International Journal of Health Sciences and Research
[Indexed, Peer-Reviewed Journal]
Volume 15; Issue: 12; December 2025
Website: www.ijhsr.org
Original Research Article *ISSN: 2249-9571*

Impact Assessment of *Rashtriya Bal Swasthya Karyakram* (RBSK) on Beneficiaries in a Rural Area of West Bengal: A Mixed-Methods Study

Rashid M[1], Ray K[2], Basu M[3]

[1]Senior Resident, Department of Community Medicine, Rampurhat Govt Medical College & Hospital
[2]Professor & Head of the Department of Community Medicine, Institute of Post Graduate Medical Education and Research, Kolkata
[3]Professor and Head, Department of Community Medicine, ICARE Institute of Medical Science and Research, Haldia

Corresponding Author: Ray K

DOI: https://doi.org/10.52403/ijhsr.20251216

ABSTRACT

Background: *Rashtriya Bal Swasthya Karyakram* (RBSK) is a nationwide programme aimed at screening and early intervention for children with birth defects, developmental delays, and disabilities. Despite its implementation, there is limited evidence on the programme's effectiveness and challenges faced by caregivers and Mobile Health Teams (MHTs).
Objectives: This study was conducted to assess the impact of RBSK among beneficiaries in a rural area of West Bengal; explore the challenges faced by the caregivers and MHTs while availing the services and in implementing the RBSK programme respectively.
Methods: A cross-sectional study with convergent parallel mixed-method approach was conducted using secondary data and telephonic interviews with caregivers, as well as in-depth interviews with 4 MHT members in Budge-Budge-II block of South 24 Parganas district, West Bengal.
Results: Out of 88 children identified to have 4 'D's (disease, deficiency, defect, and developmental delay) (April 2022-May 2023), 76 caregivers were interviewed telephonically, and among them 48 (63.2%) children attended the DEICs (District early intervention centres) for further management. Reasons for non-utilization of subsequent services were preference for private providers and denial of referral. Out-of-pocket expenditure (OOPE), long waiting periods and multiple visits were the challenges faced by caregivers. MHTs faced challenges like staff shortage, transport issues and lack of co-operation from Anganwadi centers and Schools.
Conclusion: Nearly one-third of beneficiaries did not utilize RBSK services after referral by the MHT, primarily due to preference for private providers. Caregivers faced challenges such as out-of-pocket expenditure, long waiting periods, and multiple visits, while MHTs faced staff shortages, transport issues, and lack of cooperation from Anganwadi centers and schools.

Keywords: *Rashtriya Bal Swasthya Karyakram*, RBSK, child health, public health programmes

INTRODUCTION

Rashtriya Bal Swasthya Karyakram (RBSK) is a flagship initiative under the National Health Mission (NHM), launched to promote early identification and intervention for children from birth to 18 years of age. The

programme focuses on screening for four categories of health conditions, known as the "4Ds" - birth defects, diseases, deficiencies, and developmental delays including disabilities.[1] Screening is conducted at the community and institutional level by Accredited Social Health Activists (ASHAs) and Mobile Health Teams (MHTs), while diagnosis and treatment are provided through District Early Intervention Centres (DEICs) located at district headquarters.[1,2] These conditions significantly contribute to childhood morbidity and mortality, and if unaddressed, can lead to long-term cognitive, sensory, or physical impairments.

RBSK aims to improve child health outcomes and enhance quality of life through early detection and management, covering approximately 270 million children attending Anganwadi centres and government schools.[2] Previous studies on RBSK have mainly focused on the knowledge, attitude, and practices (KAP) of healthcare providers[3,4] evaluation of programme infrastructure and manpower[5], and assessment of DEIC performance and beneficiary feedback.[6] However, there is limited empirical evidence regarding the overall effectiveness of the programme at the community level, particularly in terms of accessibility, utilization, and challenges faced by both caregivers and frontline workers.

Despite its extensive implementation, the RBSK's real-world impact in rural settings remains underexplored. Understanding the barriers encountered by caregivers in availing services and the difficulties faced by MHTs during implementation is essential for strengthening the programme. Therefore, this study was undertaken to assess the impact of RBSK services among beneficiaries in a rural area of West Bengal over a one-year referral period, and to identify key operational and accessibility challenges affecting its effectiveness.

