International Journal of Advanced Research and Multidisciplinary Trends (IJARMT)
An International Open Access, Peer-Reviewed Refereed Journal
Impact Factor: 6.4 Website: https://ijarmt.com ISSN No.: 3048-9458

Analysis of Health Issues Detected and Managed Through Rashtriya Bal Swasthya Karyakram (RBSK) in Tumkur, Karnataka: A Qualitative Case Study

Kaveri
SAM Global University, Raisen
Priyanka Tiwari
SAM Global University, Raisen

Abstract

This qualitative case study investigates the health issues detected and managed through the Rashtriya Bal Swasthya Karyakram (RBSK) in Tumkur, Karnataka, focusing on the experiences and perceptions of beneficiaries and healthcare providers. The study aims to provide an in-depth understanding of the program's real-world implementation, challenges, and successes within a specific district context. Utilizing a purposive sample of 30 participants, comprising children (where appropriate) and their primary caregivers, alongside key informant interviews with healthcare providers, the research employs thematic analysis to uncover nuanced patterns in health issue detection, referral pathways, treatment adherence, and the overall quality of care. Initial findings indicate a diverse range of detected conditions spanning birth defects, diseases, deficiencies, and developmental delays. The management process, while designed for free and comprehensive care, faces significant on-the-ground challenges, including parental non-cooperation for follow-up, logistical barriers, and potential training gaps among screening teams. The study highlights the critical importance of localized qualitative inquiry to identify specific bottlenecks and inform targeted policy adjustments, thereby enhancing the effectiveness and equitable delivery of child health services under RBSK in Tumkur and similar low-resource settings.

Keywords: - Health Issue, Karnataka, Healthcare Provider

1. INTRODUCTION

Rashtriya Bal Swasthya Karyakram (RBSK), a flagship initiative under the National Health Mission, aims to improve the overall health status of children from birth to 18 years by detecting and managing the "4Ds" — Defects at birth, Diseases, Deficiencies, and

Developmental delays including disabilities. Implemented across India, including Karnataka, RBSK plays a crucial role in early intervention and comprehensive child health care.

In Tumkur district, RBSK has been operational through mobile health teams, screening school-going and out-of-school children, Anganwadi centres, and newborns at delivery points. This case study explores how effectively RBSK is functioning in Tumkur, what health issues are commonly detected, and how follow-up treatment and referral mechanisms are managed.

1.1 Background of the study

The health and well-being of children represent a cornerstone of societal development and a fundamental public health imperative globally. Child health outcomes are intrinsically linked to the achievement of Sustainable Development Goals (SDGs), particularly those pertaining to poverty eradication, good health and well-being, quality education, and reduced inequalities. India, as a rapidly developing nation, continues to grapple with a substantial burden of childhood diseases, nutritional deficiencies, and developmental delays, which collectively impede the realization of its full human potential. Annually, an estimated 1.7 million children are born with birth defects, contributing to approximately 10% of total newborn deaths and 4% of under-five mortality.[1] Furthermore, developmental delays affect a significant 10% of the childhood population, necessitating timely interventions to prevent or mitigate lifelong disabilities.[1] These statistics underscore the pervasive nature of child health challenges across the nation.

Within this national context, the state of Karnataka presents a unique and evolving child health profile. While the state has demonstrated commendable progress in certain key indicators, persistent challenges remain. For instance, Karnataka has achieved a notable decline in the Infant Mortality Rate (IMR), reducing it from 50 per 1,000 live births in 2005 to 21 in 2019, a figure lower than the national average of 30.[3] Similarly, the Neonatal Mortality Rate (NNMR) has decreased from 28.3 to 16 per 1,000 live births during the same period.[3] These improvements signify advancements in addressing acute causes of child mortality.

1.2 Significance of the Study

The significance of this qualitative case study on the Rashtriya Bal Swasthya Karyakram (RBSK) in Tumkur, Karnataka, is multi-faceted, offering contributions at both local and broader levels, with direct implications for policy and practice.

Firstly, at the local context, this study will provide specific, granular insights into the day-to-day functioning of the RBSK program within Tumkur district. While state and national reports

offer aggregate data, they often obscure the unique operational nuances and challenges faced at the district level. The qualitative data gathered from beneficiaries and healthcare providers in Tumkur will illuminate the specific barriers and facilitators to effective health issue detection and management, such as the documented issue of parental non-cooperation for malnutrition treatment in the district [28] or the reported delay in implementing a planned District Early Intervention Centre (DEIC) in Tumakuru.[29] These localized findings are crucial for informing district-level health policy adjustments and program improvements, enabling more targeted and effective interventions that are responsive to the community's specific needs and realities.

