

A study on morbidity profile among primary school children in the rural field practice area of a medical college in Karnataka

Ragavendra S K¹, Praveen G^{2*}, Shashank K J³

¹Assistant Professor, Department of Community Medicine, Adichunchanagiri Institute of Medical Sciences, B G Nagar, Mandya, Karnataka.

²Associate Professor, Department of Community Medicine, Hassan Institute of Medical Sciences, Hassan, Karnataka, INDIA.

³Assistant Professor, Department of Community Medicine, Chamarajanagara Institute of Medical Sciences, Chamarajanagara, Karnataka.

Email: drgrpraveen@gmail.com

Abstract

Background: Primary school age is a dynamic period of physical growth as well as of mental development of the child. The health status and health problems vary in rural school children because of low socio-economic conditions, low standards of living, poor hygiene and inadequate sanitation. During the school hours the overcrowding in classroom, poor sanitary environment along with inadequate arrangements for drinking water and toilet facility all contribute to lowering of general health standards. **Objectives:** To assess The Morbidity Profile Among Primary School Children in The Rural Field Practice Area of AIMS, B G Nagara. **Materials and methods:** A cross-sectional study was done in rural field practice area of AIMS, B G Nagara, Mandya during the period from 1st December 2017 to 30th November 2018 by using, pre-designed, semi-structured questionnaire. **Results:** 38.4% of school children were having one or the other morbidity. The leading cause of morbidities amongst the school children were dental caries (15.2%), respiratory disease (6.7%), anemia (5.6%), refractive errors (3.7%) and worm infestation (2.5%). **Conclusion:** Health education about personal hygiene, sanitation and nutrition may be made as part of the school curriculum apart from the regular educational activities. Teachers should be trained to identify the symptoms of common diseases in school children and take necessary measures for the same.

Key Word: Morbidity; Children; Dental Caries; Disease, School Age.

*Address for Correspondence:

Dr. Praveen G, Associate Professor, Department of Community Medicine, Hassan Institute of Medical Sciences, Hassan, INDIA.

Email: drgrpraveen@gmail.com

Received Date: 20/03/2019 Revised Date: 26/04/2019 Accepted Date: 04/06/2019

DOI: <https://doi.org/10.26611/10111112>

Access this article online

Quick Response Code:



Website:

www.medpulse.in

Accessed Date:
03 July 2019

INTRODUCTION

Primary school age is a dynamic period of physical growth as well as of mental development of the child¹. Growth and development occurs in this period of life. There is close relation between health status, nutritional status and education. Health of a child is viewed as absence of disease and not as a comprehensive health in

developing countries. Primary school children form 11.2% of total population of India, which is vulnerable than rest of the population for infection and malnutrition. The prevalence of morbidity in primary school children is about 56.1 %.² Out of 1.21 billion population of India, 30.8% are the children aged between 0-14 years. Out of these 5-15 years constitute 18% (census of India, 2011). Children are future citizens and their health is the nation's wealth. Therefore, the health status of children is considered as an index of nation's development. Health problems of school children vary from one place to another. Health surveys in Indian schools indicate that morbidity and mortality rates of children of primary school age are among the highest in the World. The health status and health problems vary in rural school children because of low socio-economic conditions, low standards of living, poor hygiene and inadequate sanitation. During the school hours the overcrowding in classroom, poor sanitary environment along with

How to cite this article: Ragavendra S K, Praveen G, Shashank K J. A study on morbidity profile among primary school children in the rural field practice area of a medical college in Karnataka. *MedPulse International Journal of Community Medicine*. July 2019; 11(1): 07-12. <https://www.medpulse.in/>

inadequate arrangements for drinking water and toilet facility all contribute to lowering of general health standards. School health services are an important aspect of preventive and social medicine. School health programme has been defined as school procedures that contribute to the maintenance and improvement of the health of the pupils and school personnel, which includes the health services, health education, and healthful living. There are concerted efforts to provide care to under five children through various national maternal and child Health programs. There are some programmes for adolescents like 'Sneha' clinic, Kishori Shakti Yojana etc. Keeping all these facts in view, a need was felt to carry out the study of morbidity pattern among primary school children.

