



A Cross Sectional Study on High Risk Under Five Children in Urban Slums of Old City Bidar

Naveenkumar. G Havale¹, Rahul. C Bedre¹, Pallavi. M Kesari², Ratikanth Swamy³

Financial Support: None declared

Conflict of Interest: None declared

Copy Right: The Journal retains the copy-rights of this article.

How to cite this article:

Havale NG, Bedre RC, Kesari PM, Swamy R. A Cross Sectional Study on High Risk Under Five Children in Urban Slums of Old City Bidar. Ntl J Community Med 2016; 7(12):922-5.

Author's Affiliation:

¹Assistant Professor of Community Medicine; ²Professor and HOD of Community Medicine, Bidar Institute of Medical Sciences, Bidar, Karnataka, India; ³Administrative Medical Officer 10 bedded Urban Health Centre, Old city, Bidar, Karnataka, India

Correspondence:

Dr. Naveenkumar. G. Havale
gnghavale@gmail.com

Date of Submission: 08-11-16

Date of Acceptance: 27-12-16

Date of Publication: 31-12-16

ABSTRACT

Introduction: Each year 27 million children are born in India.¹ In absolute figures, India contributes to 25 per cent of over 6.9 million children under five deaths occurring worldwide every year.² High mortality in under five group is because it is most affected by various morbidities. Hence there is a need to identify the high risk among.

Methodology: Community based cross sectional study in urban slums of old city Bidar

Results: Among the 250 children surveyed 192 were high risk. Among the 192 high risk children 134(69.79%) were in the age group of 12-48 months. High risk children in Middle class were 87(88.78%) and in Lower class were 21(75%) as per Modified BG Prasad SE classification. Mothers who were illiterate had 41(82%) high risk children and with only primary education had 101(82.12%) high risk children.

Conclusion: Delayed weaning, GE, ARI, birth spacing < 2 years and weight for age < 2SD were most common risk factors found in this study. Children in middle, lower middle and lower socioeconomic class were more prone for high risk.

Key words: High risk, under five children, weaning, birth spacing, Socioeconomic class

INTRODUCTION

Each year 27 million children are born in India.¹ In absolute figures, India contributes to 25 per cent of over 6.9 million children under five deaths occurring worldwide every year.² This age group is most affected by various common morbidities, some of which lead also to mortality in this vulnerable population. Deaths in the age group of 0-1 year account for 20.9% and in the age group 1-4 years account for 10.7% of the total deaths in the country.² In the initial days of the national health programme for mother and children more attention was for at risk mothers with the final outcome of a healthy mother. Majority of the causes for under five children deaths were preventable and therefore necessary to identify them at the earliest to reduce the under five mortality and morbidity. The high mortality in this under five group is because this group is most affected by various morbidities.

The under five children attending the health care facility is so large that every child may not get sufficient attention. Hence there is a need to identify the high risk among this under five children group so that good attention may lead to reduced morbidity and mortality in this under five group.

METHODS

This study Community based cross-sectional study carried out in urban slum of old city Bidar. Study was carried out from August 2016 through October 2016. The population in urban slums of old city Bidar is around 40,000. Sample size was calculated by the formula $Z_{1-\alpha/2}^2 p(1-p)/d^2$ (allowable error at 5%) where proportion of under five children is 20 percent which came as 250 under five children. The selection of study subjects was done by simple random sampling method using the Mission

Indradhanush campaign list of under five children of entire old city Bidar. The information was collected by door to door survey through pre-tested and pre-designed Performa from the care taker (mother/grandmother). Necessary clinical examination and document verification was done. Presence of any one or more following risk factors was considered for defining high risk child: Delayed weaning i.e. after completion of 6 months, weight for age < 2SD, gastroenteritis, acute respiratory infection (ARI) i.e. at least one acute attack of gastroenteritis or respiratory infection in past fifteen days, Birth order 4 or more, Birth weight < 2.5 Kgs, Early weaning i.e. before completion six months of age, Working mother (remaining out of home for > 8 hours/day), Birth spacing < 2 years, Death of one or both parents or broken families, Parents having chronic illness e.g. T.B./Asthma etc, Breast feeding not given – due to any reason, Twin child, History of death of 2 siblings in past 12 months.

