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MORBIDITY PROFILE AND NUTRITIONAL STATUS OF STREET CHILDREN IN MUMBAI - A CROSS SECTIONAL STUDY.

Community Medicine

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ABSTRACT

Background: Poor living condition on the street causes various morbidities in the street children. Substance abuse adds further morbidities and malnourishment in them. This study peeps into the health problems of the street children that come in their way of struggle for the existence. **Methodology:** 100 street children who attended *Deewali Mela* were examined to find out the presence of morbid conditions. Their nutritional status was calculated according to Gomez's classification after recording height and weight. **Results:** 40% of the street children had infection. 26% were wasted and 93% were stunted. **Conclusions:** Unhygienic living conditions lead to various infections in street children which make them vulnerable to malnutrition.

KEYWORDS:

Nutritional status, morbidity, street children

INTRODUCTION:

Today's children will run the country in the future. Street children are the most vulnerable group of population. [1] There are 150 million street children in the world and in India alone 11 million street children are present. [2] Because of the poverty there are on the street. [3] Malnutrition and infection is a vicious cycle. They are not getting enough food to survive leading to malnutrition which in turn causes various morbidities in them. Substance abuse adds further morbidities in them.

Objectives: i) To find out morbidity pattern among street children.
ii) To assess the nutritional status of the street children.

METHODOLOGY:

This study was conducted in a shelter home in Mumbai. Monthly *Mela* was organized by the shelter home every month. In this Monthly *Mela* health check up was conducted by the doctors from tertiary hospital. Social worker was present during the health check up. Various activities in this monthly *Mela* were hair cutting of boys, trimming of nails, bathing facilities, first aid services, counselling, provision of clothes and free food served to them. Permission of the institutional ethics committee was obtained before conducting the study.

Height and weight of the street children was measured with the help of measuring tape and weighing machine (bathroom scale) respectively. At the time of measuring of height, child removed his shoes or *chappal* and stood erect keeping his heels together and toes apart and looking straight. The card board paper placed on the head with little pressure, in the saggital plane. The reading was taken in centimetre. Average of three readings was recorded. Detailed health check up of the street children was done by the resident doctors of the medical college. Each child was examined; both general and systemic examination was done.

Inclusion Criteria: Street children of the age group 6-18 years both off the street and on the street were included.

Exclusion criteria: Street children less than 6 years

Sample size: Sample size was calculated by using formula: $n=4pq/d^2$ where p=prevalence, q=1-p, d=precision (10%), so the sample size is 100. (Prevalence of morbidities from previous studies is 60%)[12,14]

Study type: Cross sectional study

Study Period: 4 Months (from September 2011 to December 2011)

Statistical analysis: Data entry was done in excel sheet. Data was analyzed by using SPSS software version 20.

RESULTS:

100 street children were included in the study to find out morbidities and nutritional status. The numbers of boys were 57 and girls were 43.

Table No. 1 shows that, 47% of the girls and 28% of the boys were anaemic. Dental carries was present in 13% of the street children. 40 % of the street children were suffering from various types of infections.

Table 1: Morbidity profile of street children (n=100)

Morbidities	No. of boys (%)	No. of girls (%)	Total
Injuries	18 (31.58)	3(6.98)	21
Dental caries	9 (15.79)	4 (9.30)	13
Otorrhoea	1 (1.75)	0	1
Tonsillitis	1 (1.75)	2 (4.65)	3
Refractive error	2 (3.51)	0	2
Scabies	3 (5.26)	1 (2.33)	4
Pyoderma	4 (7.02)	2 (4.65)	6
Fungal	1 (1.75)	0	1
Acne	1 (1.75)	1 (2.33)	2
Vitamin B deficiency	7 (12.28)	6 (13.95)	13
Anaemia	16 (28.07)	20 (46.51)	36
URTI	6 (10.53)	8 (18.60)	14
LRTI	1 (1.75)	0	1
Gastroenteritis	3 (5.26)	2 (4.65)	5
Worm infestation	2 (3.51)	2 (4.65)	4
Abdominal pain	0	1 (2.33)	1
Epilepsy	1 (1.75)	0	1
S.T.I.	1 (1.75)	0	1

88 % of street children had mild to moderate degree of stunting as shown in table No. 2. 7% of the street children had normal height for their age.

Table no 2: Nutritional status of the street children (stunting)

Stunting (Height/age)	No. of Boys (%)	No. of Girls (%)	Total (n=100)
Normal	5 (8.77)	2 (4.65)	7
Mild	27 (47.37)	18 (41.86)	45
Moderate	22 (38.60)	21 (48.84)	43
Severe	3 (5.26)	2 (4.65)	5

26 % of the street children had mild to moderate wasting. 74% of the street children had normal weight for their height as shown in table no. 3.

Table no. 3: Nutritional status of the street children (wasting)

Wasting (Weight/height)	No. of Boys (%)	No. of Girls (%)	Total (n=100)
Normal	41 (71.93)	33 (76.74)	74
Mild	12 (21.05)	8 (18.60)	20
Moderate	4 (7.02)	2 (4.65)	6
Severe	0	0	0

DISCUSSION:

The most common morbid conditions among street children were anaemia (36%), injuries (21%) followed by URTI (14%), Vitamin B deficiency (14%) and dental caries (13%) in this study.

