Abstract

**Background:** Physical activity plays a very vital role in physical and mental development of children. It also has beneficial effect in prevention of non-communicable diseases in the future and thus reduces risk of premature deaths.

**Objective:** To find out the extent of awareness, attitude and practice of physical activity among high school students of a residential school in Gadag.

**Methodology:** This school-based cross-sectional study was conducted among children in the age group of 14–16 years in Morarji Desai Residential School, Gadag, during January to March 2017. All the students who were present on the day of visit were included in the study. A simple pre-tested predesigned semi-structured questionnaire including a set of 15 questions was provided to the students and data was collected. Data analysis was done by using Microsoft Excel, Open Epi software and SPSS software trial version.

**Results:** Majority (72.5%) of the students had good knowledge score and 75% of the students had poor attitude score. Age was not found to be a determinant for knowledge and attitude towards physical activity among study participants. Females had better knowledge (75%) as compared to males (69.6%). These differences were not found to be statistically significant (p=>0.05). Though knowledge was good among females, they had poor (76.6%) attitude compared to males (55.4%). This was found to be statistically significant (p<0.05). 98.3% students were doing physical activity since it was a residential school. Majority of the students (62.5%) did not do physical activity regularly and 1.7% never did any physical activity.

**Conclusion:** Reports show that the students have knowledge about the beneficial effects of physical activity but when it comes to practice, there is downfall. There should be extra focus on girls and on older children in order to bridge the gaps.

**Keywords:** Knowledge, Attitude, Practice, Physical activity, Students, Residential school

Introduction

Physical activity plays a pivotal role in the overall development of a growing child. Various studies are conducted to know the beneficial effects of physical activity and now it is known that physical activity has an important role in physical as well as mental development and also health attitude and personality of the children. Physical inactivity is a modifiable risk factor for cardiovascular disease and a wide variety of other chronic diseases, including diabetes.
mellitus, cancer (colon and breast), obesity, hypertension, bone and joint diseases (osteoporosis and osteoarthritis), and depression. There appears to be a linear relation between physical activity and health status, such that a further increase in physical activity and fitness will lead to additional improvement in health status. Physical fitness and participation in leisure-time physical activity in adolescence (age 12–18 years) predict leisure-time physical activity in adulthood. The risk for adult inactivity was significantly lower for those who were physically active in adolescence. However, such an important health-protecting behavior is seen to decline during adolescence. Provision of good play ground facilities and involvement in sports improves physical activity among students. Evidence reveals that awareness regarding physical activity among high school students improves performance of physical activity. Hence this study was undertaken to assess the knowledge attitude and practice regarding physical activity among high school students of a residential school.

The aim behind this study was that the data acquired from the study could help in framing a curriculum where equal importance could be given to sports and physical activity on par with academic activities.

Objectives

- To find out the extent of knowledge and attitude towards physical activity among high school students of a rural residential school.
- To find out the extent of practice of physical activity among these students.

Methodology

Study Design

This is an observational, school-based cross-sectional study, which was conducted among children in the age group of 14–16 years in Morarji Desai Residential School, Gadag.

Study Period

The study was done during January to March 2017.

Study Population

Inclusion Criteria

All children in the age group of 14–16 years

Exclusion Criteria

Children with physical disability

Sample Size

According to a study done in Tehran, Iran, the proportion of students’ participation in physical activity was 43%. Sample size was calculated using formula \( P=\frac{4pq}{l^2} \) where \( p=43\% \), \( q=57\% \), \( l=20\% \) of \( p \); so the required sample size was 76 but we included all students of 8th, 9th and 10th standards in the school on the day of visit. So sample size of this study was 120 students.

Method of Data Collection

Once the inclusion criterion was fulfilled, individual students were approached; the study and the aim of the study were explained to the students. Consent was taken from the necessary authority. A simple questionnaire including a set of 15 questions was provided to the students. Necessary help was provided to students in case they had any difficulties related to the questions. The questionnaire included 15 questions (five questions from each field, i.e., knowledge, attitude, and practice).

The data collected was tabulated in Microsoft Excel 2010 and analyzed by using Open Epi software and trial version of SPSS software. Descriptive statistics (mean, standard deviation, and percentages) wherever necessary were employed. Associations were studied using Chi-square test.