MATERIALS & METHODS

Study design, area, and participants

This was a descriptive, cross-sectional study employing a convergent parallel mixed-methods approach. The study was conducted in Budge-Budge-II block of South 24 Parganas district, West Bengal, over three months (May–July 2023). The quantitative component involved collection of secondary data from the RBSK digital portal and telephonic interviews with caregivers of eligible beneficiaries, while qualitative component included in-depth interviews from MHTs. A total of 88 children with 4 'Ds' were identified in the block during the reference period (April 2022–May 2023).

Sample size and sampling technique

Complete enumeration was used for both the qualitative and quantitative components. Quantitative data were collected through record review of the RBSK portal (including type of health condition, gender, and referred hospital) and telephonic interviews with caregivers of the beneficiaries. If a caregiver's phone was unreachable or switched off, two additional attempts were made on subsequent days. Contact could not be established with 12 caregivers, who were therefore excluded. Informed verbal consent was obtained from all participating caregivers after explaining the study purpose, and all agreed to participate.

Study technique and tool

A pre-designed, pre-tested structured schedule was used for primary data collection, along with a data abstraction form to retrieve secondary data from the RBSK portal. Pre-testing was conducted among 10 caregivers of eligible children from the preceding two months of the reference period.

Caregivers were telephonically interviewed regarding their visits to DEICs after referral by MHTs. Of the 76 caregivers contacted, 28 did not attend the DEICs. Those who did not attend were asked open-ended questions about reasons for non-utilization. Caregivers who attended DEICs were asked about the current status of their child's health condition (cured/under treatment/treatment withheld) and any challenges faced while accessing RBSK services. Those reporting challenges

were further asked to describe the nature of these challenges through open-ended questions.

For the qualitative strand, in-depth interviews (IDIs) were conducted with four medical officers of the MHTs to explore programme implementation challenges at the Rural Health and Training Centre (RHTC) in Budge-Budge-II block. Typically, an MHT comprises two AYUSH medical officers (one male, one female), one ANM or staff nurse, and one pharmacist skilled in computer-based data management. In this study, two MHTs were operating without ANMs, staff nurses, or pharmacists. The IDI guide was initially prepared as a semi-structured interview tool under the supervision of two subject experts and one medical officer from the State Public Health Cell. The guide was reviewed for face validity and modified based on expert feedback before finalization for use.

Data processing and analyses

Quantitative data were entered and tabulated using Microsoft Excel 2019 (Microsoft Corp, Redmond, WA, USA) and summarized using descriptive statistics. For the qualitative component, thematic analysis was applied to in-depth interviews of MHT members. Audio recordings and notes were transcribed into written text, and an inductive approach was used to code the data and identify emerging themes. Peer debriefing was conducted to ensure accuracy and validity. Findings from the qualitative analysis were presented as themes, codes, and verbatim.

Ethical considerations

Ethical approval was obtained from the Institutional Ethics Committee (IPGME&R/IEC/2023/782 dated 06.05.2023) prior to the commencement of the study. All ethical principles were strictly followed throughout the research. Additionally, clearance was obtained from the Block Medical Officer of Health (BMOH) to access the RBSK portal for secondary data collection.

RESULTS

During the reference period (April 2022–May 2023), a total of 88 children with one or more of the 4 ‘D’s were identified from various schools and Anganwadi centres in the selected block. Using the available records, attempts were made to contact the caregivers of all 88 children. Of these, 76 caregivers were successfully reached and interviewed over the phone. Contact could not be established with 12 caregivers as their phones were either switched off or out of network coverage. Among the 76 children whose caregivers were interviewed, 48 (63.2%) attended the DEICs for further management following referral by the MHT, while 28 children did not report to the DEICs (Figure 1).

