% (n=28) sometimes felt shortness of breath, 4.5% (n=9) started with shortness of breath than disappear, 1% (n=2) had extremely shortness of breath.
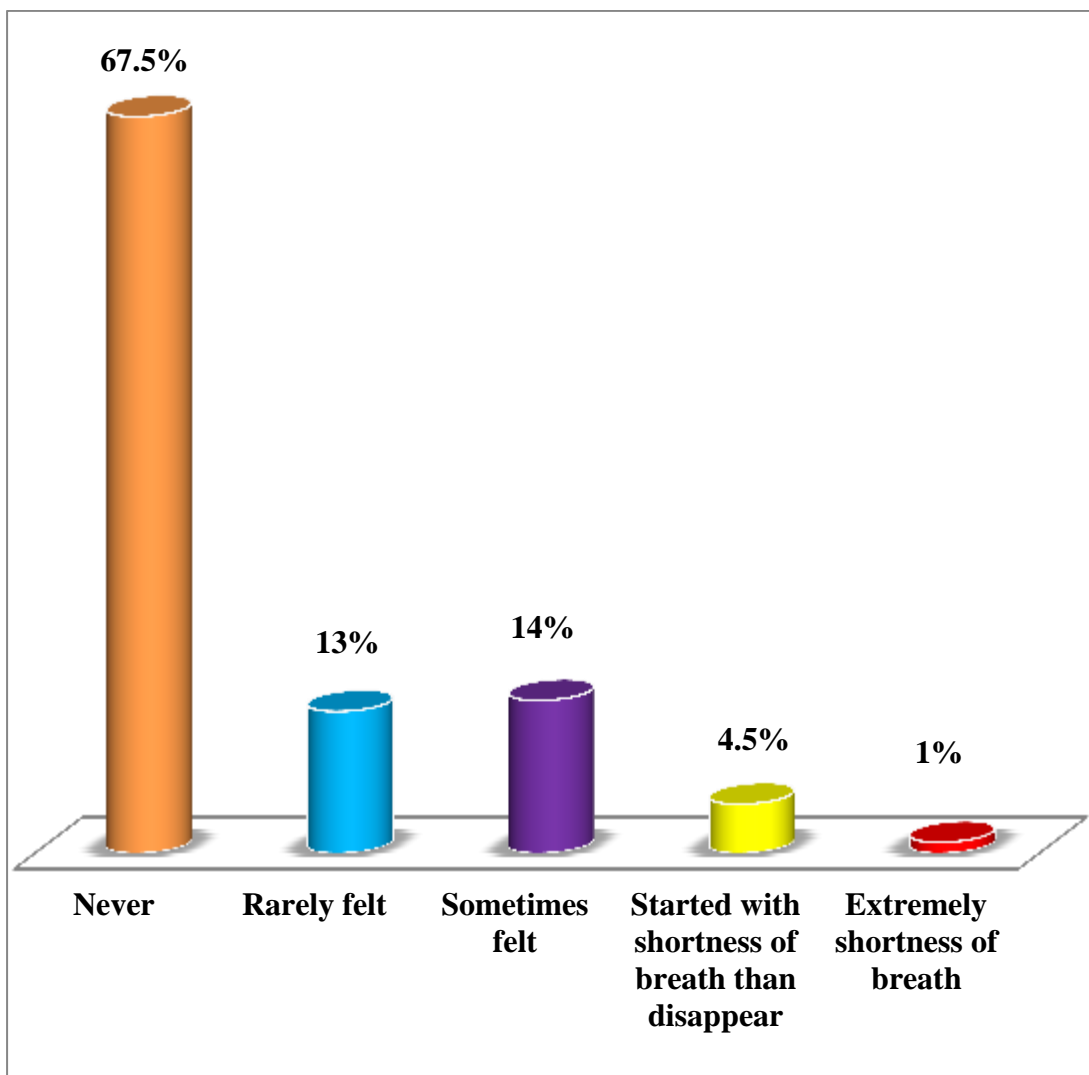
Figure-21: Shortness of breath felt during physical exercise of the participants

Distribution of respondents with Sex and level of physical activity of the participant

The table and figure showed that among 114 boys participants 9% (n=10) did little physical activity, 43.8% (n=50) occasional did physical activity, 28% (n=32) often did physical activity, 8.7% (n=10) quite often did physical activity, 10.5% (n=12) very often did physical activity, among 86 girls participants 50% (n=43) did little physical activity, 33.8% (n=29) occasional did physical activity, 16.2% (n=14) often did physical activity.

Table-4: Distribution of respondents with Sex and level of physical activity of the participant

Sex	Level of physical activity					Total
	Little Physical activity	Occasional did physical activity	Often did physical activity	Quite often did physical activity	Very often did physical activity	
Boys	10 (9%)	50 (43.8%)	32(28%)	10 (8.7%)	12(10.5%)	114(100%)
Girls	43 (50%)	29 (33.8%)	14(16.2%)	-	-	86 (100%)
Total	**53**	**79**	**46**	**10**	**12**	**200**

Association between Sex and level of physical activity

Table-5: Association between Sex and level of physical activity

	Chi-Square	P-value
Sex and level of physical activity	52.278	0.001

This observed Chi-square value was 52.278 and 5% level of significant state chi-square was 1.96 which is less than the observed chi-square value. That means Null-hypothesis was neglected and alternative hypothesis was accepted. So the result was significant that indicate there was strong association between Sex and level of physical activity of the participants.

Distribution of respondents with Sex and BMI of the participant

The table and figure showed that among 114 boys participants the number of underweight was 48.2% (n=55), normal was 35.9% (n=41), overweight was 14% (n=16), obese was 1.9% (n=2) and among 86 girls participants the number of underweight was 31.3% (n=27), normal was 54.6%% (n=47) overweight was 11.6% (n=10), obese was 2.5% (n=2).