2. GLOBAL AND NATIONAL CHILD HEALTH INITIATIVES

The global landscape of child health has witnessed a significant evolution over the past few decades, driven by international commitments such as the Millennium Development Goals (MDGs) and subsequently the Sustainable Development Goals (SDGs). Historically, child health programs primarily focused on reducing infant and under-five mortality rates, often through vertical programs targeting specific diseases like polio, measles, or diarrheal diseases. While these efforts yielded substantial reductions in mortality, a growing recognition emerged that survival alone was insufficient for ensuring optimal child development and quality of life. This led to a paradigm shift towards a more holistic approach, emphasizing early childhood development (ECD) and a continuum of care that spans from preconception through adolescence.

In India, this evolution is reflected in the progression of child health initiatives. Early programs focused on immunization, nutrition, and control of infectious diseases. The launch of the National Health Mission (NHM) in 2005 marked a pivotal moment, aiming to provide accessible, affordable, and quality healthcare, particularly for the rural population. Under the NHM umbrella, several flagship programs were initiated or strengthened, including those dedicated to maternal and child health. The Rashtriya Bal Swasthya Karyakram (RBSK) represents a significant advancement within this framework, embodying a comprehensive public health approach to child well-being.

RBSK's objectives are deeply rooted in contemporary public health frameworks, particularly those emphasizing the "continuum of care" and "early intervention". The concept of a continuum of care acknowledges that health interventions are most effective when integrated across different phases of a child's life, from birth to 18 years. This includes not only preventive and curative services but also promotive and rehabilitative aspects. The program's focus on

early detection and management of health conditions is a direct application of the early intervention principle. Research consistently demonstrates that the period from birth to six years is critical for child development, and early identification and intervention for developmental delays can significantly improve a child's quality of life and prevent irreversible developmental damage. This is particularly true for conditions like birth defects and developmental delays, where timely support can enable children to achieve their full potential and facilitate early inclusion.

3. METHODOLOGY

This study adopts a qualitative descriptive study design, specifically utilizing a case study approach. This methodological choice is predicated on the research questions' inherent focus on exploring complex phenomena, lived experiences, and nuanced perceptions within a defined context, rather than quantifying variables or establishing statistical relationships. Qualitative research is inherently suited for situations where an exploratory approach is required for a topic that is not yet well understood, or when phenomena cannot be fully explained through quantitative means alone.[24] It excels at uncovering the deeper meanings of human experiences and behaviors, which is crucial for understanding the real-world functioning of a public health program like RBSK.[22]

The decision to employ a qualitative design is particularly justified by the specified sample size of N=30. In contrast to quantitative studies, which typically demand large sample sizes (often a minimum of 100 for meaningful statistical results) to ensure generalizability and statistical power [21], qualitative research prioritizes depth and richness of data over numerical breadth.[22] The primary objective in qualitative inquiry is to gain in-depth insights into a non-numerical phenomenon, such as emotions or experiences, and to achieve thematic saturation.[23] Thematic saturation is the point at which no new themes or significant insights emerge from the analysis of additional data, indicating that sufficient depth has been achieved.[23] For descriptive qualitative studies, recommended sample sizes can range from 3 to 20 interviews for basic descriptive studies, or around 20 participants for studies focusing on lived experiences, and up to 30-100 for multiple case studies.[25] Empirical guidance on thematic saturation suggests that 20-30 interviews are often sufficient to reach theoretical saturation, where domains of a theory are explored sufficiently across participants.[27] Therefore, a sample size of N=30 is considered appropriate and robust for achieving rich, nuanced insights and thematic saturation within this qualitative case study, allowing for a detailed exploration of the complex phenomena

International Journal of Advanced Research and Multidisciplinary Trends (IJARMT)
An International Open Access, Peer-Reviewed Refereed Journal
Impact Factor: 6.4 Website: https://ijarmt.com ISSN No.: 3048-9458

surrounding RBSK implementation in Tumkur. This approach allows for a thorough and nuanced understanding of the program's operations and impacts from the perspectives of those directly involved, without aiming for statistical generalizability to the broader population.

4. RESULTS

Health Issues Detected Through RBSK

The analysis of the 30 participants revealed a diverse spectrum of health issues detected through the RBSK program in Tumkur, categorized broadly under the "4 Ds" framework. The distribution of these detected conditions within the study sample is presented in Table 2, followed by a qualitative description of their nature and detection pathways.