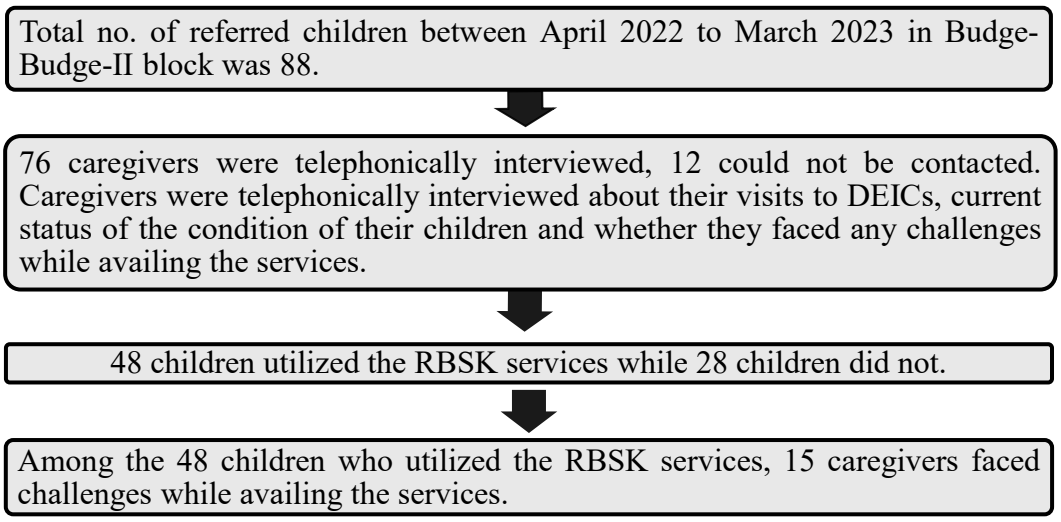

Figure 1: Flow chart showing sampling technique

***Impact of RBSK among caregivers*:** Among the utilizers, most cases were related to defects (56.3%), followed by developmental delays (29.1%). Similarly, among the non-utilizers, the majority were also defects (57.2%), followed by developmental delays (35.7%) (Table 1). Of the 48 utilizers, 42% were receiving treatment or rehabilitation, 37% had been cured, and treatment was withheld in 21% of cases (Figure 2).

Table 1: Profile of beneficiaries who utilised and did not utilise RBSK services (n=76)

4D Categories	Beneficiaries who utilised RBSK services (n=48) No (%)	Beneficiaries who did not utilise RBSK services (n=28) No (%)
Defects	27 (56.3)	16 (57.2)
Deficiency	1 (2.1)	0
Disease	6 (12.5)	2 (7.1)
Developmental delay	14 (29.1)	10 (35.7)

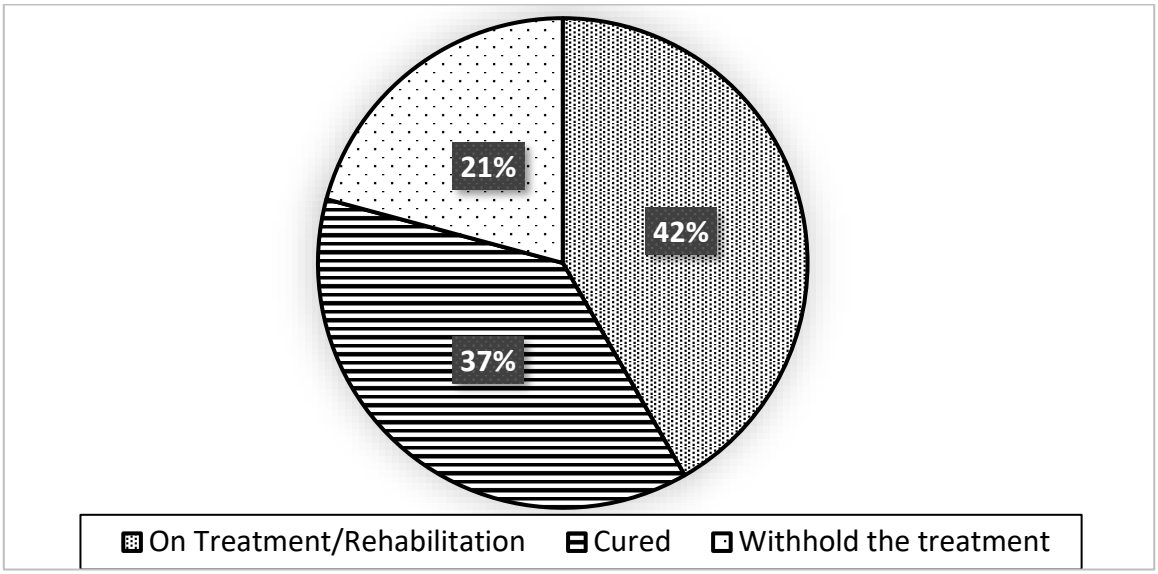

Figure 2: Pie diagram showing current status of children who utilized RBSK services (n=48)

Among the 28 non-utilizers, 12 were seeking care from private hospitals. 6 caregivers did not perceive the condition as a health concern, and another 6 stated that no referral had been provided by the MHT. 5 parents were unwilling to proceed with surgery due to uncertainty regarding its success, and 3 reported the absence of accompanying persons as their husbands were away (Table 2).

