Original Research Paper

Community Medicine

MORBIDITY PATTERN OF PRIMARY SCHOOL CHILDREN IN AN URBAN AREA OF TAMILNADU

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ABSTRACT
BACKGROUND: School children form 20 % of total population of India, who is vulnerable than rest of population for infection and malnutrition. School health surveys give excellent chance to screen a huge number of paediatric population with minimum resources.

OBJECTIVE: To find out the morbidity pattern & nutritional status of primary school children in Chidambaram.

MATERIALS & METHODS: This descriptive study was conducted among primary school children in Chidambaram for a period of 1 week. A total of 125 children were screened for their specific health & nutritional problems using a predesigned proforma. Clinical examination was done to confirm the morbidity. Collected data was analysed & interpreted.

RESULTS: Out of 125 children, 121(97%) were found to suffer from one or more morbid condition. A total of 556 morbidities were found in 121 children accounting for 4.59 morbidities per sick child. Under nutrition (62.4%), Dental caries (61.6%), Skin disease (49.6%), Anaemia (40%) Nutritional deficiencies (9.6%) and Refractive error (4.1%) were the common causes of morbidity.

CONCLUSION: The health & nutritional status of the school children were found to be low. Under nutrition was more in female students compared to their male counterparts.

KEYWORDS :

INTRODUCTION:

Health of the child is viewed as absence of disease and not as comprehensive health in developing countries. Children are the country's biggest human investment for development. School children constitute 20% of total population of India which is vulnerable than rest of population for infection and malnutrition. The present position with regard to the health and nutritional status of the children in our country is very unsatisfactory. Mortality in this age bracket is low but morbidity and physical defects constitute heavy burden.

Extensive surveys have been carried out in different parts of the country and the finding shows that sickness, morbidity and mortality rate in India are among the highest in the world(3) Health problems of school children vary from one place to another. The most prevalent health problems are malnutrition, infectious diseases, intestinal parasites and diseases of skin, eye, ear and dental caries. These health problems can make learning difficult and seriously hamper the educational process and child's intellectual growth and may also handicap the child for life.

Research indicates that nutritional deficiencies and poor health in school age children are among the cause of low school enrolment, high absenteeism, earlier dropout and poor classroom performance which can be easily prevented by promotion of nutrition, personal hygiene and early diagnosis and treatment of the disease.[9] School health service is an economical and powerful means of raising community health and more important in future generation. By simply doing periodic medical examination and daily morning inspection of students, we can detect many more problems and treat accordingly.[1]

This study was made to identify the morbidity pattern among school children in this region so as to recommend policy makers to plan accordingly.

OBJECTIVES:

To find out the morbidity pattern & nutritional status of primary school children in Chidambaram, tamilnadu.

MATERIALS &METHODS:

This descriptive study was conducted in a primary school in an urban area, Chidambaram. The division of community medicine conducted a school health checkup camp in this Government schools after seeking permission from school authorities. This health check up was conducted as a part of the III term MBBS teaching curriculum, under the guidance of the teaching staff & postgraduates.

A total 125 children were included in this study. Two primary school were selected randomly among the primary school exciting in Chidambaram by lottery method. All primary school children of the two schools were include in the present study. The tools & equipment used for data collection included predesigned proforma, weighing machine, snellen chart, inch tape and regular clinical examination.

A predesigned proforma was used to collect the information like age, sex, & present health status. All the 125 children were subjected to anthropometric measurements. Weight was measured with subject standing on the weighing scale. Height was measured using an inch-tape with the subject standing against the wall in erect position. Nutritional status was assessed using CDC growth chart (W/A, H/A, BMI) for boys and girls for 2-20 years, The cutoff point values between ± 2 SD were considered normal. General examination was done for all the students. Specific examination of skin, eyes, ears, nose, throat, tooth and respiratory system was done. Collected data was analyzed and interpreted by percentages &proportions.