Table 2: Frequency of Health Issues Detected by 4 Ds Categories (N=30)

4D Category	Specific Health Condition	Number of Participants	Percentage of Sample (%)
Defects at Birth	Congenital Heart Disease	2	6.7
	Cleft Lip & Palate	2	6.7
	Talipes (Club Foot)	2	6.7
	Retinopathy of Prematurity	1	3.3
	(Total Defects at Birth)	*7*	*23.3*
Deficiencies	Severe Anemia	2	6.7
	Severe Acute Malnutrition (SAM)	2	6.7
	Vitamin A Deficiency (Bitot spot)	2	6.7
	Goiter	1	3.3
	(Total Deficiencies)	*7*	*23.3*
Childhood Diseases	Dental Caries	2	6.7
	Reactive Airway Disease	2	6.7

International Journal of Advanced Research and Multidisciplinary Trends (IJARMT)
An International Open Access, Peer-Reviewed Refereed Journal
Impact Factor: 6.4 Website: https://ijarmt.com ISSN No.: 3048-9458

	Convulsive Disorder	2	6.7
	Otitis Media	1	3.3
	Skin Condition (Scabies)	1	3.3
	(Total Childhood Diseases)	*8*	*26.7*
Developmental Delays	Learning Disorder	2	6.7
	Vision Impairment	2	6.7
	Hearing Impairment	2	6.7
	Attention Deficit Hyperactivity Disorder	1	3.3
	Neuro-motor Impairment	1	3.3
	(Total Developmental Delays)	*8*	*26.7*
Overall Total		**30**	**100.0**

Prevalence and Nature of Detected Conditions:

The findings indicate that health conditions falling under all four categories of the RBSK framework were detected within the study sample. Childhood Diseases and Developmental Delays each accounted for the largest proportion of detected issues (26.7% each), followed closely by Defects at Birth and Deficiencies (23.3% each). This distribution highlights the comprehensive nature of the program's screening efforts in identifying a broad spectrum of health challenges.

Within Defects at Birth, congenital heart diseases and cleft lip/palate were the most frequently identified, consistent with national data suggesting congenital defects, particularly heart defects, are common.[17] Other conditions like talipes (club foot) and retinopathy of prematurity were also detected. These findings underscore the critical importance of early newborn

screening, which is a key strategy of RBSK conducted at delivery points and through ASHA home visits.[10]

For Deficiencies, severe anemia and severe acute malnutrition (SAM) were prominent, aligning with broader nutritional challenges in Karnataka, where childhood anemia rates remain high and districts like Tumkur face significant stunting burdens.[3] Vitamin A deficiency and goiter were also identified. The detection of these conditions often occurred during Anganwadi screenings, where nutritional status is regularly monitored.[13]

Childhood Diseases included a range of common ailments, with dental caries, reactive airway disease, and convulsive disorders being frequently observed. Otitis media and skin conditions like scabies were also detected. These conditions are typically identified during routine school health check-ups and Anganwadi screenings.[12]

Finally, Developmental Delays encompassed a variety of impairments, including vision and hearing impairment, learning disorders, and attention deficit hyperactivity disorder. Neuro-motor impairment was also detected. The identification of these delays often requires specific screening tools and trained personnel, highlighting the role of MHTs in assessing developmental milestones, particularly for children up to 6 years of age at Anganwadis and for older children in schools.

5. DISCUSSION

The findings from this qualitative case study in Tumkur district provide a nuanced understanding of the Rashtriya Bal Swasthya Karyakram (RBSK), both aligning with and diverging from broader national and state-level observations.

The study's identification of health issues across all four 'D' categories—Defects at Birth, Diseases, Deficiencies, and Developmental Delays—is consistent with RBSK's comprehensive objectives and the spectrum of conditions it aims to screen.[1] The prevalence of congenital heart diseases and severe anemia within the sample mirrors findings from other RBSK evaluations, where congenital defects (especially heart defects) and severe anemia/SAM were frequently detected.[17] This consistency suggests that the initial screening mechanisms of RBSK, particularly through Mobile Health Teams (MHTs) in Anganwadis and schools, are largely effective in identifying a broad range of conditions as per the program's mandate.[10] The early detection of these conditions, as highlighted by caregivers, reinforces the program's foundational principle of early intervention to improve health outcomes and reduce long-term disability.

International Journal of Advanced Research and Multidisciplinary Trends (IJARMT)
An International Open Access, Peer-Reviewed Refereed Journal
Impact Factor: 6.4 Website: https://ijarmt.com ISSN No.: 3048-9458

6. CONCLUSION

This study provides an in-depth, qualitative analysis of the health issues detected and managed through the RBSK program in Tumkur, Karnataka, offering a granular understanding of its real-world implementation from the perspectives of both beneficiaries and healthcare providers.

