International Journal of Community Medicine and Public Health
Kallupurackal SJX et al. Int J Community Med Public Health. 2019 Jun;6(6):2368-2371
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20192065

Original Research Article

A cross sectional study to assess the morbidity pattern among under five year old children in urban Chitradurga, South India

Sherin Joseph Xavier Kallupurackal[1], Hamsaveni G.[2]*, Aarsha Rafeek[2], Anarin Mendez[2], Kalpitha K. Manu[2], Lavanya Chitturi[2], Monika G.[2], Naveen G. P.[2], Nikitha D. Hoolageri[2], Osuri Ayodhya Spurthi[2]

[1]Community Health Centre, Varappuzha, Ernakulam, Kerala, India
[2]Department of Community Medicine, Basaveshwara Medical College and Hospital, Chitradurga, Karnataka, India

Received: 07 April 2019
Accepted: 23 April 2019

***Correspondence:**
Dr. Hamsaveni G.,
E-mail: hamsamedico.rajiv@gmail.com

ABSTRACT

Background: Children under 5 years of age constitute approximately 15% of the country's total population. First 1000 days of life is the most crucial period, as this age is known for high growth rate and development. They constitute most vulnerable section of the society and suffer from highest morbidity. Good personal hygiene and sanitary condition of living now forms a part of primary health prevention strategy and it is found to be effective for reducing morbidity and mortality in children.
Methods: It's a community based cross sectional study among 150 children of less than five years of age for a period of 4 months from November 2018 to February 2019 in the urban field practice area of Basaveshwara Medical College and Hospital, Chitradurga.
Results: In our present study we found respiratory tract infection is the predominant ailment followed by gastrointestinal clinical features accounting for 39% and 33% respectively. Though the factors like birth weight, immunisation of majority of population were fair but in later years of life found that weight for height was not achieved as per standard protocol among major of the study population.
Conclusions: By health education for the caretaker regarding mother-crafting and satisfactory environmental condition can reduce the prevalence of morbidity.

Keywords: Morbidity pattern, Under five year, Urban

INTRODUCTION

Children under 5 years of age constitute approximately 15% of the country's total population and are the most vulnerable section of the society and suffer from highest morbidity. First 1000 days of life is the most crucial period, as this age is known for high growth rate and development.[1] The growing children are nutritionally vulnerable and they are future citizens of the country, the strength and pride of the nation depends on their health.[2]

The major diseases affecting this age group are acute diarrheal diseases, acute respiratory infections, anaemia, and diseases of skin, eye, ear, etc.[3] Children are at greater risk of these diseases, if they are born in rural areas, poor household or to mothers with poor basic education. Several environmental targets and indicators include water, sanitation, and air pollution are also relevant to this group.[4] These diseases can easily be prevented by promotion of nutrition, personal hygiene, early diagnosis and treatment.[5] Good personal hygiene now forms a part of primary health prevention strategy and it is found to be

effective for reducing morbidity and mortality in children.[6]

According to National Family Health Survey-IV (NFHS-IV) in Karnataka, 1.2% and 4.5% of mothers of children under the age of 5 years reported that their children suffered from acute respiratory infection (ARI) and diarrhoea, respectively. And only 76.9% of ARI children and 69.7% of diarrhoea children were taken to a health facility.[7]

Due to lack of epidemiological data about morbidity pattern among under 5 year old children in the study area, a need was felt to carry out survey among children in urban areas of Chitradurga district of Karnataka.

METHODS

The study was a community based cross-sectional study carried out for a period of 4 months from November 1st 2018 to February 28th 2019 in urban field practice area of Basaveshwara Medical College and Hospital, Chitradurga. Sample size was calculated using the formula $4pq/d^2$. Where, p=prevalence=4.5% (NFHS-IV), q=(100-p)= 95.5 and d (absolute error) was taken as 5% (p=68). Considering design effect of 2, and 15% of non respondents a total sample size of 148 (rounded off to 150) was calculated.

Data was collected by cluster sampling from 10 clusters using semi structured, pretested questionnaire. On house to house visit the care taker of the child was given the questionnaire which had socio demographic factors and past medical history with regards to respiratory, gastro intestinal and other ailments. Anthropometric measurements were taken by following standard techniques.

The data thus collected was entered in Microsoft excel and analysed using SPSS software version 20.

RESULTS

A total of 150 children were approached. We observed that, 81 (54%) were boys and 69 (46%) were girls. Except for 0-6 months, the number of boys predominated the number of girls in all age group. The number of Hindus (84%) was invariably more when compared to Muslims (14%) and others (1%).

In our study majority of the fathers of study population were skilled and semiskilled labourers (65%) and 86% of mothers were homemakers. It was evident from our study that the family welfare program was efficiently running in urban Chitradurga as 52% of the families followed the two child norm. Table 1 shows the socio-demographic profile of the study population. And Table 2 shows the various factors and their association with acute respiratory and gastrointestinal illness. The morbidity pattern of our study population is depicted in Figure 1.