MATERIALS AND METHODS

A cross sectional study was carried out in Rural Field practice area of the Adi Chunchanagiri Institute of Medical Sciences B G Nagara, Mandya from December 2017 to November 2018 for a period of one year. All school children enrolled as students from 1st standard to 5th standard in the primary schools for the academic year 2017-18 were included in the study. Among the 13 primary schools, 9 were government [including primary and higher primary] and 4 were private schools. Total of 981 children from all these schools were screened for assessing the morbidity pattern. All students from the 13 primary schools [9 governments and 4 private] studying from 1st to 5th class were included in the study and screened for morbidity.

Inclusion criteria

- All children enrolled in the selected schools from 1st standard to 5th standard.
- Students present on the day of examination.

Exclusion criteria

- Children who are not willing to participate in the study.
- Children who are suffering from major illness or undergone major surgery.
- Children whose houses were locked and could not be checked.

A Pre tested, semi structured questionnaire was used to screen the primary school children for morbidity. Data was collected from each child to cover the following details such as

- Socio-demographic factors:
- History: Child was encouraged to speak freely regarding his health and any abnormality that it faced due to ill health. In case of non-response, child was asked for presence of symptoms from the list of prepared for study.

- Hygiene: Child was assessed based on 11-point scale, and depending up-on the scores different grading was done as Good (>8) Moderate (5-8) and Poor (<5). as per investigators judgement.
- General physical examination:
Anthropometry
Special senses

Hearing was assessed by Rinne's test using Tuning Fork.⁴⁵ Snellen's chart was used to assess the visual acuity.⁴⁶

1. Clinical examination:
2. Systemic examination of respiratory, cardiovascular, gastrointestinal and central nervous and locomotor system was done.
3. Laboratory investigation: Done on suspected anaemic children as per history and examination. Haemoglobin estimation done by Sahli's haemoglobin meter.⁴⁴

The data was entered onto a computerized Excel (Microsoft Excel 2007) spreadsheet. Subsequently it was analyzed using SPSS (Statistical Package for Social Sciences) version 20.0. Descriptive Statistics was used to provide an overview of the socio demographic profile and morbidity pattern of study subjects. Chi-Square Test was employed for qualitative discrete data. In this study the test was used to find statistical significance of association between two variables. The statistical significance level was fixed at $p < 0.05$.

RESULTS

The present study was a cross sectional study to assess the morbidity pattern among primary school children in rural field practice area of Adi chunchanagiri Institute of Medical Sciences, B G Nagara, Mandya. A total of 981 study subjects were participated in the study. Out of 981 children between 6-10 years of age, maximum number of students were aged 7 years (21.8%) followed by 6 years (21.1%) and least was 10 years old (18.0%). out of 981 school children majority 549 (56%) were boys and 432 (44%) were girls. In our study about 2.9% of fathers were illiterate; around 6% and 10% of fathers had completed their education till primary and higher primary school respectively. Majority of fathers (31.1%) had completed their PUC/Diploma education. 3.4% of mothers were illiterate, around 11% and 20% of mothers had educated till primary and higher primary school. Majority of mothers (27.5%) had completed their secondary education. Most of the fathers of school children were Semi-professional workers (34.3%) followed by skilled workers (20.8%) and most of the mothers of school children were housewives (33.2%) followed by semi professional workers (22.7%).

Table 1: Distribution of school children by age and their nutritional status (Based on BMI)

Age (in years)	Underweight (< -2 SD) n (%)	Normal (-2 SD to +1 SD) n (%)	Overweight (+1 SD to +2SD) n (%)	Obese (>2SD) n (%)	Total n (%)
6	61(29.5)	124(59.9)	20(9.7)	2(0.9)	207(21.1)
7	94(43.9)	118(55.1)	2(0.9)	0(0.0)	214(21.8)
8	78(40.0)	117(60.0)	0(0.0)	0(0.0)	195(19.9)
9	57(30.3)	129(68.6)	2(1.1)	0(0.0)	188(19.2)
10	61(34.5)	114(64.4)	1(0.5)	1(0.5)	177(18.0)
Total	351(35.8%)	602(61.3%)	25(2.5%)	3 (0.4)	981(100.0)

In our study, total number of children 61.3% of students were normal (-2 SD to +1 SD), 35.8% were under weight (< -2 SD), 2.5% were overweight (+1SD to 2SD) and 0.4% were obese. Almost 44% of children in 7 years of age were underweight followed by 8 years(40%) and maximum number of children in 6 years were overweight (9.7%).