Table-6: Distribution of respondents with Sex and BMI of the participant

Sex	BMI of the Participants				Total
	Underweight	Normal	Overweight	Obese	
Boys	55 (48.2%)	41 (35.9%)	16 (14%)	2 (1.9%)	114 (100%)
Girls	27 (31.3%)	47 (54.6%)	10 (11.6%)	2 (2.5%)	86 (100%)
Total	**82**	**88**	**26**	**4**	**200**

Association between Sex and BMI

Table-7: Association between Sex and BMI

	Chi-Square	P-value
Sex and level of physical activity	7.583	0.05

This observed Chi-square value was 7.583 and 5% level of significant state chi-square was 1.96 which is less than the observed chi-square value. That means Null-hypothesis was neglected and alternative hypothesis was accepted. So the result was significant that indicate there was association between Sex and BMI of the participants.

Distribution of respondents with BMI and level of physical activity of the participants

The table and figure showed that among 82 underweight participants 24.3% (n=20) did little physical activity, 39% (n=32) occasional did physical activity, 22% (n=23) often did physical activity, 10.7% (n=3) quite often did physical activity, 4% (n=4) very often did physical activity, among 88 normal participants 30.6% (n=27) did little physical activity, 34% (n=30) sometimes did physical activity, 19.6% (n=17) often did physical activity, 6.8% (n=6) quite often did physical activity, 9% (n=8) very often did physical activity, among 26 overweight participants 15.3% (n=4) did little physical activity, 65.3% (n=17) sometimes did physical activity, 15.6% (n=4) often did physical activity, 3.8% (n=1) quite often did physical activity, and among 4 obese participants 50% (n=2) did little physical activity, 50% (n=2) often did physical activity.

Table-8: Distribution of respondents with BMI and level of physical activity of the participants

BMI	Level of physical activity					Total
	Little Physical activity	Occasional did physical activity	Often did physical activity	Quite often did physical activity	Very often did physical activity	
Underweight	20(24.3%)	32 (39%)	23 (22%)	3 (10.7%)	4 (4%)	82 (100%)
Normal	27(30.6%)	30 (34%)	17(19.6%)	6 (6.8%)	8 (9%)	88 (100%)
Overweight	4 (15.3%)	17 (65.3%)	4 (15.6%)	1 (3.8%)	-	26 (100%)
Obese	2 (50%)	-	2 (50%)	-	-	4 (100%)
Total	**53**	**79**	**46**	**10**	**12**	**200**

Association between BMI and level of physical activity

Table-9: Association between Sex and level of physical activity

	Chi-Square	P-value
Sex and level of physical activity	17.281	0.139

This observed Chi-square value was 17.281 and 5% level of significant state chi-square was 1.96 which is less than the observed chi-square value. That means Null-hypothesis was neglected and alternative hypothesis was accepted. So the result was not significant that indicate there was strong association between BMI and level of physical activity of the participants.

Distribution of respondents with BMI and eating habit of the participants

The table and figure showed that among 82 underweight participants 76.8% (n=63) ate homemade food, 3.6% (n=3) ate fruits, 1.4% (n=1) ate fast food, 18.2% (n=15) ate Outside shop food, among 88 normal participants 81.8% (n=72) ate homemade food, 2.2% (n=2) ate fruits, 4.7% (n=4) ate fast food, 11.3% (n=10) ate outside shop food, among 26 overweight participants 11.5% (n=3) ate homemade food, 84.7%% (n=22) ate fast food, 3.8% (n=1) ate Outside shop food, among 4 obese participants 100% (n=4) ate fast food.

Table-10: Distribution of respondents with BMI and eating habit of the participants

BMI of the participants	Eating habit				Total
	Homemade food	Fruits	Fast food	Outside shop food (chocolate, chips etc)	
Underweight	63 (76.8%)	3 (3.6%)	1 (1.4%)	15 (18.2%)	82 (100%)
Normal	72 (81.8%)	2 (2.2%)	4 (4.7%)	10 (11.3%)	88 (100%)
Overweight	3 (11.5%)	-	22 (84.7%)	1 (3.8%)	26 (100%)
Obese	-	-	4 (100%)	-	4 (100%)
Total	**138**	**5**	**31**	**26**	**200**

Association between BMI and eating habit of the participants

Table-11: Association between BMI and eating habit of the participants

	Chi-Square	P-value
Sex and level of physical activity	139.536	0.000

This observed Chi-square value was 139.536 and 5% level of significant state chi-square was 1.96 which is less than the observed chi-square value. That means Null-hypothesis was neglected and alternative hypothesis was accepted. So the result was significant that indicate there was strong association between BMI and eating habit of the participants.

Distribution of respondents with Living area and level of physical activity

The table and figure showed that among 100 urban area participants 41% (n=41) did little physical activity, 36% (n=36) occasional did physical activity, 13% (n=13) often did physical activity, 6% (n=6) quite often did physical activity, 4% (n=4) very often did physical activity, among 100 rural area participants 12% (n=12) did little physical activity, 43% (n=43) sometimes did physical activity, 33% (n=33) often did physical activity, 4% (n=4) quite often did physical activity, 8% (n=8) very often did physical activity

Table-12: Distribution of respondents with Living area and level of physical activity

Living area	Level of physical activity					Total
	Little Physical activity	Occasional did physical activity	Often did physical activity	Quite often did physical activity	Very often did physical activity	
Urban area	41(41%)	36 (36%)	13 (13%)	6 (6%)	4 (4%)	100(100%)
Rural area	12 (12%)	43 (43%)	33 (33%)	4 (4%)	8 (8%)	100(100%)
Total	**53**	**79**	**46**	**10**	**12**	**200**

Association between Living area and level of physical activity

Table-13: Association between Living area and level of physical activity

	Chi-Square	P-value
Sex and level of physical activity	26.917	0.000

This observed Chi-square value was 26.917 and 5% level of significant state chi-square was 1.96 which is less than the observed chi-square value. That means Null-hypothesis was neglected and alternative hypothesis was accepted. So the result was significant that indicate there was strong association between Living area and level of physical activity of the participants.

The purpose of the study was to describe relationship between socio-demographic, BMI and level of physical activity at some selected schools in urban and rural area.

The age range of this study was 11-14 years school children where 19.5% (n=39) were 11 years old, 38% (n=76) were 12 years old, 33% (n=66) were 13 years old, 9.5% (n=19) were 14 years old most of them were 12 years old and second most common were 13 years old . One study reports that the age of the participants were 10 to 15 years (Hussain et al., 2016). Patil et al. (2014) showed that 22.67% students were 13 years old, 41.33% were 14 years old and 36% were 15 years old. Another study showed that the age of the participants were 6 to 18 years with a mean of 12.47 years (Hovsepian et al., 2016).