Table 2: Distribution of the caregivers according to the reasons for non-utilization (n=28)*

Reasons for not utilizing RBSK services	No (%)
Taking treatment from private hospital	12
Parents did not consider the problem as health issue	6
Denied any referral by MHTs	6
Unwilling for surgery due to the uncertainty of success of surgery	5
No accompanying persons	3

*** Multiple response**

Table 3 presents the challenges faced by caregivers while accessing RBSK services. The key difficulties included out-of-pocket expenses (OOPE) for medicines and transport, loss of wages, long waiting times, and the need for multiple visits.

Challenges faced by MHTs: The key challenges highlighted during the in-depth interviews were related to manpower constraints, inadequate support from Anganwadi centres and schools, and transport difficulties.

Table 3: Distribution of the caregivers based on challenges faced while accessing RBSK services (n=48)*

Challenges faced while accessing RBSK services	No (%)
OOPE for medicines	42
OOPE for transport	39
Loss of wages	31
Long waiting time	25
Multiple visits required	12

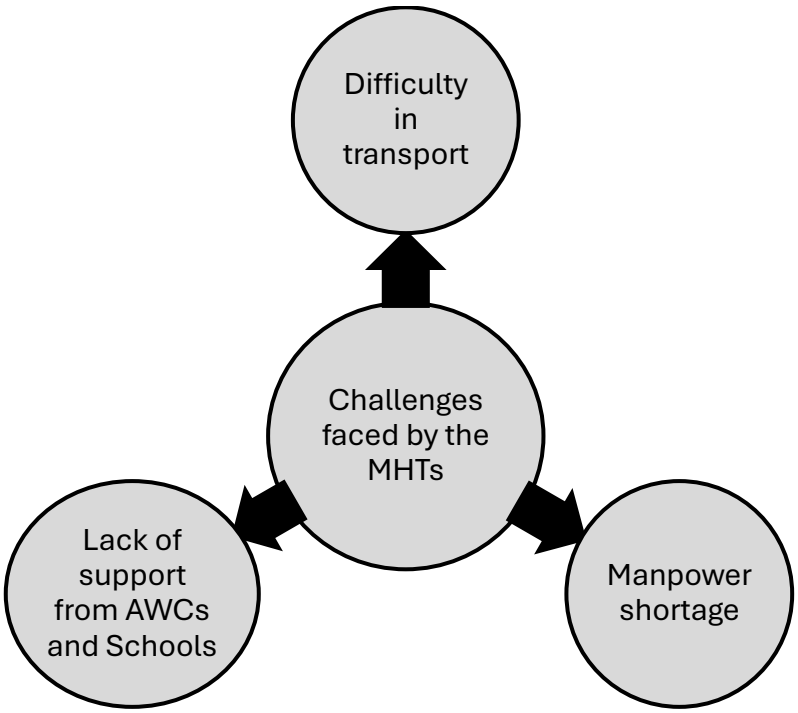

Figure 3: Challenges faced by the MHTs while implementing RBSK Services

Manpower Constraints:
MHTs reported shortages in human resources. They quoted that "we do not have sufficient manpower for our block size. There are no ANMs or pharmacists" and "we have to manage all the data entry and reporting ourselves."

Limited support from Anganwadi centres and Schools:
In several instances, cooperation from these institutions was inadequate. They reported that "some Anganwadi workers and school teachers do not show interest in the RBSK programme; children's attendance is low during screening camps" and "they are not creating awareness about the programme."

Transport related issues:
Access to remote areas was affected by poor road connectivity. They stated that "sometimes, we have to walk long distances to reach Anganwadi centres and schools in remote areas" and "during the rainy season, conducting screening camps becomes difficult."

