

RESEARCH ARTICLE



Healthy living aspect in urban and rural school children through physical education learning

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Abstract

Objectives: The study evaluates and compares the level of understanding of Healthy Living Aspect among the school-children residing in urban and rural areas, as an outcome of secondary-level physical education. **Methods:** For the study, 400 children (200 from rural areas and 200 from urban areas) studying in standard IX & X were selected to participate in the study. The standardized questionnaire of healthy living was used as a tool for the study. The quantitative data collected from the questionnaire were then analyzed and interpreted using the inferential t-test with a significance of $p < 0.05$ standard deviation and mean, in accordance with the accomplishment analysis. **Findings:** The results of the study revealed that the urban children had a significantly better understanding of Healthy living than Rural with a performance of 17.51 ± 2.17 and 15.97 ± 2.28 respectively ($t = 6.89$, $p < 0.05$). Further details of the test revealed that in Personal Health ($t = 6.27$, $p < 0.05$), rural children had a significantly better performance with mean scores (6.66) as compared to urban children with mean scores (5.86), In Environmental Health ($t = 13.35$, $p < 0.05$) and in Family Health ($t = 5.98$, $p < 0.05$), urban students had significantly better performance with mean scores (5.93) & (5.72) respectively, as compared to rural children with mean scores (4.31) and (5.00) in Environmental Health and Family Health. In conclusion, it is evident from the results that place of residence had an impact on the understanding of Healthy living Aspect of Physical Education Subject. Also, the way of life, activity levels, food habits, and the facilities available, the day to day experiences and responsibilities to carry out play a significant role in the differences among children from different settings. **Novelty:** This questionnaire will help the physical educators to assess the students' understanding regarding the healthy living aspect and plan their strategy or teaching pedagogy regarding health education through physical education.

Keywords: Children; healthy living; lifestyle; rural; urban

1 Introduction

Lifestyle, Genetics, and Environment are the primary factors affecting the health of an individual. Lifestyle can be stated as the biggest contributing factor. It can be controlled, managed, sustained, and changed by an individual himself/herself. It is crucial to inculcate healthy lifestyle habits from a young age which dictates balance between proper diet and physical activity.

Lack of physical activity coupled with insufficient and inappropriate nutrition and genetic predisposition leading to gain weight often results in unhealthy development of a child, such as obesity, excess weight gain, and related complications^(1,2).

World Health Organization (WHO) signifies Healthy Lifestyle as “a way of living that lowers the risk of being seriously ill or dying early. It is about physical, mental, and social well-being.”⁽³⁾ “Healthy Lifestyle” directly relates to physical activity, nutrition, fitness, cardiovascular condition, emotional health, well-being, and relationships pertaining to an individual.

A healthy lifestyle is essential for the healthy mental and physical growth of a child. A healthy mind and body help children to more likely grow into productive members of society as they engage in multiple physical and mental activities and explore, interact, and learn from their surroundings.

Consuming a balanced diet ensures a child gets adequate daily energy requirement for activities and grow into healthy individuals. Social, economic, and environmental factors largely determine the health of children⁽³⁾. Often in an urban environment, children are exposed to high-energy intake such as processed food, energy drinks while the physical activities in proportion to the intake are not sufficient to exhaust the values or calories or are mostly low-energy expenditure. Poor food quality, unhealthy social eating behavior such as watching TV while eating, swallowing food, not chewing food, consuming junk food & beverage leads to excessive weight gain which often leads to obesity in young children^(1,4).

Thus, it can be stated that adopting an active lifestyle with a nutritionally balanced diet determines the wellbeing of a child and ensures his/her growth into a healthy and active individual.

1.1 Physical education and healthy living

According to national recommendations, a physical education program should enhance the physical, mental, and social/emotional development of every child and incorporate fitness education and assessment to help children understand, improve and/or maintain their physical well-being. Complete and comprehensive education courseware includes Physical Education as part of the curriculum. Physical Education subject taught in every school across the world, aims to groom and enhance physical activity and fitness among the students. It targets to inculcate healthy habits and values i.e. lifestyle or way of living in a child to lead a life, which directly affects and relates to healthy physical and mental development. The Healthy Lifestyle aspect is an important segment taught to a student in physical education. Physical Education course is a means to provide knowledge to children about the importance of an active and healthy lifestyle. All children may not turn athletes but the awareness and involvement in the activities during class surely helps in enhancing the current health of a child. Adoption of these activities for a longer-term result in healthy overall physical and mental health. It develops and enhances the body's immunity, strength, and natural ability to fight diseases and prevent various conditions.