66.3% street children have parasitic infection and 15.1% are suffering from helminth infection was reported in a study conducted by Bailey C et al in Lima.[4] In this study 4% of street children had helminth infection. In a study conducted by Maha Ghobashi in Cairo, 53.5% of the street children have some type of medical problems. The most common health problem is road traffic accident (44.9%) leading to injuries. 73% of the street children are anaemic and 17% have parasitic infection. [5] 50% street children are anaemic in a study conducted in Manga by Diongue M et al. There is significant association between underweight and anaemia. [6] In our study 36% of the street children were anaemic. Aditya S. Berad et al conducted a study in Khammam city of Telangana state of India and found that 68.4% street children are undernourished. 62.8% street children have nutritional anaemia and 15.2% are suffering from vitamin A deficiency. [7]

The most common morbidities among street children are skin diseases (50.9%) and URTI (12.1%) in a study conducted by the Ayaya in Kenya. [8] 18% of the street children have morbidities in a study conducted in Mumbai by ActionAid. The most common illnesses are fever (9%) and skin infections (3%).[9] The most common ocular morbidities are conjunctivitis (11%) and uncorrected refractive errors (11.6%) in a study conducted by Pant M. et al among street children in Kathmandu valley.[10] In our study 2% street children had refractive errors.

Prevalence of underweight in street children in between the age group 6-18 years is 61.7% in a study conducted by the Mesbah Uddin Talukder et al in the Dhaka city of Bangladesh. In the same study it was found that, 60.8% street children have morbidities. [11] In a study conducted by the Md. Abdul Hakim in Bangladesh 66.67% street children are underweight and 59.8% have morbidities. [12] In our study 26% street children were underweight for their height.

29% street children in the age group 6-17 years are underweight for their age reported in a study conducted by Md. Sirajul Islam in Bangladesh. In the same study 29% street children are anaemic followed by 11% had angular stomatitis.[13] 60.42% street children are underweight and 61.5% have morbidities in the past 3 months stated in a study conducted by Azizur Rahman in Bangladesh.[14] In a focus group discussion conducted by Md. Abdul Hai in Dhaka city, street children told that various diseases and malnutrition are their common health problems.[15]

One study conducted in Kenya reported that rate of malnutrition is highest among the abandoned children those who were living in the shelter home than on the street and off the street children.[8] It is an indication of poor environmental conditions or long-term restriction of a child's growth potential. It a combined effect of under nutrition and infection even before birth. [16] All this is not going to improve if we do not take care of the gravest social factor that is 'poverty.' This is possible only when they continue education.

CONCLUSIONS:

Infections and injuries are the most common morbid conditions in the street children landing them into malnourishment.

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REFERENCES:

1. Child protection and child rights: Vulnerable children. Available at: www.childlineindia.org.in › Vulnerable Children › Children's Issues
2. Education of the children in need: Street children Available at: www.unesco.org/new/en/social-and-human-sciences/...children.../street-children/
3. Senaratna, B. C. V and Wijewardana, B. V. N. Street children in Colombo: What brings them to and sustains them on the streets? Sri Lanka Journal of Child Health 2013; 42(2):70–75.
4. Bailey C, Lopez S, Camero A, Taiquiri C, Arhuay Y, Moore DA. Factors associated with parasitic infections amongst street children in orphanages across Lima, Peru. Pathog Glob Health. 2013 Mar; 107(2):52-7.
5. Maha Ghobashi, Maissa Shawki, and Iman Al Tahlawi. An Evaluation of the Health Conditions of Street Children in Cairo. Partnership in Development Research. American University in Cairo, 2009; 14. Available at: http://www1.aucegypt.edu/src/pdr/Research_Briefs/014_Maha_Ghobashi.pdf
6. Diongue M, Ndiaye P, Yameogo I, Faye BF, Dia AT, Diousse P. Nutritional status of street children in the district of Manga (Burkina Faso). Med Sante Trop. 2014 Oct-Dec; 24(4):435-7.
7. Berad, A., BP, R. and Momula, S. Prevalence of multiple nutritional deficiencies among the street children of Khammam City of Telangana State. International Journal of Research in Medical Sciences. 2015; 3(6):1405–1407.
8. Ayaya, S. O. and Esamai, F. O. Health problems of street children in Eldoret, Kenya. East African Medical Journal. 2001; 624–629.
9. ActionAid and TISS. 'Making Street Children Matter: A census study in Mumbai city.
10. Pant M, Shrestha GS, Joshi ND. Ocular morbidity among street children in Kathmandu Valley. Ophthalmic Epidemiol. 2014 Dec; 21(6):356-61.
11. Mesbah Uddin Talukder, Md. Mahbubul Alam, Md. Ariful Islam, Gowranga Kumar Paul, Md. Torikul Islam, F. A. Study on the Nutritional Status of the Street Children at Shabagh Area of Dhaka City. International Journal of Nutrition and Food Sciences. 2015; 4(3):240–245.
12. Md. Abdul Hakim, Md. Jalal Talukder. An Assessment of Health Status of Street Children in Tangail, Bangladesh. Science Journal of Public Health. Special Issue: Childhood Malnutrition in Developing Countries. Vol. 4, No. 1-1, 2016, pp. 1-5.
13. Islam, M., Rahman, M. and Khatun, R. (2013) 'Street Children Struggle For Survival Where Protection Of Human Resource Development: (A Study On Khulna City, Bangladesh.)', International Journal of Scientific & Technology Research, 2(11). Available at: www.ijstr.org.
14. Md. Abdul Hakim, Azizur Rahman. Health and Nutritional Condition of Street Children of Dhaka City: An Empirical Study in Bangladesh. Science Journal of Public Health. Special Issue: Childhood Malnutrition in Developing Countries. Vol. 4, No. 1-1, 2016, pp. 6-9.
15. Hai, A. 'Problems Faced By the Street Children : A Study on Some Selected Places in Dhaka City, Bangladesh. International Journal of Scientific & Technology Research. 2014; 3(10):45–56.
16. World Health Organization. Nutrition Landscape Information System (NLiS). Available at: http://apps.who.int/nutrition/landscape/help.aspx?menu=0&helpid=391&lang=EN