

Review of Rashtriya Bala Swastha Karyakrama and Utilization of Referral Services in Urban Field Practice area of Bangalore Medical College

Dr. H.N. Madhusudhan¹, Dr. I. SushilKumar², Dr. T.S Ranganath³, Dr Ravish K S³, Vishwanatha⁴

1-Post Graduate, 2 -Professor & Head, 3 – Associate Professor. 4- Statistician

Department of Community Medicine, Bangalore Medical College & Research Institute, Bangalore

ABSTRACT

BACKGROUND: The Rashtriya Bal Swasthya Karyakram (RBSK) aims early detection and management of the 4Ds - Defects at birth, Diseases in children, Deficiency conditions and Developmental Delays including Disabilities in children in the community which are hidden and to provide service for them at District early intervention centre (DEIC).

OBJECTIVE: To assess the magnitude & distribution of the health conditions identified under RBSK by 4D's approach and the utilization of referral services pertaining to RBSK in urban field practice area of Bangalore medical college and research institute.

METHODOLOGY: All Government and Aided schools & Anganawadis present in urban field practice area of Bangalore Medical College & Research Institute. After obtaining permission from respective authorities, data pertaining to RBSK health checkup was collected from schools and Anganawadis health checkup registers and child health cards. Information regarding Utilization of Referral services was obtained by interacting with children during school hours and further information was obtained from parents by interaction using semi-structured, pre tested and pre validated, closed ended questionnaires with the help of community health workers of the area

RESULTS: Total 1232 children were screened. Out of which 5 children were found to have birth defects, 16 children were found to have some kind of deficiency, 100 children were found to have diseases and 31 children were found with developmental delay including disabilities. Here in our study 12.3% children deprived of good health due to 4Ds. Among 152 children referred only 78 children utilised the referral services.

CONCLUSION: We observed that still there are many children are undiagnosed and deprived of treatment for curable diseases. Child Health Screening and promotion of Early Intervention Services is most beneficial for improvement in health status of children and RBSK should be extended to private schools to reach more children.

KEYWORDS: RBSK, 4Ds, Referral service, DEIC

Introduction

The Indian Government under the National Rural Health Mission, launched in year 2005, demonstrated a 36% reduction in under-five mortality rate (U5MR) from 2008 to 2013. In order to reduce morbidity and mortality further,

Corresponding Author:

Dr. H.N. Madhusudhan, Postgraduate Student,
Department of Community Medicine,
Bangalore Medical College & Research Institute,
Bangalore.

Rashtriya Bal Swasthya Karyakram (RBSK) or 'Child Health Screening and Early Intervention Services' Programme under was launched by the Ministry of Health and Family Welfare in February 2013., an ambitious program that is aimed to cover 27 crore children in India, was launched. RBSK program is modelled on the progress made in the recent past under National Rural Health Mission, now called National Health Mission.

The RBSK aims early detection and management of the 4Ds prevalent in children. These are Defects at birth, Diseases in children, Deficiency conditions and Developmental Delays including Disabilities.^{1,2} Health screening of children is a known intervention under the School Health Programme. However, further gains can be achieved by early detection and management of conditions in all age groups (1,2).

Out of every 100 babies born in this country annually, 6 to 7 have a birth defect. In Indian context, this would translate to 1.7 million birth defects annually and would account for 9.6 per cent of all newborn deaths.³ Various nutritional deficiencies affecting the preschool children range from 4 percent to 70 percent. Developmental delays are common in early childhood affecting at least 10 percent of the children. These delays, if not intervened timely, may lead to permanent disabilities with regard to cognition, hearing and vision.³ There are also groups of diseases which are very common in children e.g., dental caries, otitis media and reactive airways diseases which can be cured if detected early. It is understood that early intervention and management can prevent these conditions to progress into more severe and debilitating forms, thereby reducing hospitalisation and resulting in improved school attendance (3).

The RBSK services aim to cover all children of 0-6 years of age group in rural areas and urban slums, in addition to older children up to 18 years of age enrolled in classes 1st to 12th in Government and Government aided schools. It is expected that these services will reach and benefit about 27 crore children in a phased manner in India.² Child Health Screening and Early Intervention Services under NRHM envisage to cover 30 identified health conditions for early detection and free treatment and management (2).