Physical Education subject extends to teaching about the fundamental concepts of health and health-related fitness⁽⁵⁾. In today's sedentary lifestyle, the knowledge of health and its relation to physical activity is inevitable.

WHO states that the lack of adequate physical activity on a daily basis and lack of knowledge related to their healthy lifestyle has resulted in a rise in the number of children with health issues. It states various factors responsible for affecting the knowledge and understanding of healthy living among the children:

1. Electronic device dependency: Children tend to spend hours on electronic devices such as television, computer, and smartphones. Online gaming, surfing, and other entertainment approaches consume most of their time. E-literacy, exploration, and discovery in online mode have affected physical activity.
2. Excessive love and over-care, children are discouraged to help adults leading to an inactive lifestyle.
3. Use of school buses, personal vehicles to travel to school is preferred to walking over to the school.
4. Lack of proper physical education courseware: Some schools tend to give more importance to academics and related activities due to social and/or economic reasons.
5. Inadequate/Limited infrastructure for physical activity: With the increasing population, there has been an increase in infrastructure to support the growing society. But with limited availability of land, there are inadequate or limited parks and playgrounds for children to engage in physical activities.

These are some alarming facts that should be taken care of as they may tend to result in some chronic degenerative diseases and lead to an increase in mortality risks. Studies have found that the level of fitness of adults and children are directly related to

and influenced by their environment. Thus, people residing a few kilometers away in the same geographical area with different environments may have different lifestyles. Therefore, people residing in urban and rural areas may have different fitness levels as well as the knowledge of a healthy lifestyle. Although, people in the urban areas, exposed to a leisure way of living and easy access to life’s necessities are less engaged in physical activity. But, the presence of better equipment and public spaces such as squares, courts, pedestrian boulevards, and bike paths provide a means of achieving high levels of physical activity.

Studies on the fitness level of adolescents living in rural areas and having a sedentary lifestyle are scarce. Having different environment variables and lifestyles from an urban area, a thorough study needs to be done for a better understanding of fitness level. This would help in developing a better program to promote fitness and reduce health problems in adulthood. It will also help in identifying the role of physical education which helps the students in understanding the Healthy Living Aspect. Healthy living or lifestyle can be determined as a significant factor directly affecting the evolution, growth, and development of a child.

1.2 Objective

To analyze the level of understanding of Healthy Living Aspect in school children living in urban and rural areas through physical education at the secondary level.

2 Methodology

This is a descriptive study with a quantitative design involving a cross-sectional school-based survey. The study sample comprised of 400 students (boys and girls) studying in class IX and X from 6 schools in Gautam Buddha Nagar and nearby rural area i.e. Urban - Noida city (three schools with 200 students), and Rural - Bisahada, Baoli, Baraut (one school from each region with a total of 200 students). Total schools in Gautam Buddha Nagar is 89 as per the PINCODE website. Total government schools in Gautam Buddha Nagar Rural was 15 as per the information available at the Department of Secondary education. 6 schools were randomly selected for the survey from Urban - Noida (3), Rural - Bisahada, Baoli, Baraut (1 each) from the list of 89 schools. Improperly filled-out questionnaires were excluded from the study. Two-stage cluster sampling was used in the study. Students’ classification of urban and rural was based on the geographical location of the schools.

2.1 Tool used for the study

The standardized questionnaire of healthy living was used as a tool for the above study.