RESULTS:

Total No of children were 125. Among them 54 (43%) were boys & 71 (57%) were girls. 28% of the children were in the age of 6 years.[Table no1]

Age-sex distribution of the school students
Table 1

AGE	MALE	FEMALE	NUMBER OF STUDENTS	PERCENTAGE
6 Years	16	19	35	28%
7 Years	14	16	30	24%
8 Years	3	13	16	12.8%
9 Years	10	13	23	18.4%
10 Years	11	10	21	16.8%
Total	54	71	125	100

Figure 1 Distribution Of Children According To The Presence Of Morbidity

MORBIDITY

3%
97%
■ PRESENT
■ ABSENT
n = 125
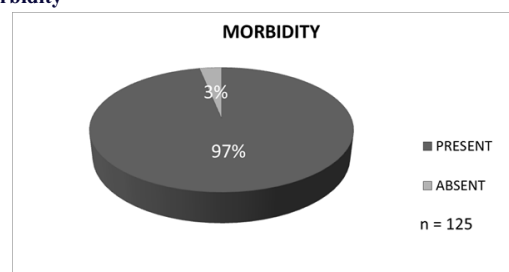
Total number of morbidities = 556
Total number of sick children = 121
Morbidities / sick child = 556/121
=4.595 morbidities per sick child

Out of 125 children 97 % were suffering from one or more morbidity. Number of morbidities per sick child was found to be 4.5[Fig no1]

Table 2 shows the morbidity pattern of the study subjects. It was observed that many children were having more than one ailments & amongst them 61.6 % were affected by dental caries, 49.6 % pediculosis, 40 % anaemia, 32.8 % URT infection, 9.6 % Vitamin B and C deficiency , 4 % Refractive error. The prevalence of anaemia, dental caries,pediculosis was more among girls compared to boys.

Table 2 Morbidity Pattern Of School Children

	MALE	FEMALE	NUMBER OF STUDENTS	PERCENTAGE
EYE				
PALLOR	19	31	50	40%
SQUINT	9	7	16	12.8%
REFRACTIVE ERROR	3	2	5	4%
LIPS & ORAL CAVITY				
ANGULAR STOMATITIS	3	9	12	9.6%
BLEEDING GUMS	3	3	6	4.8%
DENTAL CARIES	32	45	77	61.6%
ENT				
RHINITIS	19	22	41	32.8%
SKIN & HAIR				
PEDICULOSIS	10	52	62	49.6%
OTHERS(Fungal infection, impetigo, rashes, mosquito bite)	14	3	17	13.6%

In this study about 62.4 % were underweight& 42.4 % were stunted. Out of the total underweight children 58.9 % were girls & 41.1 % were boys &out ,of the total stunted children, 56.0 % were girls & 43.4 % were boys.(TABLE NO 3,4)

Table 3 distribution of malnourished children

NUTRITIONAL STATUS	NORMAL	MALNOURISHED	TOTAL
Under weight (weight for age)	47	78 (62.4%)	125
Stunting (height for age)	72	53 (42.4%)	125

Table 4 sex-wise Distribution Of Malnourished Children

NUTRITIONAL STATUS	MALE	FEMALE	TOTAL
Under weight (weight for age)	32	46 (58.9%)	78
Stunting (height for age)	23	30 (56.6%)	53

Table 5 nutritional Status Of Children According To Bmi

BMI	MALE	FEMALE	NUMBER OF CHILDREN	PERCENTAGE
Thinning	30	39	69	55.2%
Normal	24	30	54	43.2%
Over Weight	0	1	1	0.8%
Obese	0	1	1	0.8%
Total	54	71	125	100

Table no 5 reveals the nutritional status of children according to BMI. Out of 125 children, 55.2 % were thinned, 43 % were normal & 1.6 % were overweight & obese.

DISCUSSION:
The present study was undertaken to find out the nutritional status and morbidity pattern of the children.

In the current study out of 125 children, 121 (97%) were suffering from one or more morbidities. Number of morbidities per sick child was 4.5. Similar findings were observed by Karikarti et al[11] and Ananthakrishnan et al.This indicates the children are more vulnerable for various types of morbidity.

Dental caries was present in 61.6% of the children in this study, whereas other investigators reported lower prevalence (27.9% by ananthakrishanan et al[12] and 30.9% Subajoice et al.[14]The variation may be due to different study area.The higher prevalence of dental caries shows that the dental hygiene is very poor among the children belongs to this study area.

According to this study 40% of the children were anaemic, which is in contrast to 79% at National level.[7]This low prevalence compare to National prevalence may be due to smaller sample size of the present study.