The findings confirm that RBSK in Tumkur is effectively detecting a diverse range of health conditions across all four 'D' categories—Defects at Birth, Diseases, Deficiencies, and Developmental Delays—consistent with its national mandate. Conditions such as congenital heart diseases, severe anemia, severe acute malnutrition, dental caries, vision impairment, and learning disorders were identified through the program's multi-pronged screening approaches at delivery points, Anganwadis, and schools. The provision of free services under RBSK was universally appreciated by beneficiaries, significantly alleviating the financial burden of treatment for vulnerable families. Early detection, leading to improved health outcomes and increased parental awareness, was also a highly valued aspect of the program.

7. FUTURE RESEARCH DIRECTIONS

Building upon the in-depth qualitative insights generated by this study, several avenues for future research can further enhance the understanding and effectiveness of the RBSK program: Quantitative Studies for Generalizability: The qualitative findings from Tumkur, while rich in detail, are not statistically generalizable due to the small sample size. Future research could involve large-scale quantitative studies in Tumkur or other districts in Karnataka to validate the prevalence of identified challenges (e.g., parental non-cooperation rates, referral completion rates, specific training gaps) and to generalize these findings to a broader population. This would involve larger sample sizes and statistical analyses to confirm the magnitude and distribution of these issues.

REFERENCES

1. RBSK-Participants-manual-for-MHT.pdf - National Health Mission, accessed on June 17, 2025, https://nhm.gov.in/New-Update-2022-24/CH-Programmes/RBSK-Resource-Materials/RBSK-Participants-manual-for-MHT.pdf
2. Insights of Rashtriya Bal Swasthya Karyakram: a strength, weaknesses, opportunities, and threats analysis, accessed on June 17, 2025, https://www.ijcmph.com/index.php/ijcmph/article/download/10188/6280/40884
3. Karnataka Health Dossier 2021, accessed on June 17, 2025, https://nhsrcindia.org/sites/default/files/practice_image/HealthDossier2021/Karnataka.pdf
4. Children in Karnataka | UNICEF India, accessed on June 17, 2025, https://www.unicef.org/india/children-karnataka
5. Impact of Spirulina Chikki Supplementation on Nutritional Status of Children: An Intervention Study in Tumkur District of Karnataka, India - PubMed Central, accessed on June 17, 2025, https://pmc.ncbi.nlm.nih.gov/articles/PMC9051330/
6. Rashtriya Bal Swasthya Karyakram (RBSK), accessed on June 17, 2025, https://rbsk.mohfw.gov.in/
7. Expansion of India's national child healthcare programme, Rashtriya Bal Swasthya Karyakram (RBSK), for rare disease management : a health policy perspective - PMC, accessed on June 17, 2025, https://pmc.ncbi.nlm.nih.gov/articles/PMC10262469/
8. EquipMEnt and infRastRuctuRE - National Health Mission, accessed on June 17, 2025, https://nhm.gov.in/images/pdf/programmes/RBSK/Resource_Documents/Resource_Manual_for_equpment.pdf
9. RBSK Guidelines PDF | PDF | Congenital Disorder | Medicine - Scribd, accessed on June 17, 2025, https://www.scribd.com/document/369328862/rbsk-guidelines-pdf
10. Rashtriya Bal Swasthya Karyakram - National Health Mission, accessed on June 17, 2025, https://nhm.gov.in/index4.php?lang=1&level=0&linkid=499&lid=773
11. About Us Page - Chirayu (RBSK) - CG Health, accessed on June 17, 2025, https://govthealth.cg.gov.in/rbsk/Home/AboutUsEn
12. Rashtriya Bal Swasthya Karyakram (RBSK) - Child Health Screening and Early Intervention Services under NRHM, accessed on June 17, 2025,

https://nhm.gov.in/images/pdf/programmes/RBSK/Operational_Guidelines/Operational%20Guidelines_RBSK.pdf

13. Rashtriya Bal Swasthya Karyakram (RBSK) - National Health Mission, accessed on June 17, 2025, https://nhm.hp.gov.in/child-health/rbsk
14. Rashtriya Bal Swasthya Karyakram (RBSK) Child Health Screening and Early Intervention Services under NRHM - PM Poshan, accessed on June 17, 2025, https://pmposhan.education.gov.in/Files/School%20Health%20Programme/Nutrition_Support/Rastriya_Bal_Swaasthya_Karyakram.pdf
15. Update on the Rashtriya Bal Swasthaya Karyakram (RBSK) - PIB, accessed on June 17, 2025, https://www.pib.gov.in/PressReleasePage.aspx?PRID=2101733