Results

Mean age is 14.9±0.85 years. Majority (39.2%) were in the age group of 14 years with minimal participation by 13-years age group (0.8%). Female students were more (53.3%) as compared to male students (46.7%). Most (39.2%) of the participants belonged to 8th standard (fig 1, fig 2 and fig 3).
Table 1. Knowledge of Students regarding Physical Activity

| S. No. | Parameter                                                      | N=120(%) |
|--------|---------------------------------------------------------------|----------|
|        | Physical activity is beneficial to health                     | 120(100.0) |
|        | Physical activity has positive effects on studies             | 92(76.7)  |
|        | Physical activity requirement in specific grades at your school | 87(72.5)  |
|        | Sedentary life style contributes to diseases                   | 118(98.3) |
|        | Belief about enough physical activeness of oneself             | 55(45.8)  |
Table 2 shows that majority (95%) of the students agreed to educate about physical activity among their classmates. Most (45.8%) of them felt that physical activity is enjoyable, 43.3% felt that it is not a waste of time and 5% of the students felt that it is always a waste of time. Majority (61.7%) of them wished to become sportsmen. Most (40%) of them felt that watching TV is more beneficial in weekend days.

| S. No. | Parameter | N=120(%) |
|--------|-----------|----------|
|        | Agreed to educate about physical activity among classmates | 114(95.0) |
|        | Felt physical activity is always enjoyable | 55(45.8) |
|        | Felt physical activity is always a waste of time | 6(5) |
|        | Wished to become a sportsman | 74(61.7) |
|        | Playing is more beneficial in weekend days | 23(19.2) |

Table 3 shows that 98.3% of the students were doing physical activity since it was a residential school. Most of the students (55.8%) did physical activity for less than 30 min and 1.7% students did not do any kind of physical activity. Most of them (51.7%) were doing aerobic physical activity. During leisure time, most of them (43.3%) did not do any activity and 40% of the students did running and little bit of playing. 56.7% of the students participated in inter-school sports competitions and 43.4% of them did not participate – that means almost half the students did not participate in sports competitions.

| S. No. | Parameter (N =120) | Practices of physical activity Number (Percent) |
|--------|-------------------|-----------------------------------------------|
|        | Duration of physical activity | Nil, <30 min, 30 min–1 hr, >1 hr |
|        | 2(1.7%) | 73(55.8%) | 30(25%) | 15(12.5%) |
|        | Type of physical activity | NIL, Aerobic, Anaerobic, Both |
|        | 2(1.7%) | 62(51.7%) | 5(4.2%) | 51(42.5%) |
|        | Physical activity during PE classes in a week | Nil, Hardly ever, Sometimes, All days |
|        | 2(1.7%) | 22(18.3%) | 75(62.5%) | 21(17.5%) |
|        | Physical activity during leisure time in a week | Sitting, Played indoor games only, Played Both indoor and outdoor games, Played only outdoor games |
|        | 52(43.3%) | 14(11.7%) | 48(40%) | 6(5%) |
|        | Participation in the intra-school competitions | Yes, No |
|        | 68(56.7%) | 52(43.3%) |

Table 4 shows that 87 (72.5%) of the students had good knowledge score. As age increased, knowledge regarding physical activity decreased (p=>0.05). Females had better knowledge (75%) as compared to males (69.6%). These differences were not found to be statistically significant.

| Characteristic | Knowledge Score | Attitude Score |
|---------------|-----------------|----------------|
| Age group     | Statistical test | Statistical test |
| 13 years (n=1) | Chi-square value=0.9744, p value =0.613, df=2 | Chi-square value=16.99, p value =0.0002, df=2 |
| 14 years (n=47) | 0(0%) | 1(100%) |
| 15 years (n=35) | 11(23.4%) | 36(76.6%) |
| 16 years (n=37) | 10(28.6%) | 25(71.4%) |
| Gender        | Statistical test | Statistical test |
| Male (n=56)   | Chi-square value=0.4299, p value =0.51, df = 1 | Chi-square value=6.044, p value =0.014, df = 1 |
| Female (n=64) | 17(30.4%) | 39(69.6%) |
|               | 16(25%) | 48(75%) |

Table 4 also shows that majority (75%) of the students had poor attitude score. Attitude regarding physical activity was good among 13-year-old participants, followed by 16-year and 14-year and least among 15-year-old. This was found statistically significant (P=<0.05). Though knowledge was good among females, they had poor (76.6%)
attitude compared to males (55.4%). This was found to be statistically significant (P=<0.05).

Discussion

In the present study, majority of the participants opined that physical activity is beneficial to health and improves studies. Less than half felt they are physically active and so majority felt that physical activity is required for them. Almost all felt that sedentary life will lead to diseases. This shows that overall knowledge about physical activity is good among the students. A study done in Iran reveals that majority (96%) of the students felt that physical activity makes them healthier and 32% felt the need for physical activity.\(^6\) In a study done in Saudi Arabia also students had good knowledge about physical activity and its role in protection of diseases in general but knowledge regarding protection against specific diseases like diabetes and hypertension dropped to 36% and 28% respectively.\(^6\) These differences may be due to differences in the sample.