In this study 57% (n=114) were boys and 43% (n=86) were girls. Approximately similar findings has been reported in the study of Patil et al. (2014) 58.67% were boys and 41.33% were girls. 34 (22.67%) Another study showed that 50.8% were boys and 49.2%were girls (Hovsepian et al., 2016).

Among the participants 26.5% (n=53) sometimes did physical activity, 39.5% (n=79) occasional did physical activity, 23% (n=46) often did physical activity, 5% (n=10) quite often did physical activity, 6% (n=12) very often did physical activity. One study showed that 46.9% (n=872) did physical activity less than 2 times/week, 19.6% (n=365) did physical activity more than 2-4 times/week and 33.5% (n=623) did physical activity more than 4-7 times/week (Mushtaq et al., 2011).

This study showed that among boys participants 9% (n=10) did little physical activity, 43.8% (n=50) occasional did physical activity, 28% (n=32) often did physical activity, 8.7% (n=10) quite often did physical activity, 10.5% (n=12) very often did physical activity, among girls participants 50% (n=43) did little physical activity, 33.8% (n=29) occasional did physical activity, 16.2% (n=14) often did physical activity. One study showed that 55.1% (n=538) boys had physical activity twice a week, 52.4% (n=512) had sedentary lifestyle one hour a day and 51% (n=450) girls

had physical activity twice a week, 45% (n=397) had sedentary lifestyle one hour a day (Mushtaq et al., 2011).

In this study 41% (n=82) were underweight, 44% (n=88) were normal, 13% (n=26) were overweight, and 2% (n=4) were obese. Another study showed that 8.66% were underweight, 78% were normal, 10% were overweight and 3.34% were obese (Patil et al., 2014). A study by Kelishadi et al. (2007) showed that the prevalence of underweight were 13.9%, normal were 72.7%, overweight were 8.82% and obese were 4.5%.

In this study 48.2% (n=55) boys were underweight, 35.9% (n=41) were normal, 14% (n=16) were overweight 1.9% (n=2) were obese and 31.3% (n=27) girls were underweight, 54.6% (n=47) were normal, 11.6% (n=10) were overweight, 2.5% (n=2) were obese. Similarly one study Patil et al. (2014) reported that 11.36% boys were underweight, 82.95% were normal, 4.55% were overweight 1.14% were obese and 4.84% girls were underweight, 70.97% were normal, 17.74% were overweight, 6.45% were obese. In a study done by S Kumar et al. (2007) in Davangere city revealed that the prevalence of obesity was more in girls 8.82% than boys 4.42%. Another study by Kelishadi et al. (2007) showed that the 8.1% boys were underweight, 36.6% were normal, 4.3% were overweight and 2.5% were obese and 5.7% girls were underweight, 36.2% were normal, 4.6% were overweight, 2% were obese.

In this study 64.5% (n=129) go to school or come back from school by walking, 14% (n=28) go by bicycle, 13% (n=26) go by rickshaw, 5.5% (n=11) go by auto and 3% (n=6) go by bus. Another study by Hussain et al. (2016) reported that the prevalence of overweight were 23.16% and obesity were 10.17% are more in those students travelling by Bus, followed by car 19.35% were overweight and 25.81% were obese and least in those students who reaches their school by walking 8.52% were overweight and 3.85% were obese.

This study found that in urban area underweight was 30% (n=30), normal was 48% (n=48), overweight was 19% (n=19), obese was 3% (n=3) and in rural area underweight was 52% (n=52), normal was 40% (n=40) overweight was 7% (n=7),

obese was 1% (n=1). Another study by Joens-Matre et al. (2008) showed that the prevalence of normal weight was 62.8%, overweight was 19.4% in urban area children and in rural area normal weight was 53.1%, underweight was 25.1%.

In this study among underweight participants 76.8% (n=63) ate homemade food, 3.6% (n=3) ate fruits, 1.4% (n=1) ate fast food, 18.2% (n=15) ate outside shop food, among normal participants 81.8% (n=72) ate homemade food, 2.2% (n=2) ate fruits, 4.7% (n=4) ate fast food, 11.3% (n=10) ate Outside shop food, among 26 overweight participants 11.5% (n=3) ate homemade food, 84.7% (n=22) ate fast food, 3.8% (n=1) ate Outside shop food, among 4 obese participants 100% (n=4) ate fast food. Another study showed that by eating junk food frequently more than 2 times per week 11.27% (n=8) were underweight, 67.61% (n=48) were normal, 14.08% (n=10) were overweight, 7.04% (n=5) were obese and those who didn't ate junk food 6.33% (n=5) were underweight, 87.34% (n=69) were normal, 6.33% (n=5) were overweight (Patil et al., 2014).

This study showed that among underweight participants 24.3% (n=20) did little physical activity, 39% (n=32) occasional did physical activity, 22% (n=23) often did physical activity, 10.7% (n=3) quite often did physical activity, 4% (n=4) very often did physical activity, among normal participants 30.6% (n=27) did little physical activity, 34% (n=30) occasional did physical activity, 19.6% (n=17) often did physical activity, 6.8% (n=6) quite often did physical activity, 9% (n=8) very often did physical activity, among 26 overweight participants 15.3% (n=4) did little physical activity, 65.3% (n=17) occasional did physical activity, 15.6% (n=4) often did physical activity, 3.8% (n=1) quite often did physical activity, and among 4 obese participants 50% (n=2) did little physical activity, 50% (n=2) often did physical activity. Approximately similar findings has been showed in the study of Patil et al. (2014) physical activity less than 30 minutes per day, among them 5.47% (n=4) were underweight, 68.49% (n=50) were normal weight, 19.17% (n=14) were overweight, 6.84% (n=5) were obese and PA more than 30 minutes per day among them 11.69% (n=9) were underweight, 87.01% (n=67) were normal, 1.3% (n=1) were overweight.