RESULTS

A total of 250 under five children were surveyed. Among them 192 were high risk under five children and highest 134 (69.79%) high risk under five children were identified in the age group of 12-48 months. In this 192 high risk under five children 98 (51.04%) were females and 94 (48.96%) were males (Table 1). Delayed weaning 192 (100%), gastroenteritis 172 (88.66%), acute respiratory infection 168 (86.59%), birth spacing < 2 years 156 (80.41%) and weight for age <2SD 154 (79.38%) were most common risk factors found in this study (Table 2). The percentage of high risk under five children in more in Middle 87 (88.78%), Lower middle 73 (84.88%) and lower 21 (75%) compared to upper 2 (16.67%) and upper middle 9 (34.62%) class as per Modified BG Prasad socioeconomic classification (Table 3).

Table 1: Prevalence of High Risk under five children in relation to age and sex

Age group in months	Under five Children Surveyed			High Risk Under five Children identified		
	Male(%)	Female(%)	Total(%)	Male(%)	Female(%)	Total(%)
< 12	18 (13.64)	16 (13.56)	34 (13.60)	8 (44.44)	13 (81.25)	21 (61.76)
12 - 24	24 (18.18)	18 (15.25)	42 (16.80)	19 (79.17)	17 (89.47)	36 (85.71)
24 - 36	28 (21.21)	27 (22.88)	55 (22.00)	22 (78.57)	24 (88.89)	46 (83.63)
36 - 48	30 (22.73)	27 (22.88)	57 (22.80)	27 (90.00)	25 (92.59)	52 (91.22)
48 - 60	32 (24.24)	30 (25.43)	62 (24.80)	18 (56.25)	19 (63.33)	37 (59.67)
Total	132	118	250	94	98	192

Table 2: Distribution of High risk Factors in under five children

High Risk factor*	Number (%)
Delayed weaning i.e. after completion of 6 months	192 (100)
Gastroenteritis i.e. at least one acute attack of gastroenteritis in past fifteen days.	172 (88.66)
Acute Respiratory Infection i.e. at least one acute attack of respiratory infection in past fifteen days.	168 (86.59)
Birth spacing < 2 years	156 (80.41)
weight for age < 2SD	154 (79.38)
Early weaning i.e. before completion six months of age	74 (38.14)
Birth weight < 2.5 Kg	52 (26.80)
Birth order 4 or more	26 (13.40)
Death of one or both parents or broken families	21 (10.82)
Working mother (remaining out of home for > 8 hours/day)	12 (6.19)
Parents having chronic illness e.g. T.B./Asthma/ etc	6 (3.09)
Breast feeding not given – due to any reason	5 (2.58)
Twin child	3 (1.55)
History of death of 2 siblings in past 12 months	0

*Multiple Responses

Table 3: Distribution of High Risk Children in Relation to Socioeconomic classification

Modified BG Prasad Socioeconomic Classification	Under Five Children (n=250)	High Risk Under Five Children (n=192)	Percentage	p value	OR 95% CI
Upper class	12	2	16.67	0.001	0.44 (0.13 - 1.58)
Upper middle class	26	9	34.62		for Upper and
Middle class	98	87	88.78		Lower Class
Lower middle class	86	73	84.88		
Lower class	28	21	75.00		

Table 4: Distribution of High Risk Under Five Children in Relation to Education of Mother

Education Status of the Mother	Under Five Children (n=250)	High Risk Under Five Children (n=192)	Percentage	p value	OR 95% CI
Illiterate	50	41	82.00	0.001	3.83 (1.23 to 14.23)
Primary	123	101	82.12		for Illiterate and
Secondary	63	47	74.60		Higher Secondary/
Higher Secondary / Graduate & above	14	3	21.43		Graduate & above

Mothers who were illiterate had 41 (82%), primary education had 101 (82.12%) and secondary education had 47 (74.60%) compare to Higher Secondary / Graduate or above high risk children 3 (21.43%).