Identified Health Conditions for Child Health Screening and Early Intervention Services. (2)

Defects at Birth

1. Neural Tube Defect
2. Down's Syndrome
3. Cleft Lip & Palate / Cleft Palate alone
4. Talipes (club foot)
5. Developmental Dysplasia of the Hip
6. Congenital Cataract
7. Congenital Deafness
8. Congenital Heart Diseases
9. Retinopathy of Prematurity

Deficiencies

10. Anaemia especially Severe Anaemia
11. Vitamin A Deficiency (Bitot spot)
12. Vitamin D Deficiency (Rickets)
13. Severe Acute Malnutrition
14. Goitre

Childhood Diseases

15. Skin conditions
(Scabies, Fungal Infection and Eczema)
16. Otitis Media
17. Rheumatic Heart Disease
18. Reactive Airway Disease
19. Dental Caries
20. Convulsive Disorders

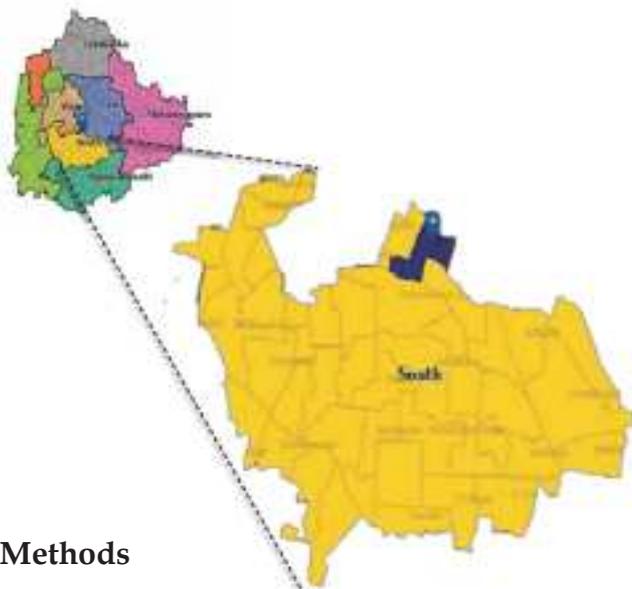
Developmental Delays and Disabilities

21. Vision Impairment
22. Hearing Impairment
23. Neuro-Motor Impairment
24. Motor Delay
25. Cognitive Delay
26. Language Delay
27. Behaviour Disorder (Autism)

- 28. Learning Disorder
- 29. Attention Deficit Hyperactivity Disorder
- 30. Optional (Congenital Hypothyroidism, Sickle Cell Anaemia, Beta Thalassemia)

Bruhat Bangalore Mahanagara palike area consist of 198 wards among that Ward number 118 named Sudamanagara serving by Bangalore medical college and research area through Urban Health training centre was taken for our study which mainly consist of urban slums and urban poor with a population of 30545 and consist of 11 government and aided schools, and 11 Anganawadis.

Figure 1.



Methods

This cross sectional descriptive study done after obtaining permission from respective authorities, data pertaining to RBSK health checkup was collected from schools for age group of 6 years to 18 years and Anganawadis for age group of 6 weeks to 6 years through health checkup registers and child health cards. .data regarding new born up to age of 6 weeks obtained from ASHA and other community health worker of the area.

Information regarding Utilization of Referral services was obtained by interacting with children

after obtaining assent during school hours and further information was obtained from consent given parents by interaction using semi-structured, pre tested and pre validated , closed ended questionnaires with the help of community health workers of the area

Finally data was analysed with the help of Microsoft excel.

Results

Figure 2. Data Collection Profile

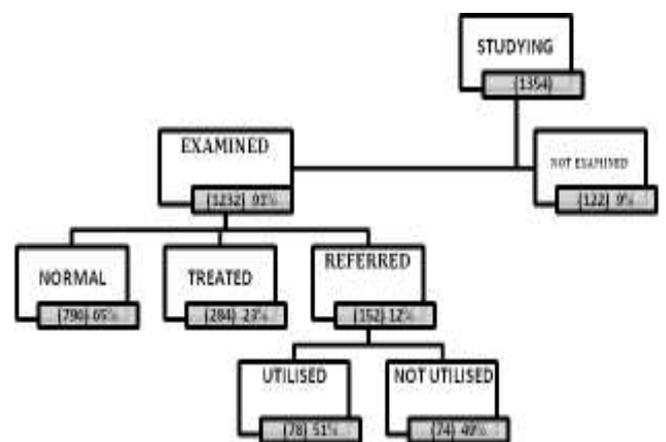


Figure 3. Age and Sex wise distribution of Screened Children(n=1232)