This study found that, among urban area participants 41% (n=41) did little physical activity, 36% (n=36) occasional did physical activity, 13% (n=13) often did physical activity, 6% (n=6) quite often did physical activity, 4% (n=4) very often did physical activity, among rural area participants 12% (n=12) did little physical activity, 43% (n=43) occasional did physical activity, 33% (n=33) often did physical activity, 4% (n=4) quite often did physical activity, 8% (n=8) very often did physical activity. Other study done by Mushtaq et al. (2011) showed that in urban area high socioeconomic status 48.2% (n=224), urban area middle SES 49.2% (n=229), urban area low SES, 49.9% (n=232) had physical activity twice a week and 60.2% (n=280) in urban high SES, 49.2 (n=229) in middle SES, 51% (n=237) in urban low SES had sedentary lifestyle one hour a day. In rural area low SES 62.2% (n=303) had physical activity twice a week and 35.1% (n=163) had sedentary lifestyle one hour a day.

The main limitation of the study was the sample size. Small sample size was the main barrier of the study. The number of 200 schools children was not enough for the study. This study was done in a short period of time. Researcher should take more time to conduct this study.

One urban area school and one rural area school were taken to conduct the study. The participants might give wrong answer to the question.

CHAPTER–VI: CONCLUSION AND RECOMMENDATION

6.1 Conclusion

Physical activity is an essential factor in every human life. It is important for healthy life and safe everyone from various non-communicable diseases. Currently the rate of physical inactivity has been increased day by day. Various literatures showed that the childhood obesity and physical inactivity has been increasing in different rate both developed and developing countries. Childhood obesity is associated with various risk factors including heart disease and other chronic disease. The idea of the study is to identify the level of physical activity among school children at two selected schools. The level of physical activity is more in rural area children than the urban area. The girls were more vulnerable group in physical inactivity and were more physically inactive than boys.

In the urban area school children they have no playground for sports and did not participate in sports due to overload of study. Overweight were more seen in girls than the boys. Overweight was seen the children who ate fast food. Overweight and obese children were less active than the underweight and normal children.

Most of the school children did not play the traditional games in our country. They spent their free time in sitting due to overload of study or different issues. Measure should be taken to overcome barrier and create parents awareness programs, playground in urban area schools to involve children in regular physical activity.

6.2 Recommendation

The aim of the study is to find out the level of physical activity among school children at two selected schools. The objective was to find out level of physical activity between boys and girls children at two selected schools. This study helps to understand the children and their parents about the importance of physical activity for healthy lifestyle and physically fit children were looks good than overweight and obese children. Further research would be between large groups of children covering most of the area of Bangladesh.

Further research would be to find out why girls are less active than boys and the rate of overweight more seen in girl children. The further research would be why children don't participate in physical activity despite of no barrier. The further research would be the large groups of children only in city schools in Bangladesh to find out their level of physical activity and the reason for physical inactivity.

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CONSENT FORM

Hello,

I am Shanchita Bhowmik, student of B.Sc. in physiotherapy at Bangladesh Health Professions Institute (BHPI) an academic institute of CRP. I shall have to conduct a research and it is a part of my study. The participants are requested to participate in the study after reading the following.

My research title is "Level of physical activity among school children at two selected schools". If I can complete the study successfully, I can gain more knowledge about physical activity which is helpful for my profession. To full fill my research project, I need to collect data. That's why I would like to know the answers of some questions, which takes about 20-25 minutes. I would like to inform you that this is a purely academic study and will not be used for any other purpose. I assure that all data will be kept confidentially. This will not harm you.

Your participation in this study is voluntary and you may withdraw yourself at any time during this study without any negative consequences. You also have the right not to answer a particular question that you don't like or do not want to answer during interview.

If you have any query about the study or your right as a participant, you may contact with me.

Do you have any questions before I start?

……………………………………………………

So, may I have your consent to proceed with the interview?

　　　Yes　　☐　　　　　　　　　　No　　☐

Signature of the Participant and date _____

Signature of the Interviewer and date _____

Witness signature and date _____

হ্যালো,

আমি সঞ্চিতা ভৌমিক বাংলাদেশ হেলথ প্রফেশনস ইন্সিটিউট (সিআরপি এর একটি শিক্ষা প্রতিষ্ঠান) এর বি,এস, সি ইনফিজিওথেরাপি বিভাগের চতুর্থ বর্ষের ছাত্রী।অধ্যয়নের অংশ হিসেবে আমাকে একটি গবেষণা সম্পাদন করতে হবে এবং এটা আমার প্রাতিষ্ঠানিক কার্যকলাপের অংশ। নিম্নোক্ত তথ্যাদি পাঠ করার পর আপনাকে গবেষণাতে অংশগ্রহন করার জন্য অনুরোধ করা হল।

আমার গবেষণার বিষয় হল "দুইটি নির্বাচিত বিদ্যালয়ের ছাত্র-ছাত্রীদের শারীরিক পরিশ্রমের মাত্রা"।আমি গবেষণাটি সার্থকভাবে করতে পারলে এই বিষয় সম্পর্কে বিস্তারিত জানতে পারব।গবেষণাসম্পূর্ণ করার জন্য সংশ্লিষ্ট ছাত্র-ছাত্রীদের কাছ থেকে তথ্য সংগ্রহ করা প্রয়োজন। এজন্য আমি কিছু প্রশ্নের উত্তর জানতে চাই,যা করতে ২০- ২৫ মিনিট লাগবে।আমি নিশ্চিত করছি যে, এই গবেষণা আপনার জন্য ঝুঁকিপূর্ণ হবেনা এবং এতে আপনার কোন ক্ষতি হবেনা। আপনার দেওয়া তথ্য গোপন রাখা হবে।

এই অধ্যয়নে আপনার অংশগ্রহণ স্বেচ্ছাপ্রণোদীত এবং আপনি যেকোন সময় এই অধ্যয়ন থেকে কোন নেতিবাচক ফলাফল ছাড়াই নিজেকে প্রত্যাহার করতে পারবেন। এছাড়াও কোন নির্দিষ্ট প্রশ্ন অপছন্দ হলে উত্তর না দেয়ার এবং সাক্ষাৎকারের সময় কোন উত্তর না দিতে চাওয়ার অধিকারও আপনার আছে ।

এই অধ্যয়নে অংশগ্রহণকারী হিসেবে যদি আপনার কোন প্রশ্ন থাকে তাহলে আপনি আমার সাথে যোগাযোগ করতে পারেন।

সাক্ষাৎকার শুরু করার আগে কি আপনার কোন প্রশ্ন আছে?