DISCUSSION

Most important step in decreasing the morbidity and mortality among under five children is to identify the high risk among this group. The early we identify these high risk children early corrective measures can be initiated so that suffers less and have less chance of death. 192(76.8%) of under five children in this study were in high risk group which is higher found by S sharma et al⁴ 65.69% in rural areas, Choudhury et al⁵ 51.8% in New Delhi Slums, Kapil et al⁶ 63% in Pune slums and Wadgave HV et al⁹ 75% in Solapur. High risk under five children were more in the age group of 12-48 months. Similar findings were seen in studies carried out by S sharma et al⁴, Sen et al⁷ and Wadgave HV et al⁹ where most of the high risk children were in the 13-36 months age group and age group of 25-36 months respectively. The prevalence of high risk among male 94 (48.96%) and female 98(51.04%) children was almost same in this study, but S sharma et al⁴ noted 75.09% female children surveyed were high risk as compared to male children i.e. 57.28% whereas Bhasin et al⁸ mentioned that there was no significant difference between prevalence of at risk factors among the male and female under five children. Wadgave HV et al⁹ showed prevalence of high risk was more i.e. 84.61% in female children as compared to male children i.e. 67.64%. Delayed weaning 192(100%), gastroenteritis 172(88.66%), acute respiratory infection 168 (86.59%), birth spacing < 2 years 156 (80.41%), weight for age < 2SD 154 (79.38%), were most common risk factors found in this study (Table 2). S sharma et al⁴ observed malnutrition (64.17%), delayed weaning (54.23%) and birth spacing < 2 years (22.64%) were common risk factors found. Choudhury et al⁵ reported malnutrition (30%), infections (28.5%) and birth spacing < 2 years (16.2%) were contributing maximum, Kapil et al⁶ mentioned that malnutrition (50%), birth spacing <2 years (34%) and infections (23%) were common risk factors found in the slum areas of

New Delhi. Sen et al⁷ observed birth order 4 or > 4 in 25.31% children, delayed weaning in 24.06% children and infections in 17.37% of the high risk children. But Bhasin et al⁸ reported malnutrition (40.7%), infections (35.3%) and birth spacing less than 2 years (23.8%) were common risk factors. Wadgave HV et al⁹ observed Delayed weaning (70.47%), weight < 70% of the reference (55.87%) and attack/s of acute gastroenteritis and/ or respiratory infections (54.28%) were common risk factors. The above similarities and differences with this study and various other studies may be because of socioeconomic factor and sociocultural factors.

The percentage of high risk under five children in more in Middle87(88.78%), Lower middle 73(84.88%) and lower 21(75%) compared to upper 2(16.67%) and upper middle 9(34.62%) class as per Modified BG Prasad socioeconomic classification (Table 3). This study showed significant difference with socioeconomic class of the families and high risk under five children. S sharma et al⁴, Kapil et al⁶, Sen et al⁷, Bhasin et al⁸ and Wadgave HV et al⁹ showed similar findings. Mothers who were illiterate had 41 (82%), primary education had 101 (82.12%) and secondary education had 47 (74.60%) compare to Higher Secondary / Graduate or above high risk children 3(21.43%). This study showed significant difference with education status of mothers and high risk under five children. But S sharma et al⁴ stated that Literacy status of mothers bore inverse relation with the prevalence of at risk children.

CONCLUSION

Identifying the high risk among the larger population of under five children is an important step in reducing the morbidity and mortality among the under five children. This study has identified seventy seven percentage of under five children as high risk and for that delayed weaning, Gastroenteritis, Acute Respiratory Infection, socioeconomic class and education status of mothers as some important epidemiological factors contributing to high risk under five children.

ACKNOWLEDGEMENT

I thank Director Bidar Institute of Medical Sciences, Department of Community Medicine, interns Bidar Institute of Medical Sciences for their full support in carrying out this study.

REFERENCES

1. The situation of children in India. Available at: https://www.unicef.org/sitan/files/SitAn_India_May_2011.pdf . Accessed October 30th, 2016.
2. K Park. Park's textbook of Preventive & Social Medicine, 2^{3rd} ed. Jabalpur: Bhanot Publishers; 2015. p 575.
3. World Health Organization, Regional office For South-East Asia. Strategies for HFA by the year 2000. New Delhi, India: WHO; 2000. P 23.
4. S. Sharma, B.P. Gupta, Prevalence of at risk. under-five children in a rural area Indian Journal of Community Medicine. 2005; 30(1): 30-32.
5. Choudhury TKG, Bhushan Kumar, P.K. Datta, S.S. Ganguly. Identification of 'high risk' under five children in an urban community. Indian Journal of Public Health. 1987; 1: 45-49.
6. Kapil U, Bali P. Prevalence of 'at risk' factors in under-five children. Indian Paediatrics. 1988; 25: 1180-1183.
7. Sen P, Mishra CP, Gupta VM. An epidemiological study of risk factors in preschool children of rural areas of Jaunpur District. Indian Journal of Public Health. 1995; 2: 58-63.
8. Bhasin SK, Pandit K, Kapil U, Dubey KK. Prevalence of at risk factors in under five children. Indian Paediatrics. 1994; 31: 1537-1539.
9. Wadgave Hanmanta V, Pore Prasad D, Jatti Gajanan M. Prevalence of high risk under-fives in urban area. Indian Journal of Maternal and Child Health. 2014;14(2); 1-7.