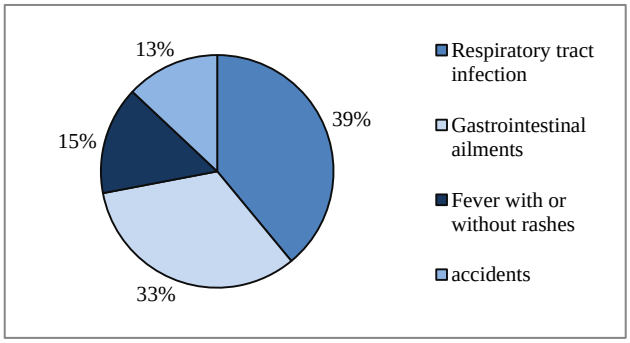

Figure 1: Morbidity pattern among less than five years of age.

Table 1: Sociodemographic factors of the study population.

S. no.	Socio-demographic correlates	Variables	No. (%)
1	Age	<6 months	5 (3.3)
		6 month s to 1 year	15 (10)
		1year–3 year	57 (38)
		3-5 years	73 (48.7)
2	Type of family	Nuclear	100 (67)
		Joint	42 (28)
		Three generation	8 (5.3)
3	Socio-economic status	Class I	17 (11.3)
		Class II	29 (19.3)
		Class III	38 (25.3)
		Class IV	47 (31.4)
		Class V	19 (12.7)
4	Mother's education	Illiterate	10 (7)
		Schooling	108 (72)
		Graduate	32 (21)
5	Father's education	Illiterate	14 (9)
		Schooling	73 (49)
		Graduate	63 (42)

Table 2: Various factors and their association with acute respiratory and gastrointestinal illness.

S. no.	Variables		Respiratory ailments		P value	Gastrointestinal ailments		P value
			Present	Absent		Present	Absent	
1	Birth weight	<1.5kg	2	1	0.163*	2	1	0.59*
		1.5-2.5kg	60	4		37	27	
		>2.5kg	73	10		42	41	
2	Breast feeding initiated	Within half an hour	68	9	0.741*	37	40	0.2
		Within 6 hours	50	4		34	20	
		After 6 hours	17	2		10	9	
3	BMI	<18.5	116	14	0.677*	65	65	**0.01***
		18.51-24.9	15	1		14	2	
		>25	4	0		2	2	
4	Housing	Pucca	38	5	0.46*	21	22	0.441*
		Semi- pucca	93	9		56	46	
		Kutcha	4	1		4	1	
5	Lighting	Adequate	60	2	0.026*	35	27	0.6
		Inadequate	75	13		46	42	
6	Ventilation	Adequate	58	1	0.005*	30	29	0.53
		Inadequate	77	14		51	40	
7	Water source	Municipality	110	11	0.44*	62	59	0.1
		Borewell	25	4		19	10	
8	Water storage	Steel with closed lid	52	10	0.448*	36	26	0.8
		Plastic with closed lid	83	5		45	43	
9	Over crowding	Present	62	8	0.5*	40	30	0.514
		Absent	73	7		41	39	
10	Smoking	Father	23	3	0.786*	17	9	0.468*
		Guest	10	0		5	5	
		No one	102	12		59	55	

*Fischer exact test.

DISCUSSION

Age and sex

Among 150 children studied, 48.7% were 3-5 years of age; similar observation was made by Ujwala and Dhruv in Andhra Pradesh.[8] The finding is in line with the study done in Kolkata by Pradyut et al, where they found 42% were 3-5 years.[9] Being a developing nation, male predominance was observed in studies done by Narkhede et al (51%) and Arepalli et al (52%). A similar finding was observed in our study where 54% were males.[10,11]

Socio-economic status

In the present study, majority were from class IV and V accounting for 56.6% and least were class I (11.3%) according to modified B G Prasad classification. This was in agreement with study at Tripura conducted in 2012 where 75% were class IV and V.[12]

Type of family

In our study, we found 67% of children belonged to nuclear family and 28% to joint family. Similar study conducted by Karmakar in Tripura found 60.4% and 39.6% were from nuclear families and joint families' respectively.[12] This was contradictory to the finding made by Yamuna in the urban slums of Karnataka where they found that joint families (50%) were more than nuclear families (23.5%).[13]

Family planning

The rate of contraceptive prevalence among married women in Karnataka decreased from 63.6% to 51.8% according to NFHS-3 to NFHS-4 (National Family Health Survey).[7] Family planning methods was practiced by 52% of our study population whereas in a study conducted by Rasheed in Aligarh, U.P. it was 43.6%.[14] According to the study conducted by IJMR in 2014, it was found that 21% of the married couple practiced family planning in Karnataka.[15]