সুতরাং আমি আপনার অনুমতিতে এই সাক্ষাৎকার শুরু করতে পারি?

হ্যাঁ ☐   না ☐

১। অংশগ্রহণকারীর স্বাক্ষর ও তারিখ_____

২। উপাত্ত সংগ্রহকারীর স্বাক্ষর ও তারিখ_____

৩। সাক্ষীর স্বাক্ষর ও তারিখ_____

Title: Level of physical activity among school children at two selected schools.

<u>Questionnaire</u>

Part 1: Socio-demographic information

1.1   Identification number: ……

1.2   Age: ………

 1.3   Sex:

       A. Boy.
       B. Girl.

1.4   Class: ………

1.5   Name of school: …………………

1.6   Height: ………….

1.7   Weight: …………

Part 2:

2.1. Do you have any knowledge about physical activity?

    1. Yes.

    2. No.

2.2. Do you consider yourself as physically active?

    1. Yes.

    2. No.

2.3. Do you have any playground in your school?

    1. Yes

    2. No.

2.4. Do you have any barrier to do physical activity? If yes, what is that?

    1. No

    2. Yes……………..

2.5. Everyday which way you go to school or come back from school?

    1. Walking.

    2. By Bicycle.

    3. By Rickshaw.

    4. By Auto.

    5. By Bus.

2.6. During your time of assembly did you do any physical exercise?

    1. Yes.

    2. No.

2.7. Everyday which game you frequently play in your free time, in the school break time, evening at home or field? (Mark one only.)

    1. Kanamachi.

    2. Bouchi.

    3. Gollachut.

    4. Kutkut.

    5. Kabadi.

    6. Hadudu.

    7. Dariabandha.

    8. I don't play those game.

2.8. Everyday which food you take frequently?

    1. Homemade food (Rice, vegetable, meat, fish, egg, bread or other

      homemade food).

    2. Fruits.

    3. Fast food.

    4. Outside shop Food (chocolates, chips or other shop food).

2.9. How you have been spending most of time at home?

    1. Reading Books.

    2. Watching TV.

    3. Playing video games.

    4. Playing indoor games (Ludu, Daba, Carom etc.)

    5. Passing time in mobile by using internet, playing games or other things.

    6. None

2.10. In the night, which time you always go to sleep? (Mark one only).

    1. 9 PM- 10 PM.

    2. 10 PM- 11 PM.

    3. 11PM- 12 PM.

    4. 12 PM- 1 PM or more.

Part 3:

I am trying to find out about your level of physical activity from the last 7 days (in the last week). This includes sports or dance that make you sweat or make your legs feel tired, or games that make you breathe hard, like skipping, running, climbing, and others or which activity you did at least 10 minutes at a time.

3.1 Physical activity in your spare time: Have you done any of the following activities in the past 7 days (last week)? If yes, how many times?

	1	2	3	4	5
Activities	**No**	**1-2 times**	**3-4 times**	**5-6 times**	**7 times or more**
A. Running					
B. Cricket					
C. Football					
D. Bicycling					
E. Basketball					
F. Dance					
G. Badminton					
H. Skipping					
I. Swimming					
J. Tree climbing					
K. Others:					

3.2. In the last 7 days, during going or come back from school by walking how much time may need for going or come back from school? (Mark one only).

1. I don't go or come back from school by walking.
2. 5-10 minutes.
3. 10- 20 minutes.
4. 20-30 minutes.
5. More than 30 minutes.

3.3. Everyday how many times you climb stair for reaching your class room or home?

1. No.
2. 1-2 times.
3. 3-4 times.
4. 5-6 times.
5. 7 times or more.

3.4. In the last 7 days, during your time of assembly how much time you do physical exercise?

1. I don't do any physical exercise during the time of assembly.
2. 5 minutes.
3. 10 minutes.
4. 15 minutes.
5. 20 minutes or more.

3.5. In the last 7 days, during your physical education (PE) classes, how often were you very active (playing hard, running, jumping, throwing)? (Check one only.)

       1. I don't do Physical education classes.

       2. Hardly ever.

       3. Sometimes.

       4. Quite often.

       5. Always.

3.6. In the last 7 days, what did you do most of the free time? (Mark one only.)

       1. Sat down (talking, reading, doing schoolwork).

       2. Stood around or walked around.

       3. Ran or played a little bit.

       4. Ran around and played quite a bit.

       5. Ran and played hard most of the time.

3.7. In the last 7 days, what did you normally do at lunch (besides eating lunch)? (Mark one only.)

       1. Sat down (talking, reading, doing schoolwork).

       2. Stood around or walked around.

       3. Ran or played a little bit.

       4. Ran around and played quite a bit.

       5. Ran and played hard most of the time.

3.8. In the last 7 days, on how many evenings did you do sports, dance, or play games in which you were very active? (Mark one only.)

1. None.

2. 1 time last week.

3. 2 or 3 times last week.

4. 4 or 5 times last week.

5. 6 or 7 times last week.

3.9. On the last weekend, how many times did you do sports, dance, or play games in which you were very active? (Mark one only.)

1. None.

2. 1 time.

3. 2 - 3 times.

4. 4 – 5 times.

5. 6 or more times.

3.10. In the last 7 days, how much time you spend by walking on each day?

1. 10-20 minutes.

2. 20-30 minutes.

3. 30-40 minutes.

4. 40-50 minutes.

5. 1 hour or more.

3.11. In the last 7 days, how much time you spend on sitting at home, school, during reading, leisure time and any work which was done by sitting? (this include sitting at desk, visiting friends house, reading or lying down to watch television)

1. 1 hour or more.

2. 40-50 minutes.

3. 30-40 minutes.

4. 20-30 minutes.

5. 10-20 minutes.

3.12. Which one of the following describes you best for the last 7 days? Read all five statements before deciding on the one answer that describes you.

1. All or most of my free time was spent doing things that involve little Physical effort.

2. I sometimes (1 – 2 times last week) did physical things in my free time (e.g. played sports, went running, Bicycling, dance).