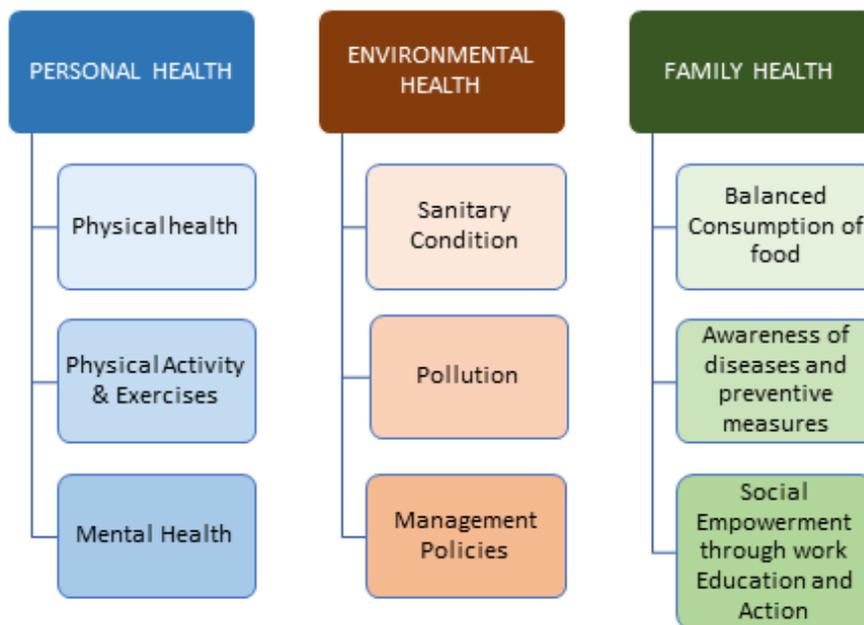


Fig 1. Selection of variables & sub-variables

The questionnaire consists of 50 questions consisting of one mark each from all the 9 sub-variables to determine the knowledge of Healthy living among the students of the urban and rural regions. The sub-variables associated with Personal health were Physical health, Physical activity & exercises and Mental health, sub-variables associated with Environmental Health were Sanitary condition, Pollution and Management policies and sub-variables associated Family health were Balanced consumption of food, Awareness of diseases & its preventive measures and Social Empowerment through Work Education and Action (SEWA).

The validity and reliability of the instrument used for the survey were done with the pilot study on 600 students and 60 students respectively from various regions of the country. The validity of the questionnaire was proved (Cronbach’s alpha = .955). Exploratory Factor Analysis proposed a set of statements consistent with the initial approach and a Confirmatory Factor Analysis showed an acceptable relationship among the variables and the statements. The fit indices showed that the statements fit adequately to the questionnaire and the Pearson’s correlation test for reliability of the tool verified that there were positive significant correlations among the proposed variables with a value of .987

2.2 Data analysis

The variables associated with the healthy living were Personal Health, Environmental Health, and Family Health determined by calculation of weighted mean of answers given to the questions categorized under three sub-variables of each variable and they were Physical health, Physical activity & exercises, Mental health, Sanitary condition, Pollution, Management policies, Balanced consumption of food, Awareness of diseases & their preventive measures and Social Empowerment through work education and Action (SEWA).

The sub-variables Physical health, Physical activity & exercises, Mental health, Sanitary condition, Pollution, Balanced consumption of food, Awareness of diseases determined by calculation of weighted mean of answers given to three questions from each category and Management policies and SEWA was investigated by calculation of weighted mean of answers given to two questions from each category.

Data were tabulated using SPSS software (16.0) version and t-test was used to analyze the data and to investigate the difference between the knowledge of Healthy living of school children living in Urban or Rural regions. In this study, descriptive and inferential statistics were used to analyze data. Means and standard deviations described knowledge of subjects. The value of t-test was tested for (N1+N2-2) df at .05 level of significance. Student’s t-test for difference of mean was used to test whether a significant difference existed between the mean of rural and urban students in each of the components or sub-variables. The statistically treated scores were not compared to any established norms.

3 Results & Discussion

Table 1. Comparison of healthy living scores obtained by urban and rural students

	Type	N	Mean	Std. Devia- tion	Std. Error Mean	Mean Diff.	SED	t value	p value
Total (Healthy Living)	Urban	200	17.51	2.17	0.153				
	Rural	200	15.97	2.28	0.161	1.54	0.223	6.89	0
Personal_Health	Urban	200	5.85	1.32	0.093				
	Rural	200	6.66	1.24	0.088	-0.8	0.128	-6.27	0
Environ_Health	Urban	200	5.93	1.13	0.079				
	Rural	200	4.31	1.29	0.091	1.62	0.121	13.35	0
Family_Health	Urban	200	5.72	1.18	0.083				
	Rural	200	5	1.22	0.086	0.72	0.12	5.98	0

From Table 1 it is evident that the Mean and S.D. of total scores obtained in Healthy Living by Urban and Rural students are 17.51 ± 2.17 and 15.97 ± 2.28 respectively. The statistical analysis indicates that the t- value is 6.89 which is significant at 0.05 level of significance with 398 degrees of freedom ($p \text{ value} \leq 0.05$). It shows that the Mean scores of Healthy Living of Urban and Rural students differ significantly and scores in Healthy Living of urban students (17.51) are significantly higher than the rural students (15.97).

The results also revealed that in Personal Health ($t = 6.27, p < 0.05$), rural children were found to have significantly bettered performance with mean scores (6.66) as compared to urban children with mean scores (5.86). Further, it also shows that

in Environmental Health ($t = 13.35, p < 0.05$) and in Family Health ($t = 5.98, p < 0.05$), urban students were found to have significantly better performance with mean scores (5.93) in Environmental Health and 5.72 in Family Health as compared to urban children with mean scores (4.31) in Environmental Health and 5.00 in Family Health.