Table 2: Distribution of school children by sex and nutritional status (Based on BMI)

Sex	Underweight (< -2 SD) n (%)	Normal (-2 SD to +1 SD) n (%)	Overweight (+1 SD to +2SD) n (%)	Obese (>2SD) n (%)	Total n (%)
Male	188 (34.2)	348 (63.3)	11 (2.1)	2 (0.4)	549 (56.0)
Female	163 (37.7)	254 (58.8)	14 (3.3)	1 (0.2)	432 (44.0)

Among all children, female children were more underweight (37.7%) when compared to males (34.2%). Only 2.1% of boys and 3.3% of girls were overweight.

Table 3: Distribution of children according to Age and Personal Hygiene (n=981)

Personal hygiene		Sex		Total	
		F	M	Number	Percent
Hair	Dirty	46	61	107	10.9
	Clean	386	488	874	89.1
Eyes	Discharge	43	56	99	10.1
	Clean	389	493	882	89.9
Nose	Not clean	31	49	80	8.2
	Clean	401	500	901	91.8
External ear	Fully blocked wax	80	103	183	18.7
	Clean	352	446	798	81.3
Tongue	Coated	37	52	89	9.1
	Not coated	395	497	892	90.9
Hands	Dirty	74	101	175	17.8
	Clean	358	448	806	82.2
Nails	Dirty	91	117	208	21.2
	Clean and trimmed	341	432	773	78.8
Clothes	Dirty	86	114	200	20.4
	Clean	346	435	781	79.6
Taking bath	No	354	436	790	80.5
	Daily	78	113	191	19.5
Washing hands with soap and water before food and after toilet use	No	336	446	782	79.7
	Yes	96	103	199	20.3
Use of foot wear	No	70	87	157	16.0
	Yes	362	462	824	84.0

From the above table, it was found that 89.1% of children hair was clean and combed well while 10.9% untidy. 89.1% children eyes were clean, 91.8% and 81.3% of children have clean nose and clean ear respectively. Around 9% had coated tongue. 82.2% of children's hands were clean while 17.8% had dirty hands. 78.8% of children had clean and trimmed nails. Majority of children (80.5%) were not taking bath daily. Maximum of children (79.7%) did not wash their hands before food and after defecation whereas it was practiced by 20.3% children. 79.6% of children were well dressed and 20.4% were wearing dirty clothes. 84% children wore shoes/chappals but remaining had the habit of walking barefoot.

Table 4: Distribution of children according to Age and Personal Hygiene Score

Sex	Status of Personal Hygiene n (%)			Total
	Poor	Moderate	Good	
Boys	24 (4.4)	253 (46.1)	272 (49.5)	549 (100.0)
Girls	19 (4.4)	185 (42.8)	228 (52.8)	432 (100.0)
Total	43 (4.4)	438 (44.6)	500 (51.0)	981 (100.0)

$$\chi^2=1.072, df=2, p=0.585$$

The personal hygiene of children was assessed by eleven-point Scale. Good score is above point 8, while Moderate score was 5-8. And less than 5 score was considered as poor. It was found that 52.8% girls had good personal hygiene compared to boys 49.5%. Both boys and girls had similar poor personal hygiene (4.4%). However, difference was found to be statistically in significant.

Table 5: Distribution of school children according to sex and presence of morbidity

Sex	No Morbidity	Morbidity	Total
Girls	271 (62.7%)	161 (37.3%)	432 (100%)
Boys	333 (60.7%)	216 (39.3%)	549 (100%)
Total	604 (61.6%)	377 (38.4%)	981 (100%)

In the present study, 377(38.4%) children reported one or other morbidity. The prevalence of morbidity was more among boys i.e. 39.3% when compared to girls i.e. 37.3%, which was statistically insignificant. In our study there was no insignificant association between morbidity and sex.

Table 6: Distribution of children by sex and morbidities

Sl no.	Morbidities	Boys (n=549)	Girls (n=452)	Total (n=981)	p Value
1	Dental caries	94(17.1%)	55(12.7%)	149(15.2%)	0.057 ^a
2	Respiratory Diseases	33(6.0%)	33(7.6%)	66(6.7%)	0.312 ^a
3	Anemia	24(4.3%)	31(6.8%)	55(5.6%)	0.058 ^a
4	Refractive errors	26(4.7%)	10(2.3%)	36(3.7%)	0.045 ^a
5	Intestinal helminthiasis	13(2.4%)	12(2.8%)	25(2.5%)	0.682 ^a
6	Vitamin Deficiency Disorders	11(2.0%)	13(3.0%)	24(2.4%)	0.311 ^a
7	Disorders of Ear	14(2.6%)	9(2.1%)	23(2.3%)	0.631 ^a
8	Scabies	14(2.6%)	9(2.1%)	23(2.3%)	0.631 ^a
9	Heart disease	6(1.1%)	7(1.6%)	13(1.3%)	0.473 ^a
10	CNS	3(0.5%)	6(1.4%)	9(0.9%)	0.193 ^b
11	PEM	0(0.0%)	1(0.2%)	1(0.1%)	0.440 ^b