3. I often (3 – 4 times last week) did physical things in my free time.

4. I quite often (5 – 6 times last week) did physical things in my free time.

5. I very often (7 or more times last week) did physical things in my free time.

3.13. Mark how often you did physical activity (like playing sports, games, doing dance, or any other physical activity) for each day last week.

	1	2	3	4	5
Day	None	Little bit	Medium	Often	Very often
Saturday					
Sunday					
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					

3.14. During the time of physical exercise, playing and longtime walking do you have any shortness of breath? (Mark one only)

1. Never.

2. Rarely I feel.

3. Sometimes I feel.

4. Started with shortness of breath than disappear.

5. Extremely shortness of breath.

3.15. Were you sick last week, or did anything prevent you from doing your normal physical activities? (Check one.)

A. Yes

B. No.

If Yes, what prevented you? —————————————————————

<u>প্রশ্নপত্র</u>

বিষয়ের নামঃ নির্বাচিত দুইটি বিদ্যালয়ের ছাত্র-ছাত্রীদের শারীরিক পরিশ্রমের মাত্রা।

<u>অংশ-১ ব্যক্তিগত তথ্য</u>

১.১ কোড নং:...............

১.২ বয়স:..................

১.৩ লিঙ্গ:

　　　　১. ছেলে

　　　　২. মেয়ে

১.৪ ক্লাস:...................

১.৫ স্কুলের নাম:.............

১.৬ উচ্চতা:..................

১.৭ ওজন:...................

<u>অংশ – ২ঃ-</u>

২.১ শারীরিক পরিশ্রমের উপকারিতা সম্পর্কে আপনার কি কোনো ধারনা আছে?

　　১. হ্যাঁ

　　২. না

২.২   আপনি কি নিজেকে শারীরিকভাবে কর্মঠ মনে করেন?

      ১. হ্যাঁ

      ২. না

২.৩   আপনার বিদ্যালয়ে কী খেলাধুলা করার কোন ব্যবস্থা আছে?

      ১. হ্যাঁ

      ২. না

২.৪   আপনার কী শারীরিক পরিশ্রমে কোনো প্রতিবন্ধকতা আছে বলে মনে করেন? থাকলে কি প্রতিবন্ধকতা?

      ১. না

      ২. হ্যাঁ...

২.৫   প্রতিদিন কীভাবে আপনি স্কুলে যান এবং স্কুল থেকে ফিরে আসেন?

      ১. হেঁটে

      ২. সাইকেল দিয়ে

      ৩. রিক্সা দিয়ে

      ৪. অটো দিয়ে

      ৫. বাস দিয়ে

২.৬   প্রতিদিন আপনার স্কুলে এসেম্বলি করার সময় আপনি কি কোনো শারীরিক ব্যায়াম করেন?

১. হ্যাঁ

২. না

২.৭   প্রতিদিন বারবার আপনি কোন খেলাটা অবসর সময়ে, বিকেলে বাড়িতে বা খেলার মাঠে অথবা বিদ্যালয়ে বিরতির সময় খেলে থাকেন?

১.   কাঁনামাছি

২.   বউছি

৩.   গোল্লাছুট

৪.   কুতকুত

৫.   কাবাডি

৬.   হা ডু ডু

৭.   দাড়িয়াবান্ধা

৮.   উপরের কোনো খেলাই আমি খেলি না

২.৮   প্রতিদিন কোন খাদ্যটি আপনি বেশি খেয়ে থাকেন?

১. বাড়ির তৈরি খাবার (ভাত, সবজি, মাংস, মাছ, ডিম, রুটি অথবা অন্যান্য ঘরের তৈরি খাবার)

২. ফল

৩. ফাস্ট ফুড

৪. বাইরের দোকানের খাবার (চকলেট, চিপস্ বা অন্যান্য দোকানের খাবার)

২.৯   আপনি কীভাবে বাড়িতে অধিকাংশ সময় কাটান?

১. বই পড়ে।

২. টেলিভিশন দেখে।

৩. ভিডিও গেমস খেলে।

৪. অভ্যন্তরীণ খেলা খেলে (লুডু, দাবা, ক্যারাম ইত্যাদি)।

৫. মোবাইলে ইন্টারনেট, গেমস, অথবা অন্যান্য কিছু করে।

৬. কোনটিই নয়।

২.১০   রাতে আপনি সবসময় কখন ঘুমাতে যান?

১. রাত ৯টা – ১০টা

২. রাত ১০টা – ১১টা

৩. রাত ১১টা – ১২টা

৪. রাত ১২ – ১টা বা তার বেশি।

অংশ – ৩ঃ-

আমি গত ৭ দিনে আপনার শারীরিক পরিশ্রমের মাত্রা (গত সপ্তাহে) সম্পর্কে জানতে চাচ্ছি, এর মধ্যে রয়েছে খেলা, নাচ যার ফলে আপনি ঘেমে যান বা আপনার পা ক্লান্ত বোধ করে অথবা এমন সব খেলা যার জন্য আপনার শ্বাসকষ্ট হয় যেমন লাফানো, দৌড়ানো, উপরে উঠা এবং অন্যান্য কিছু অথবা যে সব পরিশ্রম আপনি একেবারে ১০ মিনিটের বেশি সময় করেন।

৩.১ আপনার অতিরিক্ত সময়ে শারীরিক কার্যকলাপঃ আপনি গত ৭ দিনে (শেষ সপ্তাহ) নিম্নলিখিত কোনো কার্যক্রম করেছেন? যদি হ্যাঁ হয় তবে কতবার?

ক্রিয়াকলাপ	১ না	২ ১ - ২ বার	৩ ৩ - ৪ বার	৪ ৫ - ৬ বার	৫ ৭ বার বা তার বেশি
ক. দৌড়ানো					
খ. ক্রিকেট					
গ. ফুটবল					
ঘ. সাইকেল চালানো					
ঙ. বাস্কেটবল					
চ. নাচ					
ছ. ব্যাডমিন্টন খেলা					
জ. লাফানো					
ঝ. সাঁতার কাটা					
ঞ. গাছে উঠা					
প. অন্যান্য					

৩.২   গত ৭ দিনে স্কুলে যাওয়ার সময় অথবা স্কুল থেকে আসার সময় আপনি কতক্ষন হেঁটেছেন?