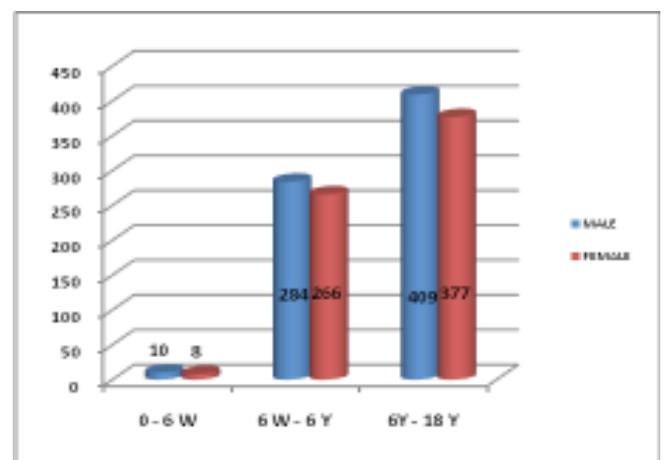


TABLE 1. DISTRIBUTION OF CHILDREN ACCORDING TO PRESENCE OF BIRTH DEFECTS (n = 5)

	Male				Female				Total
	0-6	6wk	6yr	Total	0-6	6wk	6yr	Total	
	wk	-6yr	18 yr		wk	6yr	18 yr		
Cleft Lip	0	1	0	1	0	0	0	0	1
Congenital Heart Disease	1	0	1	2	0	0	2	2	4
Total	1	1	1	3	0	0	2	2	5

TABLE 2. DISTRIBUTION OF CHILDREN ACCORDING TO PRESENCE OF DEFICIENCIES (n=16)

	Male				Female				Total
	0-6	6wk	6yr	Total	0-6	6wk	6yr	Total	
	wk	-6yr	18 yr		wk	6yr	18 yr		
Severe Anaemia	0	0	1	1	0	0	2	2	3
Severe Acute Malnutrition	0	6	0	6	0	7	0	7	13
Total	0	6	1	7	0	7	2	9	16

TABLE 4. DISTRIBUTION OF CHILDREN ACCORDING TO PRESENCE OF DISEASES. (n=100)

	Male				Female				Total
	0-6	6wk	6yr	Total	0-6	6wk	6yr	Total	
	wk	-6yr	18 yr		wk	6yr	18 yr		
Skin Conditions	0	4	15	19	0	5	12	17	36
Otitis Media	0	1	2	3	0	1	1	2	5
Rheumatic Heart Disease	0	0	0	0	0	0	1	1	1
Reactive Airway Disease	0	1	1	2	0	1	0	1	3
Dental Caries	0	17	6	23	0	4	25	29	52
Convulsive Disorders	0	1	1	2	0	0	1	1	3
Total	0	24	25	49	0	11	40	51	100

TABLE 5. DISTRIBUTION OF CHILDREN ACCORDING TO PRESENCE OF DEVELOPMENTAL DELAYS AND DISABILITIES. (n=31)

	Male				Female				Total
	0-6 wk	6wk -6yr	6yr 18 yr	Total	0-6 wk	6wk 6yr	6yr 18 yr	Total	
Vision Impairment	0	1	12	13	0	0	11	11	24
Hearing Impairment	0	1	0	1	0	0	1	1	2
Neuro Motor Impairment	0	1	0	1	0	0	0	0	1
Language Dealy	0	1	0	1	0	0	0	0	1
Learning Disorder	0	0	2	2	0	0	1	1	3
Total	0	4	14	18	0	0	13	13	31

FIGURE 4. AGE WISE DISTRIBUTION OF 4D's (n= 152)

