
Analysis of Physical Activity, Calorie Intake and Screen Time of High School Students from Kannur City

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ABSTRACT

In present investigation researcher has studied the current level physical activity, calorie intake and screen time of high school students from Kannur City. Therefore, the objective of this study is to examine the current levels of physical activity (PA), calorie intake and screen time of high school students from Kannur City. Researcher collected data through children's self-reported sheet. In this study researcher used quantitative methods for the data collection. The study included 74 school going students. Self-reported sheets were used as a tool for the data collection, and the students average time spent for PA was calculated and was found 26 min, 26 Sec. Whereas the average calorie intake was 2131 Cal, and the minimum was 1931 Cal. Similarly average screen time was 1 hour 12 minutes and 10 seconds. The result shows that, among high school children's, there is lack of physical activity leads to increased sedentary behavior and screen time was relatively higher than physical activity.

Keywords : Physical Activity, Calorie Intake, Screen Time

Introduction

Back ground of the study

The act of establishing healthy physical practices and activities, healthy screen time and enough calorie intake behaviors among the adolescents is essential for their current health state as well as their future health behaviors which can be later linked to adulthood. Furthermore, most of chronic diseases and health problems are believed to

be in young age of childhood and adolescence (Armitage & Conner, 2001). Physical activity, calorie intake and screen time guidelines are key especially when educating high school students about the appropriate and the recommendable amount of each of these behaviors. Most of the high school students are adolescents. Adolescence is a gradual transitional phase of one's growth and development between adulthood and childhood. WHO defines adolescents as people between the ages of ten and nineteen WHO defines young people as individuals between the age of ten and twenty-four. In various societies, adolescence is further narrowly equated to puberty and the cycle of visible physical changes that marks reproductive maturity. In other societies, the age of adolescence is understood as a broader term that entails social psychological and physical aspects of maturation. In order to fully understand what is needed for physical maturation an analysis of physical exercise, screen time and calorie intake among high school students is key (Hallal et al., 2012).

Physical Activity

Physical activity basically refers to any notable bodily movements that can be produced by one's skeletal muscles and lead to energy expenditure. Physical activity includes four essential components, namely: - Intensity, volume, type and frequency. All of these major components can in a way or another contribute to health matters. However, our analytical analysis of physical activity will focus on volume, the intensity of physical activity and volume. The volume part of physical activity outlines the minimum amount of time high school students should engage in forms of physical activities per day. The standard Canadian Physical Activity procedures and guidelines highlights that each of the physical exercise minutes should be keenly accrued to in bouts (Armitage & Conner, 2001). There are other guidelines from accredited researchers that recommend overall accumulation of physical exercises and activities throughout the day. Frequency analysis will major on the number of times high school students should engage themselves in physical exercises and activities per week. Intensity can be thought as the manner and degree of exertion of physical exercises. Physical activities normally relate to the type of physical activities the high school student should engage themselves into (Hallal et al., 2012).

Calorie Intake

Calories defines the amount of energy contained in the food to be consumed by an individual. Some food has a greater number of calories than others. Caloric intake entails the number of calories one should consume on a day. It is not only confined to a day since individuals can as well determine their overall calorie intake on a defined timeline or weekly basis. The key to losing or adding weight is quite straightforward

and simple. In order for individuals to lose weight, they are typically required to reduce the number of calorie intake to a level relatively below their BMR (Basal Metabolic Rate). In order to increase weight, one is required to increase the number of calorie intake to a level relatively higher than their BMR. In order to meet the micro and macronutrient requirements of high school students, optimal nutrition is key (Hallal et al., 2012). These nutrition requirements are quite different for females and males. To curb the menace of nutrition extremes among high school students, where they consume over and under what is necessary, World Health Organization recommends a healthy diet comprising of vegetables and fruits. The provided recommendations have been promoted to all social age groups with an aim of minimizing any possible developments of cancer, heart diseases and other chronic diseases (Eisenmann, Bartee, & Wang, 2002).

Food and nutrition is a basic human need for healthy life. An essential diet is very much required for proper life growth, development and to remain active. Dietary intake is largely depends on production, distribution and which determine the health and nutritional status of the society. The recommended dietary allowances (RDA) are nutritionally-centered and technical in nature and in addition supplying nutrients, foods provide a host of other components which have a positive impact on health. Dietary guidelines are provide a scientific knowledge on nutrients into specific diet. Therefore these kind of instruction must be followed in order to achieve the result. The main food issues of concerns are insufficient or imbalanced intake of foods and nutrients. The main nutritional problems of India's are low birth weight, malnutrition, energy deficiency in adults and diet related non-communicable diseases. Recent studies shows that lack of nutrition may leads to the chronic diseases in future life. Increased population, demographic changes, fast urbanization and changes in traditional habits will leads to certain unhealthy practices and physical inactivity, resulting in diet related chronic diseases. The dietary guidelines will help the people to understand how to prevent diseases of all age groups such as infants, children and adolescents. In India there are a variety of food preparations and culinary practices but it is a big issue to calculate standard portion sizes common to all regions of India. Nevertheless, attempts are made to give proper portion sizes and exchanges.