The prevalence of dental caries, refractive errors, disorders of ear and scabies were more among boys compared to girls, whereas diseases like anemia, caries, respiratory diseases were more common among girls than boys which were found statistically insignificant except for refractive error ($p<0.05$) which was found significant.

Table 7: Distribution of children according to age, sex and Hemoglobin levels

Age in Years	Hemoglobin Levels						Total
	7-10		10-12		>12		
	Boys	Girls	Boys	Girls	Boys	Girls	
6	2(13.3)	2(13.3)	4(26.7)	2(13.3)	2(13.3)	3(20)	15(100.0)
7	1(9)	2(18.2)	2(18.2)	3(27.3)	1(9)	2(18.2)	11(100.0)
8	0(0)	0(0)	2(25)	0(0)	2(25)	4(50)	8(100.0)
9	1(12.5)	1(12.5)	1(12.5)	0(0)	2(25)	3(37.5)	8(100.0)
10	1(7.7)	2(15.4)	0(0)	4(30.7)	2(15.4)	4(30.7)	13(100.0)
Total	5(9.0)	7(12.7)	9(16.4)	9(16.4)	9(16.4)	16(29.0)	55 (100.0)

Out of 55 school children, who were found to be pale clinically, only 30 children were found anemic ($<12\text{gm/dl}$) when subjected for hemoglobin estimation by

Sahlis method. (Confirmatory test for anemia) Table shows that 9% of boys and 12.7% girls were having moderate anemia (7-10g/dl), followed by 16.4% of boys

and girls were anemic having hemoglobin in the range of 10-12 g/dl, while 16.4% of boys and 29% girls were normal (> 12 g/dl).

DISCUSSION

A total of 981 children were examined and analyzed in our study. The age group distribution of study subjects in our study was found to be similar to the study done in rural primary school of Wardha by Dongre AR *et al*³ district by showed that, maximum numbers of children were 9 years followed by 10 and 8 years. Study done in Obaidullaganj Block of Raisen District of Madhya Pradesh by Mohan Shinde *et al*⁴ showed that maximum number of children (39.4%) were in the age group 9 to 10 years and minimum (12.6%) were in age group of 5 to 6 years. A cross sectional study done by Neelu Saluja⁵ *et al* found that maximum number of children (23.6%) studied were in the age group of 9 years and minimum (4.3%) in the age group of 5 years. The distribution of gender in our study was found to be similar to the study findings of Palash Das *et al*⁶ in North Kolkata (Boys were 50.6% and girls were 49.4%). In contrast to our study, a study done in rural area of Varanasi by Amit Kaushik *et al*⁷ female children (53%) were more than male children (47%). The BMI was estimated among all the study subjects in our study, the findings of the BMI in our study was found to be similar to the study findings of Ashok *et al*⁸ among primary school children of Mysore city found that the majority of children had normal BMI (63%) and overall prevalence of underweight, overweight and obesity among primary school children of Mysore city was 385 (24.5%), 132 (8.4%), and 65 (4.1%). Underweight prevalence was high among 7 years of age. A study done by Mayyada Abd-el-Jaleel Salman *et al*⁹ done among Primary school children in Basrah city found that maximum children were normal (54.5%), followed by underweight 21.4%, which was similar to our study. Prevalence of underweight was more in age group of 9-10yrs and obesity among 11 years' children. Sunil Pal Singh. C¹⁰ conducted a study among school children in Hyderabad found that the prevalence of underweight was 28.9%, overweight was 9.2% and obesity was 4.4%. The female children were more underweight in our study which is similar to the study findings of Jaiganesh *et al*¹¹ among primary school children in Chennai. Underweight was high among girls (63%) than boys (47%). Girls (6%) were more obese than Boys (5%). In another Study done by Florence Kyallo *et al*¹² showed similar findings regarding the prevalence of obesity (Girls>Boys). The overall distribution of Study subjects based in the personal hygiene was compared with other studies. In Study conducted by Rakesh kakkar *et al*¹³ observed that healthy habits like daily bathing (82.6%), daily teeth