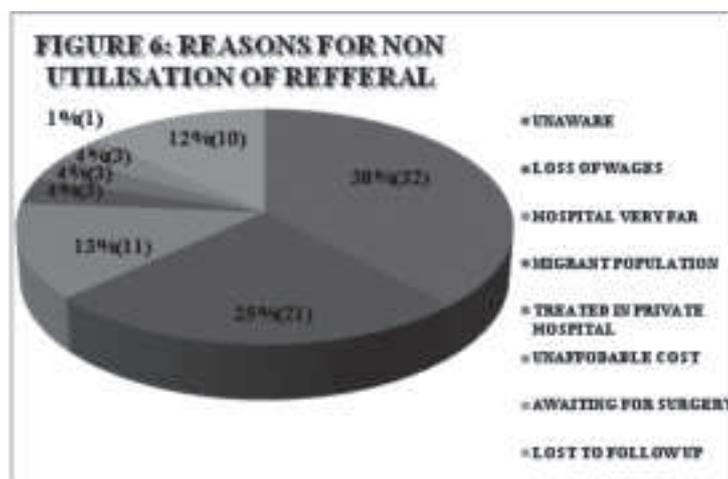
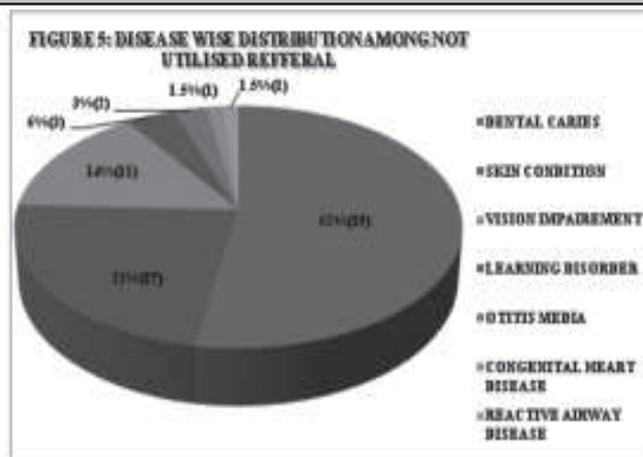
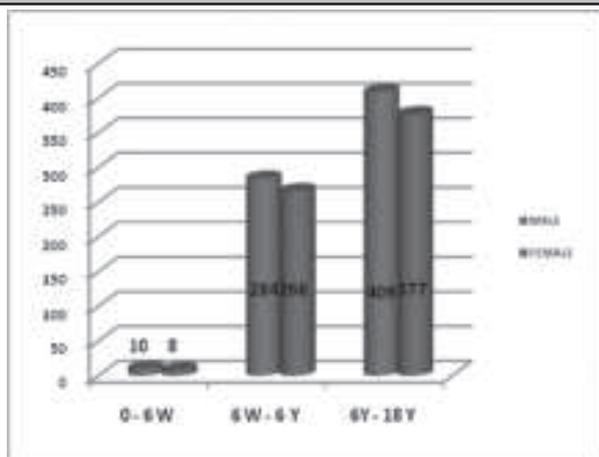


Figure 2 shows Data collection profile from RBSK records and by interview with children and parents. And it shows among 1354 children studying in Government and Government aided Schools and Anganawadi is 1232 (91%) children have been examined. Among shall examined 284(23%) children were treated and given advice for minor illness & 152 (12%) children referred to DEIC for further treatment. Among referral 78 (51%) of children utilised the referral service remaining did not for various reasons.

Figure 3 shows age and sex wise distribution among screened children. In which total population of 0-6 week was 18 out of that 10 were and 08 were female. Total population of 6week to 6year was 550 out of that 284 were males and 266 were females, and in 6 year to 18 year group it was 786 in which 409 were male and 377 were females.

Table 1 shows the number of children found with birth defects. Total 5 children had birth defects. Out of which 3 were males and 2 were females. 1 newborns of 0 to 6 week and 2 children of 6 year to 18 year had congenital heart disease, 1 child of 6 to 18 yrs have Cleft lip.

Table 2 shows the number of children found with deficiencies. Total 13 children had severe acute malnutrition and it's found mainly in the age group of 6 weeks to 6 years. 3 children were found with severe anaemia.

Table 3 shows the number of children found with diseases. Dental caries was found in 52 children, Second most common disease was skin disease found in 36 children, Otitis media were found in 5 children, Reactive airway disease was found in 3 children, convulsive disorder was found in 3 children and 1 child found with Rheumatic heart disease.

Table 4 shows 31 number of children found with developmental delay and disabilities. Out of

which 18 were males and 13 were females. Vision impairment found in 24 children, hearing impairment in 2 children. 1 child found with neuro-motor delay, 1 child with language delay and 3 children were found with learning disorder.

Figure 4 shows deficiency are more prevalent in the age group of 6 week to 6 year and defects and disease are more prevalent in the age group of 6 year to 18 year.

Figure 5 and **figure 6** shows disease wise distribution among not utilised referral service and it clearly shows minor conditions such as Dental caries, skin condition, vision impairment were more untreated compared to major conditions such as birth defect, deficiency, congenital heart disease, and through analysis it shows that unawareness about the illness, Reason of loss of daily wages by parents and Hospital is very far were the main reasons given by parents for not utilising the referral services.