Screen Time

In a population-based research, screen time marks one of the most common effective measure of sedentary behaviors which includes time spent playing video games, in computers and watching television visual images. Therefore, sedentary behaviors include those activities where the overall energy expenditure of an individual remains close to the low resting levels including reading, listening to audio music and surfing

the internet via a mobile phone. Many research works focus on screen time since it is quite simple to quantify and measure and also it has been closely linked to negative health outcome to victims such as aggressive behavior, obesity and early sexual behaviors especially among the adolescents. Recently, relevant attention has been shifted towards activity level during screen time commonly referred to as incidental movement. Incidental movements entail movements outside the structured physical activity including relevant short burst of low physical exercises like walking around the house, climbing up and down stairs as well as fidgeting (Tremblay et al., 2012). Screen time is the amount of time spent in front of a screen, such as watching TV, computer, smart phone, playing video games etc. Actually it is a sedentary activity, experts have suggested that excessive screen time is harmful, especially the content is violent but some experts disagree with it. The study of increased screen time in children is fairly new and the researchers have not been able to observe affects and make a solid conclusion on it. There is no denying that an individual's screen time has increased exponentially in the past decade. It is no longer controversial to suggest that humans and their smartphones aren't always a healthy combination, because many research suggesting that looking at screens for hours a day can have some serious health and mental problems.

Key facts

The American Academy Pediatrics (AAP) has changed their previous stance because of current state of research on the use of screen time on children and adolescents. AAP is limiting screen time for children aged between 3 to 5 years is 1 hour per day, whereas 6 and older, be consistent with the amount of time spending for screen and don't allow to interfere with sleep, physical activity and other activities essential to good health.

Method of Research

In this study the researcher intended to determine the current levels of physical activity, calorie intake and screen time of high school students. Therefore descriptive statistics were utilized to condense factors from the study.

The population of the study subject was selected from Chovva high school Kannur City. The study involved 74 students and they were studying in grade seventh, eighth and ninth respectively. The samples were selected using the convenient method.

For the present study Chovva higher secondary school, Kannur was delimited and therefore it is selected by convenient sample technique and the total number of 74 samples was selected by using Random sample method. Because of Random

sampling each individual in the population has an equal chance of being selected. The age samples ranged between 12-14 years. In this study, the researcher has used three different types of data collection tools for the investigation, namely such as self-reported physical activity sheet, self-reported meal report sheet and self-reported screen time report sheet. And it is used for analyze current levels of physical activity, calorie intake and screen time of high school students from Kannur city. To investigate the total time/duration spent for physical activity for the last 7 days, To investigate the total calorie intake of students from Chovva high school for the last 7 days, To investigate the total time/duration spent for different screens for the last 7 days and To find out, if any correlation exists among the variables.

Results:

TABLE 1 : *Descriptive Analysis of Physical Activity, Scree Time & Calory Intake of high School Students(N=74)*

Statistics	Physical Activity Duration (sec)	Screen time Duration (sec.)	Calories
Mean	1586 (26 Min. 26 Sec.)	4330 (72 Min. 10 Sec.)	2131
Median	1337 (22 Min. 17 Sec.)	4243 (70 Min. 43 Sec.)	2142
SD	628	565	111
Min.	1106 (18 Min. 26 Sec)	2614 (43 Min. 34 Sec.)	1931
Max.	4680 (78 Min.)	5871 (97 Min. 51 Sec)	2351
25th Percentiles	1200 (20 Min.)	4018 (66 Min. 58 Sec)	2037
75th Percentile	1729 (28 Min. 49 Sec.)	4607 (76 Min. 47 Sec.)	2217

Description on statistical analysis of physical activity

It has been analyzed in table 1, the average time spent for physical activity by 12 to 14 years students of Chovva high school was 1586 seconds, that means 26 minutes, 26 seconds. It also seen that minimum time spent in physical activity was 1106 seconds, however it indicates, 18 minutes and 26 seconds and maximum time spent was 4680 seconds, i.e, 78 minutes spent for physical activity. Moreover, their 25 percentiles was 1200 seconds, i.e 20 minutes, and 75 percentile was 1729 seconds, i.e. 28 minutes & 49 Seconds. So table 1, also revealed that from the sample, 75% of students performed physical activity per day was only 28 minutes, this interprets that physical activity level of selected sample is very poor. As recommended by WHO, 12-14 years of students must be active minimum of 60 minutes per day in order to

maintain good health.