DISCUSSION

Impact of RBSK among caregivers: In the present study, out of 88 identified children, 76 (86.4%) could be contacted, with a refusal rate of 13.6%. The utilization rate of RBSK services was found to be 63.2%, which is higher than the 50.5% utilization reported by Bhatt et al.[7] In contrast, a study conducted in the districts of Raipur and Raigarh in Chhattisgarh showed that only 31.5% to 38.9% of referred children reached the DEIC.[8] Similarly, a national review reported that until December 2014, only 35% of referred beneficiaries utilized tertiary care services under RBSK across India.[9] Thus, the utilization observed in the current study is comparatively higher than most other

studies. The higher utilization in the present study, despite being conducted in a rural block, may be attributed to the smaller catchment area compared to larger and more dispersed districts reported in previous studies, better follow-up by frontline health workers, limited dependence on private facilities as rural caregivers rely more on government services.

In the present study, children with defects (birth anomalies) had the highest utilization, which is consistent with findings by Bhatt et al.[7] However, unlike Bhatt's study, a larger proportion of non-utilizers in our study were children with developmental delays. This difference may be explained by the fact that birth defects are usually more visible or interfere with daily routine of child, prompting caregivers to seek care, whereas developmental delays are often not perceived as a matter of concern by many parents.

Among the non-utilizers, the majority (78.6%) did not access any health facility or discontinued treatment. This highlights the need for proper counselling, especially after issuing the RBSK referral card. The reasons cited for non-utilization included denial of the health issue and lack of referral or follow-up by health workers, which is similar to the findings of a study conducted in Pune.[10]

Some caregivers sought treatment from private hospitals, reflecting a preference for private healthcare. This aligns with several Indian studies on health-seeking behaviour, which have consistently shown a higher inclination toward private facilities due to perceived better quality and accessibility. [11,12]

Challenges reported by caregivers in our study—such as out-of-pocket expenditure for transport, food, accommodation, confusion regarding the referral process, unavailability of beds and medicines—are corroborated by the findings of Mehta A, who discussed similar ground-level barriers faced by RBSK beneficiaries.[12] These challenges reflect implementation gaps, lack of financial support mechanisms, and accessibility barriers within the healthcare system, which disproportionately affect families from rural and low-income backgrounds.

***Challenges faced by MHTs*:** With regard to service delivery issues, the current study revealed shortage of human resources in the MHTs of Budge-Budge-II block, particularly the lack of data entry operators, pharmacists, and nurses. These findings are similar to those reported by Singh et al., who also documented human resource gaps affecting RBSK implementation.[11] Additionally, lack of adequate cooperation from schools and Anganwadi centres emerged as a barrier to effective screening. This observation is in line with challenges documented in the study by Kumar et al., where limited support from educational institutions hindered programme activities.[13] Thus, both the current study and previous literature indicate that strong institutional support and adequate staffing are critical for the success of RBSK. Thus, reinforcing the need for recruitment of dedicated personnel and sensitization of schools and Anganwadi centres to improve screening, follow-up, and service utilization.

Strength and limitations: This study is one of the few mixed-methods investigations that assessed both the impact of RBSK and the barriers faced by caregivers and MHTs, providing insights from multiple perspectives. However, since data were collected through telephonic interviews, there is a possibility of reporting bias.

Future Implications: Future studies could focus on evaluating long-term outcomes and treatment adherence among referred children to better understand the sustained impact of RBSK services.

Conclusion And Recommendations

Nearly two-thirds (63.2%) of children utilized RBSK services following referrals by the RBSK team. Although treatment under RBSK is free, caregivers face challenges such as travel, lodging, and repeated visits, which hinder service uptake. MHT staff also encounter barriers, including insufficient manpower, dual workloads for medical officers, limited support from schools and Anganwadi centres, and

transport difficulties, restricting their effectiveness.

To reduce out-of-pocket expenses, it is suggested that Mobile Health Teams operate once a week to transport children and caregivers from their blocks to DEICs. Hospital- and referral-related challenges can be addressed by reserving a specific number of beds for RBSK beneficiaries, with these allocations reflected on the portal to match DEIC referrals. Awareness can be improved through active engagement with local stakeholders via initiatives in schools and Anganwadi centres. Finally, to enhance MHT efficiency without exceeding budget constraints, recruitment of additional ANMs and pharmacists is recommended.

Declaration by Authors

Ethical Approval: Approved

Acknowledgement: We sincerely thank the Block Medical Officer of Health of Budge-Budge-II block for his support. We also gratefully acknowledge the AYUSH medical officers of the MHT and all participants who generously shared their time and experiences, which greatly contributed to the success of this study.