Morbidity pattern

In our study, among 150 children, 90% developed respiratory tract infection which was much more than the findings by Gupta at Jammu; it was 47.26%.[16] Even in North Karnataka, Nayak et al observed only 15.9% suffered respiratory tract infections.[17] According to our study 86.7% of children with respiratory ailments visited

doctors similar observation was made by Khalid at Lucknow (87.6%) which depicted good health seeking behaviour.[18]

In a study conducted by Gupta in Jammu, and Rakesh in South India found that 30.10% and 3.5% suffered from diarrhoea respectively while in our study population it was comparatively high (54%).[16,17]

In our study 24% of children developed fever in last 6 months whereas only 4.9% of children had fever in North Karnataka- revealed by Rakesh.[17] In our study 5.15% suffered from accidental injuries which was in correlation with study conducted by Karmakar at Tripura accounting for 4.1%.[12]

ACKNOWLEDGEMENTS

Authors are thankful to the informer/caretaker of the study population and all staff who helped in carrying out the study.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Patel D, Dindod D. Nutritional and morbidity profile of children aged 2-5 years attending Anganwadi at urban slum areas of Jamnagar city. Int J Sci Res. 2012;2(11):385-7.
2. Suryakantha AH. Community Medicine with Recent Advances, 4th edition, Jaypee publisher, 2017: 644.
3. Mohan P, Kishore B, Singh S, Bahl R, Puri A, Kumar R. Assessment of Implementation of Integrated Management of Neonatal and Childhood Illness in India. J Health Population Nutr. 2012;29(6):629-38.
4. Park K. Park's textbook of Preventive and social medicine, 25th edition, Jabalpur Bhanot publisher, 2019: 526.
5. Nigudgi S, Patil V, Tenglikar S, Shrinivasreddy B, Vijayanath V. A Study to Assess the Morbidity Pattern among School Going Children of Gulbarga City. Indian J Public Health Res Develop. 2013;4(4):108.
6. Ahmadu B, Solomon J, Zira F, Aisha A, Rimamchika M, Ibrahim A. Compliance and Usability of Weber and Rinne's Tests For Audio Acuity Among Primary School Children From a Health Resource Poor Community. J Nepal Paediatr Society. 2013;33(2):95-8.
7. Rchiips.org. National Family Health Survey, 2019. Available at: http://rchiips.org/NFHS/factsheet_NFHS-4.shtml. Accessed on 11 April 2019.
8. Ukey U, Chitre D. Morbidity profile of preschool children in an urban slum area. Indian Med Gazette. 2012: 300-304.
9. Mandal PK. Study of morbidity pattern of children upto age of five years with special reference to osseous development. Int J Contemp Pediatr. 2018;5(2):477-82.
10. Narkhede V, Sinha U, Bhardwaj SD, Pitale S. Morbidity Profile in Under Five Children in Urban Slum Area of Nagpur. Natl J Community Med 2012;3(3):442-6.
11. Arepalli S, Rao G. Study of nutritional status of preschool children in areas of Kallur Primary Health Center, Kurnool District. Int J Med Sci Public Health. 2016;5(11):2351.
12. Karmakar N, Datta A, Nag K, Bhattacharjee P, Tripura K, Singha S, et al. Morbidity profile of under-five children in a peri-urban area of Tripura-A community-based study. J Evid Based Med Healthc. 2017;4(92),5595-9.
13. Yamuna BN, Ratnaprabha GK, Kengnal P. Prevalence of acute morbidities and their health seeking behaviour among under-five children of urban slums in a city in Karnataka. Int J Community Med Public Health. 2017;4:2449-56.
14. Rasheed N, Khan Z, Khalique N, Siddiqui AR, Hakim S. Family planning differentials among religious groups: A study in India. Int J Med Public Health. 2015;5:98-101.
15. Ram F, Shekhar C, Chowdhury B. Use of traditional contraceptive methods in India & its socio-demographic determinants. Indian J Med Res. 2014;140(1):S17–S28.
16. Gupta S, Jamwal DS, Kumar D, Gupta SK. Morbidity among Under Five Children in a Rural Area of Jammu. J.K. Sci. 2012;14(2):86.
17. Nayak KR, Walvekar PR, Mallapur DM. Morbidity Profile of Under-five Children residing in Rural Area of North Karnataka. Indian J Prevent Med. 2013;1(1):41-7.
18. Khalid M, Kumari R, Mohan U, Manar MK, Singh VK. Morbidity profile of poreschool children from below poverty line families of Lucknow district, North India. Int J Adv Res. 2014;2(11):627-34.

Cite this article as: Kallupurackal SJX, Hamsaveni G, Rafeek A, Mendez A, Manu KK, Chitturi L, et al. A cross sectional study to assess the morbidity pattern among under five year old children in urban Chitradurga, South India. Int J Community Med Public Health 2019;6:2368-71.