Table 2. Comparison of sub variable wise scores obtained by urban and rural students

	Type	N	Mean	Std. Deviation	Std. Error Mean	Mean Diff.	SED	t value	p value
Physical_Health	Urban	200	1.45	0.86	0.06	-0.93	0.08	-12.06	0
	Rural	200	2.38	0.669	0.047				
Physical_Activities	Urban	200	2.56	0.589	0.041	0.94	0.07	12.58	0
	Rural	200	1.62	0.876	0.061				
Mental_Health	Urban	200	1.84	0.841	0.059	-0.815	0.07	-11.43	0
	Rural	200	2.65	0.554	0.039				
Sanitary	Urban	200	2.45	0.599	0.042	1.48	0.07	20.75	0
	Rural	200	0.975	0.81	0.057				
Pollution	Urban	200	2.45	0.648	0.045	-0.495	0.07	-7.1	0
	Rural	200	1.96	0.742	0.052				
Mgmt_Policies	Urban	200	1.52	0.609	0.043	0.64	0.07	9.7	0
	Rural	200	0.88	0.705	0.049				
Balanced_Consump	Urban	200	2.01	0.766	0.054	-0.63	0.07	-9.4	0
	Rural	200	2.64	0.557	0.039				
Awareness Of Diseases And Safety Measures	Urban	200	2.13	0.812	0.057	0.615	0.08	7.31	0
	Rural	200	1.52	0.867	0.061				
Sewa	Urban	200	1.57	0.58	0.041	0.735	0.64	11.57	0
	Rural	200	0.835	0.685	0.048				

Table 2 depicts the sub variable wise result by urban and rural students. The results revealed that out of nine sub-variables, Urban students performed significantly better in five sub-variables i.e. Physical Activities ($t = 20.75, p < 0.05$) with mean score of 2.56 (urban) and 1.62 (rural), Sanitary Conditions ($t = 20.75, p < 0.05$) with mean score of 2.45 (urban) and 0.97 (rural), Management Policies ($t = 9.70, p < 0.05$) with mean score of 1.52 (urban) and 0.88 (rural), Awareness of diseases & its preventive measures ($t = 7.31, p < 0.05$) with mean score of 2.13 (urban) and 1.52 (rural) and Social Empowerment through work education and Action (SEWA) ($t = 11.57, p < 0.05$) with a mean score of 1.57 (urban) and 0.83 (rural) as compared to the performance of Rural students.

It also shows that Rural students performed significantly better in other four sub-variables of Healthy Living as compared to the performance of urban students i.e. Physical Health ($t = 12.06, p < 0.05$) with mean score of 1.45 (urban) and 2.38 (rural), Mental Health ($t = 11.43, p < 0.05$) with mean score of 1.84 (urban) and 2.65 (rural), Pollution ($t = 7.10, p < 0.05$) with mean score of 1.96 (urban) and 2.45 (rural) and Balanced Consumption of food ($t = 9.40, p < 0.05$) with mean score of 2.01 (urban) and 2.64 (rural).

Discussion

The study examined the potential differences in the level of understanding of Healthy Living Aspect in school children living in urban and rural settings. The study depicted that urban children performed significantly better in most of the Healthy Living variables as compared to rural children.

According to various comparative studies on the basis of urban and rural dimensions, focusing on student’s Physical fitness level, most of the studies agree that the place of residence has an impact on children’s fitness. It has been found that US, Brazilian, Croatian, Ecuadorian, and Mexican urban children have superior fitness levels compared to those in rural areas⁽⁶⁻¹⁰⁾ whereas reports from Poland and Turkey proposed that rural children were fitter than their urban counterparts^(11,12). In another research study, urban versus rural lifestyle in adolescents: associations between environment, physical activity levels, and sedentary behavior, it was concluded that the different characteristics of urban and rural environments were related to respective residents’ lifestyles⁽¹³⁾. A study in Japan demonstrated that the children from rural areas had better endurance ability

than the children in urban areas from Japan⁽¹⁴⁾ while, in a cross-sectional survey of the growth of urban and rural 'Cape Colored' schoolchildren: Anthropometry and functional tests reported that the children from rural areas in South Africa⁽¹⁵⁾ were found to have significantly lower grip strength than urban children, but no significant differences were reported among rural and urban children in neuromuscular reaction time and pulse rate. In India, the results of the various studies show that rural children were better in anthropometric characteristics and physical fitness than urban children^(16–20).

The present study depicted that the knowledge about healthy living among students in urban areas was better than rural children.