Source of Funding: None

Conflict of Interest: Nil

REFERENCES

1. National Health Portal of India. Rashtriya Bal Swasthya Karyakram (RBSK) [Internet]. [cited 2023 Aug 7]. Available from: (https://www.nhp.gov.in/rashtriya-bal-swasthyakaryakram-(rbsk)_pg)
2. Ministry of Health & Family Welfare. Operational Guidelines Rashtriya Bal Swasthya Karyakram (RBSK). Child Health Screening and Intervention Services under NRHM [Internet]. [cited 2023 Aug 7]. Available from: (https://nhm.gov.in/images/pdf/programmes/RBSK/Operational_Guidelines/Operational_Guidelines_RBSK)
3. Parmar, S., Bansal, S. B., Raghunath, D., & Patidar, A. (2017). Study of knowledge, attitude and practice of AYUSH doctors, evaluation of MHTs working in RBSK and client satisfaction. International Journal Of Community Medicine And Public Health, 3(8), 2186–2190. https://doi.org/10.18203/2394-6040.ijcmph20162568
4. Sangra S, Choudhary N, Narangyal A. Knowledge assessment of accredited social health activist and anganwadi workers about the Rastriya Bal Swasthya Karyakram in rural area of District Kathua. Int J Med Sci Public Health. 2020;9(4):280-2. https://imsear.searo.who.int/handle/123456789/205631
5. Panigrahy BK, Swain A. A cross-sectional study to evaluate the functioning and infrastructure of mobile health teams and DEIC (district Early Intervention Centre) at Koraput district of Odisha under Rastriya Bal Swasthya Karyakram (RBSK). World J Pharm Med Res. 2019;5(1):165-72.
6. Prabhu SA, Shukla NK, Roshni MS. Rapid assessment of Rashtriya Bal Swasthya Karyakram programme implementation and beneficiary feedback at two district early intervention centers in Chhattisgarh State in India. Curr Med Issues. 2021; 19:3-7. https://doi.org/10.4103/cmi.cmi_110_20
7. Bhatt G, Sharma R, Bakshi H, Oza D, Dave R, Pirzada A. A retrospective cohort study on utilization of Rashtriya Bal Swasthya Karyakram (RBSK) services among children screened at an Urban Health Centre (UHC) of Ahmedabad Municipal Corporation (AMC). Healthline. 2022;13(3):228-32. https://doi.org/10.51957/Healthline_398_2022
8. Singh AK, Kumar R, Mishra CK, Khera A, Srivastava A. Moving from survival to healthy survival through child health screening and early intervention services under Rashtriya Bal Swasthya Karyakram (RBSK). Indian J Pediatr. 2015;82(11):1012-8. https://doi.org/10.1007/s12098-015-1823-2
9. Kar A, Radhakrishnan B, Girase T, Ujagare D, Patil A. Community-based screening and early intervention for birth defects and developmental disabilities: lessons from the RBSK programme in India. Disabil CBR Incl Dev. 2020;31(1):30-46. https://dcidj.org/articles/abstract/10.5463/dcid.v31i1.890
10. Yadav R, Zaman K, Mishra A, Reddy MM, Shankar P, Yadav P, et al. Health seeking behavior and healthcare utilization in a rural cohort of North India. Healthcare (Basel).

2022;10(5):757. 10.3390/healthcare10050757
11. Singh S, Kalaskar S. Health care seeking behavior and utilization pattern in an urban slum of Mumbai: a cross-sectional study. Int J Curr Res. 2017;9(4):49342-5.
12. Mehta A, Saxena V, Khapre M. Challenges faced by clients of RBSK: a mixed method study from Uttarakhand, India. Indian J Prev Soc Med. 2022; 53:206-11.
13. Kumar N, Joshi NK, Jain YK, Singh K, Bhardwaj P, Suthar P, et al. Challenges, barriers, and good practices in the implementation of Rashtriya Bal Swasthya Karyakram in Jodhpur, India. Ann Natl Acad Med Sci (India). 2021; 57:237-43. https://doi.org/10.1055/s-0041-1739032

How to cite this article: Rashid M, Ray K, Basu M. Impact assessment of *Rashtriya Bal Swasthya Karyakram* (RBSK) on beneficiaries in a rural area of West Bengal: a mixed-methods study. *Int J Health Sci Res.* 2025; 15(12):122-129. DOI: *https://doi.org/10.52403/ijhsr.20251216*

******