In the present study, majority agreed to educate about physical activity to their peers. Less than 50% students enjoyed physical activity which is in contrast to the findings of a study done in Iran where 91.5% enjoyed physical activity.\(^6\) More than one-thirds preferred watching TV rather than outdoor games. On the whole it shows that less than half of the students had positive attitude towards physical activity. In contrast, in a study done in Tehran, Iran, 92% of students showed positive attitude towards physical activity.\(^6\) This difference may be due to different age group and education status.

In the present study, majority were doing physical activity as it was a residential school and it was compulsory but still less than 2% did not do it. Nearly two-thirds of students’ physical activity duration was not adequate and also regularity was not found. More than one-thirds of students were not found to be active during leisure time and did not participate in sports. This shows that active participation in physical activity was not found in more than one-thirds of the students. Similarly, in a study done in Tehran, Iran, performance of physical activity was poor (57%).\(^6\) In a study done in Iran, all (100%) were found to practice walking but participation in other types of physical activity was less than 25%.\(^9\)

As age increased, knowledge regarding physical activity decreased. Females had better knowledge (75%) as compared to males (69.6%). These differences were not found to be statistically significant. In contrast, in a study done in Tehran, Iran, study participants had moderate (35%) to higher knowledge (65%) and none had poor knowledge. Female participants had higher knowledge compared to males which was similar to the present study findings.\(^6\)

Attitude regarding physical activity was good among 13-year-old participants followed by 16-year and 14-year and least among the 15-year-old. This was found to be statistically significant. Though knowledge was good among females, they had more negative (76%) attitude compared to males (55.4%). This was found to be statistically significant. In a study done in Tehran, Iran, majority of the study participants had highly good attitude (95%), 3% had moderately good attitude and 2% had poor attitude towards physical activity. Similar to our study findings, male participants had more positive attitude compared to females.\(^6\)

Conclusion

Reports show that the students have good knowledge about the beneficial effects of physical activity but when it comes to practice there is downfall. Reasons behind this may be their busy schedule or laziness or more preference to indoor games or gadgets.

When it comes to gender, there is a wide gap between boys and girls in knowledge and attitude. The gap is reduced in case of practice which may be due to encouragement and opportunities for physical activities provided now-a-days for girls also.

Recommendations

In spite of only providing the knowledge about the benefits of physical activities, students should also be encouraged for doing physical activities and they should be monitored regularly for it. There should be extra focus on girls in order to bridge the gaps.

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Conflict of Interest: None

References

1. Grissom JB. Physical fitness and academic achievement. Journal of Exercise Physiology 2005; 8(1):11-25.
2. Warburton DE, Nicol CW, Bredin SS. Health benefits of physical activity: The evidence. CMAJ 2006; 174(6): 801-09.
3. Huotari P, Nuponnen H, Mikkelsson L et al. Adolescent physical fitness and activity as predictors of adulthood activity. J Sports Sci. 2011; 29(11):1135-41.
4. Nielsen G, Bugge A, Hermansen B et al. School playground facilities as a determinant of children’s daily activity: A cross sectional study of Danish primary school children. J Phys Act Health 2012; 9(1): 104-14.
5. Xu F, Wang X, Xiang D et al. Awareness of knowledge and practice regarding physical activity: A population-based prospective, observational study among students
in Nanjing, China. *PLoS ONE* 2017; 12(6): 1-10.

6. Ramezankhani A, Motalebi M, Tavassoli E et al. The study of knowledge, attitude and practice towards physical activity and its related factors of college students living on campus in Shahid Beheshti University of Medical Science. *Journal of Paramedical Sciences (JPS)* 2013; 4(3): 62-65.

7. Kowalski K, Crocker P, Donen R. The physical activity questionnaire for older children (PAQ-C) and adolescents (PAQ-A) manual. College of Kinesiology, University of Saskatchewan. 2004. URL: http://blogs.elon.edu/ptkids/2015/03/14/physical-activity-questionnaire-for-older-children-paq-c-and-adolescents-paq-a/ [Last accessed on 1.3.2017].

8. Hoseinzadeh K, Heidari MA, Karbord A et al. Knowledge, attitude and practice regarding physical activity in nursing and midwifery students. *Biotech Health Sci.* In press July 2016: 1-5.

9. Taha AZ. Self-reported knowledge and pattern of physical activity among male school students and their teachers in Al Khobar, Saudi Arabia. *Journal of Family & Community Medicine* 2005; 12(1): 19-25.

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