Description on statistical analysis of Screen Time

From the table 1 shows that, the average time spent on screen by the students of Chovva high school was 4330 seconds, that means 1 hour 12 minutes and 10 seconds. It also seen that minimum time spent on screen was 4018 seconds, i.e., 1 Hour 6 Min. & 58 Sec. whereas maximum time spent on screen was 5871 seconds, which means 1 hour 37 minutes and 51 seconds and at the same time their 25 percentiles was 4018 seconds, which means 1 hour 6 minutes and 58 seconds and 75 percentiles was 4607 seconds, i.e. 1 Hr. 16 minutes & 47 Seconds. From table 1 it tells us about the alarming situation of adolescents boys of Chovva high school, because 75% of boys are constantly using screens daily minimum of 1 Hr. 16 minutes. According to American Pediatrics adolescents should be restricted weekly not more than 1 hour, so this result is an eye opener for entire society.

So it has been interpreted that 12 to 14 years students from Chovva high school spent minimum 43 min. 34 seconds for screen and maximum of 1 hour 37 min. & 51 seconds.

Description on statistical analysis of Calorie Intake

Similarly in table 4.1 shows that, Calorie intake of 12 to 14 years students from Chovva high school was being presented here. There were 74 subjects from high school, the average calorie intake was 2131 cal, Whereas, the median was 2142 cal and the standard deviation was 111 cal, minimum calorie intake of the high school students was 1931 cal. and the maximum was 2351 cal, at the same time their 25 percentiles was 2037 cal, and 75 percentiles was 4607 cal. From the table 4.3 also tell us the importance of diet in our daily life, especially adolescents boys, because this study reveals that the participants were (all most all) met the recommended daily allowance of nutrients according to their age (RDA), irrespective of healthy or unhealthy food. Because if it is unhealthy it will give adverse effect on health, but at the same time if it is healthy food it is quite desirable.

So the above mentioned result was interpreted, 12 to 14 years of students from high school, the minimum calorie intake was 1931 cal and the maximum was 2351 cal.

Discussion

In this research a cause and effect association among PA and screen time cannot be determined. For this reason, interpreting the result that highlighted a significant negative relationship between physical activity and screen time. The current result for school student is reliable with earlier study, in which it was exposed that screen

time was more than compare to PA levels in school children. While the suggestions create in the current examination was slightly stronger, the result is difficult to interpret from a student's perspective only. This finding between PA and screen time of students cannot be dispersed; the additional investigation is necessary to counter the convincing indication described in earlier studies that PA and quite performance are dissimilar and subsequently do not dislocate one another. Result provide provision to the argument that young calorie intake and PA are unconnected and may not be second sides of the similar coin. Restriction of the existing study comprise the cross-sectional investigation. The present study result is an eye opener for entire adolescents. Because the negative correlation between physical activity and screen time was created a quite alarming situation among the adolescents. The present study tell us more about their physical activity duration, screen time duration and calorie intake among the participants and its correlation. The study participants average physical activity time was 26 minutes, which means it is very far away from the required level of physical activity .According to World Health Organization, Up-to 17 years children must do minimum 60 minutes physical activity per day to stay active, but very unfortunately our present study shows that our children were very far behind from the required level. Moreover, the very alarming thing is, they were more addicted for screen devices. Now a days everyone's having minimum one Mobile phone, that is more than enough for our children. The main reason for inactivity was excessive usage of screening devices. So the school authority or state education board must and should take the preventive action to overcome this situation, especially in school children. The authority must and should organize more and more day to day activities, competitions, seminars, nutrition programs in association with expert in the field of physical education, other sports organizations and sports council.

The main asset of this research is the severe valuation of school students PA behavior. On calorie intake, the researcher examined different screen time behaviors as a grouping marker for fitness risk. An earlier study highlighted how exploratory screen viewing seems to be a deceiving marker of calorie intake in School. Thus, current study went outside the occurrence of screen viewing in an attempt to understand this complex behavior.

Conclusion

This investigation suggest that the screen time is increasing among school children and physical activity level is gone down as per recommendations of World Health Organization (WHO). As per recommendations of WHO school children are at health risk with respect to Physical Activity level as well as Screen Time spent by them.

Calory intake was as per recommended dietary allowance (RDA)

This investigation outspreads the debate about the relationship between school students physical activity, calorie intake and screen time. The result of this study suggest that screen time is significantly associated with PA among the high school students. It seems to be quite alarming.

Recommendations :

- School management must try to increase the level of Physical Activity through supervised Physical Education programme.
- Students must be educated and made aware about the hazards of low Physical Activity level and high screen time.
- It is recommended that a research study shall be conducted to analyze the quality and type of food to know the nature of calory intake.

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