In this survey 32.8% of the children had URI infections and this is similar to findings of Mayavathiet al.[6]

62.4 % (32 boys & 48 girls) were underweight this finding is almost in coherence with that of study done by kaushik et al.[10]This high prevalence shows that immediate need of nutritional intervention among children.

Prevalence of stunting in the present study was found to be higher (42.4%) than reported by Koushik et al and Panda et al[10,8] in their studies they found it be 9.2% and 26.28% respectively. Whereas similar finding was reported byS.Neeluet al[9]as 43.8%.

In the present study 4% had refractive errors,whereas a study done in Karnataka by Nigudi et al[5] showed a prevalence of 2.41%.

49.6% of children (83.9 % of girls & 16.1 % of boys) had pediculosis which was more when compared to 28.14% in a study conducted by K.V.Phanimadhavi et al[13.]

CONCLUSION:
The growth and development of the children may be affected by malnutrition and infection like dental caries and pediculosis.The quality of life of the children and quality of education also will be affected. Most of the morbidities are preventable if teachers,parents and medical personal should co ordinate among them to prevent morbidity of the children

Recommendation:
This study identified that dental caries was major health problem for which regular dental examination by dentists should be planned
2. Health of the parents is very useful to avoid dental caries and dermatological problems.
3. Malnutrition should be corrected by proper supplementation of nutrition and should accountable also

Limitations:
1.The sample size was small that may alter pattern of morbidity
2. Various type of morbidities were not confirmed by experts

REFERENCES
1. Park.K. TEXT BOOK OF PREVENTIVE AND SOCIAL MEDICINE 23rd edition.
2. Gupta sanjaykumar, et. al. Health status of school children of coastal areas of rural Tamil Nadu (India). International journal of collaborative research on internal medicine and public health vol.4 No.12 (2012)
3. Amitkoushik, et. al. Morbidity pattern and their socio-demographic co-relates among rural primary school children in eastern Uttar Pradesh: A cross-sectional study Indian journal of community health / vol 26 /issue no 01/ jan-mar 2014
4. JP Singh, et. al. Nutritional status and morbidity among school going children: A Senario from a rural India. Scholars journal of applied medical science (SJAMS) 2014; 2 (10): 379-383.
5. S.R.Nigudgi, et. al. Morbidity pattern among school children of Gulbarga city. Medicainnovaticadec 2012 vol. 1 issue 2
6. Mayarvathi.S.Maska,Deepak.S.,Khismatroa,Fernandezkevi,Harsha T Pandre,Ritesh P Kuntop. Morbidity pattern & personal Hygiene in children among private school in urban area: Are the trends changing. Journal family med primary care 2013 July-Sep;2(3) 266-269
7. National family health care survey 3 (2005 - 2006) India. International institute of population science Mumbai. Available at www.nfsindia.org Accessed 2014 Aug 10th
8. Panda.P.Benjamin,Shavinder,Zachariah P. Health status of school children in Ludhiana city. Indian journal of community medicine 2012, 25 10 – 17
9. S.Neelu ,BM,GSK,CH,BSK. Nutritional status of urban primary school children in meerut The internet journal of epidemiology 2009 vol 8 no 1
10. Kaushik A, Richa, Mishra CP, Singh SP, Nutritional status of rural primary school children and their socio-demographic correlates; A cross sectional study from Varanasi Indian journal of community.Health.Vol 24 No 4 oct 2012 (311 - 318)
11. Karikarti,S. Kati SM and Wantamutte ,As. Morbidity pattern of rural primary school children. A cross sectional study. souveneir30thNational conference of IAPSM;2003:92
12. Ananthakrishnan S, Pani SP, and Nalini P, A comprehensive study of morbidity in school age children. Indian paediatric 2001;38 1009 – 1017
13. K.V.PhaniMadhavi, B Anil kumar, A study on morbidity pattern of school children aged 5 – 15 years in an urban area Guntur. Journal of evolution of medical and dental sciences 2013; vol 12 issue 34 Aug 26 Pg 6566 – 6572
14. Subajoice, Velavan A, Natesan M, Sinh Z. Purty . A, Hector H. Assessment of nutrional status and morbidity pattern among school children of rural Puducherry. Academic medical journal of India 2013 Nov 15;1(1).(Internet)