Discussion

Across countries and their economic status, 64.3 infants per thousand live births are born annually with birth defects. Of these, 7.9 have cardiovascular defects, 4.7 have neural tube defects.³with a large birth cohort of almost 26 million per year, and India would account for the largest share of birth defects in the world (3).

Tiwari J et al., in Devendranagar block of Panna District, Madhya Pradesh reported in their study that among 26977 children screened, 53 were suffering from birth defect, 434 from deficiency, 21768 from disease and 113 children from developmental delays and disabilities. And totally it accounts for 83 % of children deprived of good health due to 4 D's (4). And in our study among 1232 screened children, 5 children suffering from birth defects, 16 children from deficiency, 100 children from diseases and 31 children from developmental delays & disabilities it accounts for

12 % of screened children deprived of good health due to 4Ds.

Tiwari J *et al.*, reported in their study that among birth defects congenital heart disease was most prevalent and similar results found in our study also (4). And among deficiencies Vitamin A deficiency and SAM were more prevalent and in our study we found SAM & Severe Anaemia were more prevalent. In diseases, Skin problems, Reactive airway disease and Dental conditions. Found to be very prevalent and in our study we found similar results but have Dental conditions are bit more prevalent than Skin conditions and Reactive airway disease. It was also reported in their study that among developmental delays & disabilities, Vision impairment is the main important problem and in our study we found similar results.

Congenital heart disease among hospital live births in India is increasing nowadays.⁵ Here in our study we found 1 newborn with CHD but in 6 to 18 yrs age group 3 children were found with CHD.

One child found with cleft lip and palate in the age group of 6 months to 6 years.

Totally among referrals Disease, Disability, Deficiency and Defects accounts for 66 %, 20%, 11 % & 3 % respectively in our study.

In our study most common deficiency found was severe acute malnutrition. 13 children were found with SAM, in which maximum were in 6 week to 6 year age group. In many studies it was found that over 6 percent of children less than five years of age suffer from Severe Acute Malnutrition (SAM).⁶ Thakur *et al.*, also found that nutritional anaemia being a very common co morbidity of SAM requiring hospital admission (7).

In our study, Skin diseases were found to be very prevalent (36% among diseases) in children, also

many children had reactive air way disease (7.6%). Sambo *et al.*, also found in their study that prevalence of various skin infections was 21% in rural community (8). A report by ICMR also reported median prevalence of reactive air way disease including asthma among children is reported to be 4.75 percent (6).

Among the 152 children referred for further management to DIEC only 78 (52%) utilised the services and 74 children not utilised the referral services. When we analysed the reasons for not utilization of service it's found minor conditions were more neglected than major health problems, and results shown as dental caries (52%), Skin conditions (22%), Vision impairment (14%), learning disorder (6%), Otitis media (3%), Congenital Heart disease (1.5%), Reactive airway disease (1.5%) were among the conditions found in not utilised the referral services.

Among 74 children who had not utilised the referral services when we analysed for reasons it was take of was found that of awareness about the condition (38%), Loss of daily wages of parents (24%), Hospital being very far (13%), Migrant population (4%), treated at private hospital (4%), Unaffordable cost (4%), awaiting for surgery (1%) were the important reasons and 12% of children were unable to follow-up.

But as per NFHS 4, population of < 15 years in urban area is 23.5% (9). In our study area with population of 30545 it accounts to 7,178 children, but RBSK coverage is only 1354 it accounts to 18.8% of children. And among Children enrolled in Government & Aided schools 91% were screened through RBSK. Among them 23 % were found with minor conditions and have been treated & given advice.

Conclusion

With this study we observe that still there are many children are undiagnosed and deprived of treatment for curable diseases. And this hidden part of children with defects, diseases or deficiencies constitute a major part in child mortality. Any effective health intervention will reduce both direct costs and out-of-pocket expenditure and here, Child Health Screening and promotion of Early Intervention Services is more important for improvement in health status of children. It will also be very helpful in reducing the extent of disability, in improving the quality of life and enabling all persons to achieve their full potential. The beautiful feature of the RBSK Services is the continuum of care extending over different phases of the life of a child over the first 18 years. And in future days we sincerely hope that it will be further extended to cover all the children of the community through NHM.

Recommendations

1. The RBSK should be extended to children in Private schools, children of Migrant population, School dropout.
2. A Follow up team should be constituted to follow up referred children.
3. Training for School teachers should be given regarding early identification of Health problem.
4. Plan of action should be made to reach absent children.
5. Parents should be counseled about need for the treatment.

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