১.   আমি হেঁটে স্কুলে যাই না এবং আমি স্কুল থেকে হেঁটে ফিরে আসি না

২.   ৫ – ১০ মিনিট

৩.   ১০ – ২০ মিনিট

৪.   ২০ – ৩০ মিনিট

৫.   ৩০ মিনিটের বেশি

৩.৩   ঐ দিনগুলোর মধ্যে একদিনে (গত ৭ দিনে) আপনার ক্লাসরুম বা বাড়ি পৌছানোর জন্য কতবার সিঁড়িতে উঠতে হয়?

১.   একবারও না

২.   ১ – ২ বার

৩.   ৩ – ৪ বার

৪.   ৪ – ৫ বার

৫.   ৫ – ৬ বার

৬.   ৭ বার বা তার বেশি

৩.৪   গত ৭ দিনে আপনার স্কুলে এসেম্বলির সময় কতক্ষন আপনি শারীরিক ব্যায়াম করেছেন?

১. আমি এসেম্বলির সময় কোনো শারীরিক ব্যায়াম করি না

২. ৫ মিনিট

৩. ১০ মিনিট

৪. ১৫ মিনিট

৫. ২০ মিনিট বা তার বেশি

৩.৫   গত ৭ দিনে শারীরিক শিক্ষা ক্লাসের সময় আপনি কি খুব বেশি সক্রিয় (খুব বেশি খেলা, দৌড়ানো, লাফানো, নিক্ষেপ) ছিলেন?

১. আমি শারীরিক শিক্ষা ক্লাস করি না

২. খুবই কম

৩. মাঝে মাঝে

৪. প্রায়ই

৫. সবসময়

৩.৬   গত ৭ দিনে আপনি বেশির ভাগ অবসর সময়ে কি করেছিলেন?

১. বসে ছিলাম (কথা বলা, পড়া, স্কুলের বাড়ির কাজ করা)

২. দাঁড়িয়ে থাকা অথবা হাঁটা

৩. দৌড়ানো অথবা সামান্য পরিমানে খেলা

৪. আশে-পাশে দৌড়ানো এবং একটু বেশি খেলা

৫. বেশির ভাগ সময় দৌড়ানো এবং খুব বেশি খেলা

৩.৭ গত ৭ দিনে সাধারণত আপনি দুপুরের খাবারের সময় কী করেন? (দুপুরের খাবার খাওয়ার পর)

১. বসে ছিলাম (কথা বলা, পড়া, স্কুলের বাড়ির কাজ করা)

২. দাঁড়িয়ে থাকা অথবা হাঁটা

৩. দৌড়ানো অথবা সামান্য পরিমানে খেলা

৪. আশে-পাশে দৌড়ানো এবং একটু বেশি খেলা

৫. বেশির ভাগ সময় দৌড়ানো এবং খুব বেশি খেলা

৩.৮ গত ৭ দিনে বিকেলে কতবার আপনি ক্রিয়া, নাচ বা খেলা খেলেছেন যার মাধ্যমে আপনি খুব সক্রিয় ছিলেন?

১. কোনটিই নয়

২. ১ বার

৩. ২ বা ৩ বার

৪. ৪ বা ৫ বার

৫. ৬ অথবা ৭ বার গত সপ্তাহে

৩.৯ গত সপ্তাহে ছুটির দিনে কতবার আপনি ক্রিয়া, নাচ বা খেলা খেললেন যার মাধ্যমে আপনি খুব সক্রিয় ছিলেন?

১. কোনটিই নয়

২. ১ বার

৩. ২ – ৩ বার

৪. ৪ – ৫ বার

৫. ৬ অথবা তার বেশি বার

৩.১০ ঐ দিনগুলোর (গত ৭ দিন) এক দিনে আপনি কতটুকু সময় হেঁটেছেন?

১. ১০ – ২০ মিনিট

২. ২০ – ৩০ মিনিট

৩. ৩০ – ৪০ মিনিট

৪. ৪০ – ৫০ মিনিট

৫. ১ ঘন্টা বা তার বেশি

৩.১১ ঐ দিনগুলোর (গত ৭ দিন) এক দিনে কতটুকু সময় আপনি বাড়ীতে বসে, স্কুলে বসে, পড়ার সময় বসে,

অবসর সময়ে বসে, অথবা কোনো কাজ যা বসে করে কাটিয়েছেন?

১. ১ ঘন্টা বা তার বেশি

২. ৪০ - ৫০ মিনিট

৩. ৩০ - ৪০ মিনিট

৪. ২০ - ৩০ মিনিট

৫. ১০ - ২০ মিনিট

৩.১২ নিচের কোনটি আপনি গত ৭ দিনের জন্য সর্বোৎকৃষ্ট মনে করেন? একটি উত্তর বাছাই করার আগে নিচের ৫টি বিবৃতি পড়ুন।

১. সব সময় অথবা বেশির ভাগ সময় অতিবাহিত হয় সামান্য শারীরিক পরিশ্রম করে।

২. আমি কখনও কখনও (১–২ বার গত সপ্তাহে) আমার অবসর সময়ে শারীরিক পরিশ্রম করি।(যেমন: ক্রিয়া, দৌড়ানো, সাইকেল চালানো, নাচ)

৩. আমি প্রায়ই (৩–৪ বার গত সপ্তাহে) আমার অবসর সময়ে শারীরিক পরিশ্রম করি।

৪. আমি বেশ প্রায়ই (৫–৬ বার গত সপ্তাহে) আমার অবসর সময়ে শারীরিক পরিশ্রম করি।

৫. আমি খুব প্রায়ই (৭ বা তার বেশি বার গত সপ্তাহে) আমার অবসর সময়ে শারীরিক পরিশ্রম করি।

৩.১৩ গত সপ্তাহে প্রতিটি দিন আপনি কতটুকু শারীরিক পরিশ্রম (ক্রীড়া, খেলা, নাচ বা অন্যান্য শারীরিক পরিশ্রম) করেছেন?

	১	২	৩	8	৫
দিন	না	সামান্য পরিমান	মধ্যম	প্রায়ই	অত্যন্ত প্রায়ই
শনিবার					
রবিবার					
সোমবার					
মঙ্গলবার					
বুধবার					
বৃহস্পতিবার					
শুক্রবার					

৩.১৪ শারীরিক পরিশ্রম, খেলা, অনেকক্ষন হাঁটার পর আপনার কি কোন শ্বাসকষ্ট হয়েছে?