brushing (61.1%), mouth rinsing after meal (53%) and hair clean/combed (80.2%) were higher in girls as compared to boys while trimmed nails were equally (55%) noticed among both the groups. A cross sectional study done by Kaushik¹³ *et al* was done to assess the personal hygiene practices amongst the rural primary school children in Kamrup district, Assam. Out of 400 school children surveyed, 337 (84.25%) reported of washing their hands before eating and 342 (85.5%) of hand washing after defecation with soap and water. Only 34.25% of the children were found to wear footwear. 320 (80%) of the school children practiced daily bath; 82.25% had the habit of brushing their teeth daily while only 47.25% children were found to change their clothes daily. 37% school children had clean and trimmed nails, whereas 70% had clean and combed hair. In our study it was observed that girls had good personal hygiene score when compare to boys. In the Study by Inci Arikian *et al*¹⁴ on Personal Hygiene Status among Primary School Students in a Turkey showed that 27.7% had an inadequate personal hygiene and the frequency of having poor hygiene was higher among male students. Similarly, poor personal hygiene was observed in boys (53.8%) when compared to girls (23.1%) by N Bhandari *et al* in Nepal.¹⁵ A study by Mayavati S. Mhaske *et al*¹⁶ found that higher proportion of female students (93.9%) have better skin hygiene than male students (83.4%) which were similar to our study. In contrast to our study, 40.2% children showed poor hygiene in a study done by Palash Das *et al*.⁶ The overall morbidity in our study nearly 38.4% of them found to be morbidity. In another study done by Vidya rani *et al*¹⁷ (41.52%) was similar to our study findings. In contrast it was more in Neelu Saluja *et al*⁵ study. (67.8%), Mohan shinde *et al* (58.72%).⁴ The findings in our study were found to be lower as compared to a similar study conducted in Ludhiana by Panda *et al*¹⁸ who observed 72.4% children suffering from one or more illnesses. The prevalence of morbidity was more among boys i.e. 39.3% when compared to girls i.e. 37.3%. Similar findings were reported by Neelu Saluja *et al*⁵ (70.0% boys and 65.2% girls) and by Mohan Shinde *et al*⁴ (62.13% were male and 54.83% were female) In a study conducted in south Kolkata by S Deb *et al*,¹⁹ it was found that 76% of the boys and 74% of the girls were suffering from one or more morbidities. According to present study, the morbidity of children was comparable to the findings of studies by, JP Singh *et al*,²⁰ Vidya rani *et al*¹⁷, Bhandari *et al*¹⁵, Mohd. Zulkifl *et al*²¹, Suba Joice *et al*²², Rakesh kakkar *et al*¹³, Palash Das *et al*⁶.

CONCLUSION AND RECOMMENDATIONS

Health education about personal hygiene, sanitation and nutrition may be made as part of the school curriculum

apart from the regular educational activities. Teachers should be trained to identify the symptoms of common diseases in school children and take necessary measures for the same. Educate community on sanitation, water quality and its health linkages. Stress on behaviour change for usage of sanitary toilets. Strengthening of Suvarna Arogya Chaithanya by planning biannual periodical health checkup for the school children to identify morbidity and treat if needed. Periodical Health checkup for children in private schools should be made mandatory.