3.1 Personal health

3.1.1 Physical Health

The study showed that rural students had better knowledge about physical health and fitness compared to urban students. More activity-oriented routine, engagement in agricultural work, open spaces and playfields compared to cities, clean air, etc. in the rural areas complimented the children to get engaged in physical activity in daily routine in a pollution-free and organic environment in comparison to urban students. They were also less inclined to digital platforms and social gatherings like parties and treats in comparison to the urban students.

3.1.2 Physical activities

It was interesting to find that the awareness about Physical activities was high among the urban students in comparison to rural. The school played an important role in preparing and providing various facilities and platforms for physical fitness activities to the students in urban areas, wherein rural areas schools did not have much impact on students, neither provided facilities for grooming and awareness about physical fitness.

3.1.3 Mental Health

Mental health is a significant part of a healthy body. The study clearly depicted that rural students were more aware of mental health in comparison to the urban setting. Fewer distractions like mobile phone, virtual world activities consuming time, energy, and deepening social distancing due to excess time spent on digital platforms was absent in the case of rural students.

3.2 Environmental health

3.2.1 Sanitary Condition

Sanitary conditions and awareness at schools help in imbibing healthy habits among students effortlessly. Absence of facilities at home and schools in rural areas such as clean and sufficient toilets or no staff to maintain them properly lead to unhygienic routine or development of students or children. The study showed that urban school students were highly aware of sanitation in comparison to rural students.

3.2.2 Pollution

The study shows that knowledge about pollution was prevalent at a high rate among the students of urban areas. Students in urban areas in India are directly or indirectly facing pollution issues or impacts on a daily basis. Schools are playing an important role in creating awareness among students in urban regions. Students are taught various ways to make the environment clean and healthy for themselves such as knowledge about Climate change, segregation of garbage, noise pollution, plastic waste, and effluent from industries.

3.2.3 Management Policies

Awareness among urban students about management policies to sustain and create a healthy environment and living was high in comparison to rural students. Example: Knowledge about Swatch Bharat Abhiyaan, Clean India Green India.

3.3 Family health

3.3.1 Balanced Consumption

It was identified that knowledge about balanced food and consumption of balanced food was more among the rural students. They had a balanced routine and diet including organic food consumption at a very high rate in comparison to the urban students-mostly consuming junk food.

3.3.2 Awareness about diseases and safety measures

It was found that Urban students had much more awareness in comparison to rural students about diseases and safety measures. They were updated about the common diseases and the preventive measure to be adopted such as standard government telephone numbers for calling an ambulance in India, knowledge about AIDS.

3.3.3 SEWA

Urban students were more aware of SEWA (Social Empowerment through Work & Action). It focuses on donation drives for some social cause, social responsibility, and other social welfare concepts.

4 Conclusion

The study helped in concluding the following: Curriculum implementation is a significant factor affecting the healthy habits among students. Implementation of the curriculum successfully in the schools in the Urban region directly affected the student's attitude. Example: Sanitary condition posters in schools, awareness dramas, and programs helped students learn about healthy habits in detail at schools. Whereas, the absence of such ideas and non-implementation of the proper and updated curriculum in rural schools resulted in poor knowledge of healthy habits among students staying in rural areas. Therefore, the knowledge about healthy living was high among urban students and low among rural children. The analysis helped in driving some significant conclusions: The place of residence has a clear impact on the understanding of Healthy living Aspect of Physical Education Subject. The Urban children performed significantly better as compared to rural children on total performance. The way of life, activity levels, food habits, and the facilities available, the day to day experiences and responsibilities have played a significant role in the differences among children from different settings. It was also found that the social and environmental setting outside school premises also affected the healthy living statistics among children. Urban students having infrastructural facilities like swimming pool in society, extra-curricular activities sessions like karate and yoga classes helped their grooming in respect to healthy habits, wherein the absence of such determinants in the social structure at rural places involved students in other work like helping the family in household work or ganging and talking at kiosks. It was found that Parental background is also an important factor. The awareness level of parents about healthy living affects awareness amongst the child. Parents imbibe directly or indirectly healthy habits in children with their actions or lessons to students. Example: It was found that Social Interaction among parents helped better inculcation of healthy habits in students in the urban region like WhatsApp ground information sharing, social gatherings in the society of parents and children based on awareness chats, discussions about the environment, sanitization, safety, cleanliness, healthy living. The factor was absent in the case of the rural setting.

It can also be concluded that urban children have an overall better knowledge of the Healthy Living aspect as compared to rural children. But, when we compare them according to the variables and the sub-variables, we observe that in some aspects rural children have better knowledge compared to urban students.

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