১. কখনও না

২. খুব কম মনে হয়

৩. মাঝে মাঝে মনে হয়

৪. শ্বাসকষ্ট শুরু হয়ে পরে চলে যায়

৫. অত্যন্ত শ্বাসকষ্ট হয়

৩.১৫ আপনি কি গত সপ্তাহে অসুস্থ ছিলেন অথবা এমন কিছু যা অপনাকে শারীরিক পরিশ্রম করতে বাঁধা দিয়েছে?

১. হ্যাঁ

২. না

যদি হ্যাঁ হয় তবে কী বাঁধা দিয়েছে?...

আপনার অংশগ্রহনের জন্য ধন্যবাদ

তারিখ ঃ ০৬.০৫.২০১৭

প্রতি

অধ্যক্ষ

এসেড স্কুল

সাভার, ঢাকা।

বিষয় ঃ রিসার্চ প্রজেক্ট এর জন্য আপনার প্রতিষ্ঠান সফর এবং তথ্য ও উপাত্ত সংগ্রহ প্রসঙ্গে।

জনাব,

আপনার সদয় অবগতির জন্য জানাচ্ছি যে, পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্রে-সিআরপি'র শিক্ষা প্রতিষ্ঠান বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই) ঢাকা বিশ্ববিদ্যালয় অনুমোদিত বিএসসি ইন ফিজিওথেরাপি কোর্স পরিচালনা করে আসছে।

উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন ফিজিওথেরাপি কোর্সের ছাত্রী সঞ্চিতা ভৌমিক তার রিসার্চ সংক্রান্ত কাজের তথ্য ও উপাত্ত সংগ্রহের জন্য আগামী ০৭.০৫.২০১৭ থেকে ০৭.০৬.২০১৭ তারিখ পর্যন্ত আপনার প্রতিষ্ঠানে সফর করতে আগ্রহী। তার রিসার্চ শিরোনাম

"Level of physical activity among school children at two selected schools"

তাই তাকে আপনার প্রতিষ্ঠান সফর এবং প্রয়োজনীয় তথ্য ও উপাত্ত প্রদান সহ সার্বিক সহযোগীতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

মোঃ ওবায়দুল হক

সহযোগী অধ্যাপক ও বিভাগীয় প্রধান

ফিজিওথেরাপি বিভাগ

বিএইচপিআই, সিআরপি।

সিআরপি-বিএইচপিআই/০৫/১৭/৬৬   তারিখ ঃ ০৮.০৫.২০১৭

প্রতি

প্রধান শিক্ষক

নারায়নপুর মডেল একাডেমি

নারায়নপুর, বেলাবো, নরসিংদি।

বিষয় ঃ রিসার্চ প্রজেক্ট এর জন্য আপনার প্রতিষ্ঠান সফর এবং তথ্য ও উপাত্ত সংগ্রহ প্রসঙ্গে।

জনাব,

আপনার সদয় অবগতির জন্য জানাচ্ছি যে, পক্ষাঘাতগ্রস্তদের পুনর্বাসন কেন্দ্রে-সিআরপি'র শিক্ষা প্রতিষ্ঠান বাংলাদেশ হেল্থ প্রফেশনস্ ইনস্টিটিউট (বিএইচপিআই) ঢাকা বিশ্ববিদ্যালয় অনুমোদিত বিএসসি ইন ফিজিওথেরাপি কোর্স পরিচালনা করে আসছে।

উক্ত কোর্সের ছাত্রছাত্রীদের কোর্স কারিকুলামের অংশ হিসাবে বিভিন্ন বিষয়ের উপর রিসার্চ ও কোর্সওয়ার্ক করা বাধ্যতামূলক।

বিএইচপিআই'র ৪র্থ বর্ষ বিএসসি ইন ফিজিওথেরাপি কোর্সের ছাত্রী সঞ্চিতা ভৌমিক তার রিসার্চ সংক্রান্ত কাজের তথ্য ও উপাত্ত সংগ্রহের জন্য আগামী ০৯.০৫.২০১৭ থেকে ০৯.০৬.২০১৭ তারিখ পর্যন্ত আপনার প্রতিষ্ঠানে সফর করতে আগ্রহী। তার রিসার্চ শিরোনাম

"Level of physical activity among school children at two selected schools"

তাই তাকে আপনার প্রতিষ্ঠান সফর এবং প্রয়োজনীয় তথ্য ও উপাত্ত প্রদান সহ সার্বিক সহযোগীতা প্রদানের জন্য অনুরোধ করছি।

ধন্যবাদান্তে

মোঃ ওবায়দুল হক

সহযোগী অধ্যাপক ও বিভাগীয় প্রধান

ফিজিওথেরাপি বিভাগ

বিএইচপিআই, সিআরপি।

Ref. CRP-BHPI/IRB/10/17/138

Date: 15.10.2017

To
Shanchita Bhowmik
B.Sc.in Physiotherapy
Session: 2012-2013, Student ID 112120012
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: "Level of physical activity among school children at two selected schools".

Dear Shanchita Bhowmik,

The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application on 14/08/2016 to conduct the above mentioned thesis, with yourself, as the Principal investigator. The Following documents have been reviewed and approved:

Sr. No.	Name of the Documents
1	Thesis Proposal
2	Questionnaire (English and Bengali version)
3	Information sheet & consent form.

Since the study involves a self-administered questionnaire (International Physical Activity Questionnaire) that takes 20 to 30 minutes and have no likelihood of any harm to the participants. The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 09:00 AM on August 17, 2016 at BHPI.

The institutional Ethics committee expects to be informed about the progress of the study, any changes occurring in the course of the study, any revision in the protocol and patient information or informed consent and ask to be provided a copy of the final report. This Ethics committee is working accordance to Nuremberg Code 1947, World Medical Association Declaration of Helsinki, 1964 - 2013 and other applicable regulation.

Best regards,

Muhammad Millat Hossain
Assistant Professor, Dept. of Rehabilitation Science
Member Secretary, Institutional Review Board (IRB)
BHPI, CRP, Savar, Dhaka-1343, Bangladesh