REFERENCES

1. Nutrition for the school-aged child. NebGuide Series No. G92-1086-A 2002:1.
2. Sudhigouda Patil. Health status of primary school children residing in rural area- A cross-sectional study. [Dissertation]. Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka 2012.
3. Dongre AR, Deshmukh PR, Garg BS. The Impact of School Health Education Programme on Personal Hygiene and Related Morbidities in Tribal School Children of Wardha District. Indian Journal of Community Medicine. April - June, 2006;31(2):81-2.
4. Mohan Shinde, Ankur Joshi, Anshuli Trivedi. Morbidity pattern among school children of rural area of Obaidullaganj block of Raichur District of Madhya Pradesh. International Journal of Advances in Medicine. April-June 2015; 2 (2); 144-46.
5. Neelu Saluja, Garg SK, Harivansh Chopra, Bhajpai SK, Pandey SM. Socio-demographic factors affecting morbidity in primary school children in urban area of Meerut. The Internet Journal of Epidemiology 2012; 9(2).
6. Palash Das, Mausumi Basu, Gautam Dhar, Sarmila Malik, Ranabir Pal. Nutritional status and morbidity pattern of government primary school children in north Kolkata of West Bengal, India. South East Asia Journal of Public Health 2012; 2(1).
7. Amit Kaushik, Richa Raj, Chandra Pati Mishra, Sri Prakash Singh. Nutritional status of Rural Primary School Children and their Socio-Demographic Correlates: A Cross-Sectional Study from Varanasi. Indian Journal of Community Health. 2012; 24(4); 310-18.
8. Ashok NC, Kavitha HS, Praveen Kulkarni. A comparative study of nutritional status between government and private primary school children of Mysore city. International Journal of Health and Allied Sciences. 2014; 3 (3); 164-69.
9. Mayyada Abd-el-Jaleel Salman, Narjis A. H. Ajeel. Prevalence of Overweight and Obesity among Public Primary School Children in Basrah City. Iraqi J. Comm. Med., Apr. 2013; 2; 103-08.
10. Sunil Pal Singh C. malnutrition among Primary School Children in Hyderabad, Andhra Pradesh, India. International Journal of Technical Research and Applications. Jan-Feb. 2014; 2(1); 36-39.
11. Jaiganesh Dhanasekaran Janaki Mayavanathan, Anitha Ram Ponnappan. Prevalence of Underweight among Government Primary School Children of Chennai Academic Medical Journal of India. November. 2013; 1(1).
12. Florence Kyallo, Anselimo Makokha, Alice Mboganie Mwangi. Overweight and obesity among public and private primary school children in Nairobi, Kenya. Scientific Research. 2013; 5 (8A3); 85-90.
13. Rakesh kakkar, Kandpal SD, Pradeep Aggarwal. Health status of children under school health services in Doiwala Block, Dehradun. Indian Journal of Community Health. 2012; 24 (1); 145-8.
14. Inci Arik, Saime Ergen Dibeklioglu, Ozlem Arik, Aynur Gulcan. Personal Hygiene Status among Primary School Students in an Urban Area in the west of Turkey. American Journal of Research Communication. 2014; 2(7); 23-6.
15. Bhandari N, Shrestha GK. Nutritional status and morbidity pattern in school age children in Nepal. Journal of College of Medical Sciences-Nepal. 2012; 8(2); 12-6.
16. Mayavati S. Mhaske, Deepak S. Khismatrao, Fernandez Kevin, Harshal T. Pandve, Ritesh P. Kundap. Morbidity Pattern and Personal Hygiene in Children Among Private Primary School in Urban Area: Are the Trends Changing? Journal of Family Medicine and Primary Care. 2013; 2 (3); 266-9.
17. Vidya Rani, Dhiraj Kumar Srivastava, Pankaj Kumar Jain, Sandeep Kumar, Naresh Pal Singh, Anand Mohan Dixit. Morbidity Pattern Among Primary Schoolchildren in A Rural Area of Uttar Pradesh. National Journal of Community Medicine. 2014; 5 (4); 392-6.
18. Panda P, Benjamin AI, Singh S, Zachariag P. Health Status of School Children in Ludhiana City. Indian journal of Community Medicine 2000; 25:4: 150-55.
19. Soumya Deb, Sinjita Dutt, Aparajita D and Raghunath Misra, Relationship of personal Hygiene with nutrition and morbidity profile: a study among primary school children in south kolkata. Indian j com med. 2010; 35(2); 280-3.
20. JP Singh, Peeyush Kariwal, SB Gupta, AK Singh, Danish Imtiaz. Nutritional status and morbidity among school going children: A scenario from a rural India. Scholars Journal of Applied Medical Sciences. 2014; 2(11); 379-83.
21. Mohd. Zulkifl, Abdul Haseeb Ansari, Manchala Ramesh. Relation between socioeconomic status of parents and health of children. International Journal of Advanced Ayurveda, Yoga, Unani, Siddha and Homeopathy 2012; 1(2); 6-12.
22. Suba Joice, Velavan A, Natesan M, Singh Z, Purty AJ, Hector H. Assessment of Nutritional Status and Morbidity Pattern among School Children of Rural Puducherry. Academic Medical Journal of India. 2013; 1(1).

Source of Support: None Declared
Conflict of Interest: None Declared