

SHORT ARTICLE

Progressive Trends of Childhood Immunization in Rajasthan: A study based on the NFHS database

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Abstract

Any public health program's efficacy may be evaluated solely based on the available statistics. A program's ability to be tracked relies heavily on data. There are several systems in place in India for gathering data on the health of individual states and the country as a whole. The National Family Health Survey (NFHS) is one of these mechanisms. Children's vaccination status is one of the many data points collected by the National Health Interview Study (NHIS), a representative sample survey. NFHS is commonly used to evaluate and monitor the progress of any health program in the country, therefore, to sum it up: According to Rajasthan's NFHS-4 and NFHS-5 reports, there has been a significant increase in the state's coverage status. Despite the difficulties and the closure of the corona, this research will investigate the data that has demonstrated extraordinary rises and the causes that have made it possible or the huge efforts by the state government.

Keywords

Immunization; Data Comparison

Introduction

The primary cause behind the morbidity and mortality is infectious diseases. Immunization is among the best cost-effective and simple ways to ensure a child's health and well-being. The goal of immunizing children against diseases like tuberculosis, polio, diphtheria, pertussis, tetanus, hepatitis B, and measles, which cause death and morbidity in children, is a noble one (1). The under-five mortality rate (U5MR) and Infant Mortality Rate (IMR) are the most critical metrics stated in the Millennium Development Goals (MDGs), for which India is a signatory (IMR).

The primary goal of India's national vaccination program is to reduce morbidity and mortality from vaccine-preventable diseases. Despite all the government and non-government organizations' efforts to achieve 100% vaccination coverage, there are still pockets of low coverage. According to the National Family Health Survey

(NFHS-4) in India, only 54% of the children of age one to two years have received the basic package and NFHS 5 data documented the same for 83%. (2)

Reporting of immunization is an utmost important indicator to assess the population's health status (3). NFHS collects immunization information straight from the population. It is the most reliable database available and Independent assessment credited by MoHFW NHFS data is accepted by the global audience for the various plannings and initiatives in India Rajasthan has one of the largest birth cohort in India and has credits for many interventions for routine Immunization strengthening as eVIN, various new vaccine introduction and various new mechanisms adopted for supportive supervision lead to conduct the study on database of Rajasthan. (4,5)

Aims & Objectives

1. To assess the Immunization coverage of children in Rajasthan as per NFHS-4

2. To determine the Immunization coverage of children in Rajasthan as per NFHS-5
3. To understand the difference between the coverage status report from NFHS 4 & 5
4. To evaluate the government's efforts for improvement of immunization coverage in Rajasthan.

Material & Methods

For this study, NFHS 4 and NFHS 5 data and indicators are used to understand the immunization coverage of children in the state of Rajasthan. The Rajasthan fieldwork for NFHS-4 (2015-16) included 34,915 families, 41,965 women, and 5,892 males. NFHS 5 (2019-21) Information was gathered from 31,817 households, 42,990 women and 6,353 men. (6)

This study is designed to understand the difference between the immunization coverage status of the children by pooling NFHS 4 and NFHS 5 data. The projected outcome in the state of Rajasthan is determined using this pooled data. For this review, factsheets from NFHS 4 and NFHS 5 were used and referenced to, with the latter emphasizing the relevant variables in Rajasthan.(7,8).

Results

NFHS survey conducts in a gap of five years. The NFHS 4 & 5 data base of Rajasthan shows a remarkable positive improved coverage of immunization, supports the efforts done at each level from the planning to the execution of childhood vaccination in the state.(9) The data base also provides the information on the peoples improved interests in government vaccination system.(10,11)

Discussion

Data plays an essential role in the field of public health. As the government is investing in terms of money and manpower, there is a need to track down the progress in terms of data and number only. All National health programs have their importance, and to track down the progress, there is a dire need to capture and compile data. Later this data is used for advocacy, justification, grant allocation, demand for extra manpower, etc.(12,13) Even the policy level decisions are taken and recommended after the evidence-based approach. For this study, few indicators in the immunization coverage status in the state of Rajasthan were studied comparatively. [Table 1](#) shows the difference between the data captured under NFHS 4 and NFHS 5, which provided a base of the evidence of the efforts put in by the state in direction to improve the coverage of immunization.(14)

Conclusion

The study analyzed the NFHS 4 & 5 database of immunization in Rajasthan. It highlights on the large gap which was covered in NFHS 5 shows the work done and efforts put by the government of Rajasthan to enhance the immunization coverage in all the areas.

Recommendation

Immunization programme is one of the largest public health initiatives in India. Immunization database provides the background for future planning and forecasting for many important milestones.(15)

Relevance of the study

There have been many initiatives adopted by government to improve the vaccination coverage but the NFHS 4 & 5 database provides an authentic data which supports the government initiatives taken and implemented successfully and can be adopted by the other states as good practices.

Authors Contribution

All authors have contributed equally.

References

1. Ganguly E, Gupta R, Widge A, Reddy RP, Balasubramanian K, Reddy PS., Increasing full child immunization rates by government using an innovative computerized immunization due list in rural India - philpapers [Internet]. Inquiry: The Journal of Health Care Organization, Provision, and Financing. 1970 [cited 2022May2]. Available from: <https://philpapers.org/rec/GANIFC>
2. Bora JK, Saikia N. Neonatal and under-five mortality rate in Indian districts with reference to Sustainable Development Goal 3: An analysis of the National Family Health Survey of India (NFHS), 2015-2016. *PLoS One*. 2018;13(7):e0201125. Published 2018 Jul 30. doi:10.1371/journal.pone.0201125
3. Child immunization in Madhya Pradesh / Rakesh Munshi and Sang-Hyop Lee. Penn State University Libraries Catalog.. Available from: <https://catalog.libraries.psu.edu/catalog/7067385>
4. Park JJ, Brondi L. Why are girls still dying unnecessarily? the need to address gender inequity in child health in the post-2015 development agenda [Internet]. *Journal of global health*. Edinburgh University Global Health Society; 2015 [cited 2022May2]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4512263/>
5. Ohlan R. Pattern of regional disparities in socio-economic development in India: District Level Analysis [Internet]. SSRN. 2015 [cited 2022May2]. Available from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2709342
6. Srivastava A, Shankar G. Figure 1 from a study of immunization coverage and its determinants among under five children residing in urban field practice area of S. N. Medical College, Bagalkot, Karnataka, India: Semantic scholar [Internet]. undefined. 1970. Available from: <https://www.semanticscholar.org/paper/A-study-of-immunization-coverage-and-its-among-five-Srivastava-Shankar/8669506f255e338ae213c5a1fe50d57d3e25d56/figure/0>
7. Angadi M, Jose A, Udgiri R, Masali K, Sorganvi V. A study of knowledge, attitude and practices on immunization of children in urban slums of Bijapur city, Karnataka, India.: Semantic scholar [Internet]. undefined. 1970. Available from: <https://www.semanticscholar.org/paper/A-study-of-knowledge%2C-attitude-and-practices-on-of-Angadi-Jose/c966684eb9c951f1d270cf1ecc0f5a55ab6e7917>
8. Maternal knowledge and perceptions about the routine immunization. Available from: https://www.researchgate.net/publication/202303167_Maternal_Knowledge_and_Perceptions_about_the_Routine_Immunization_Programme_-_A_study_in_a_semi_urban_area_in_Rajasthan
9. RK; MRDAMG. Study of Immunisation Status of rural children (12-23 months age) of District Jaipur, Rajasthan and factors influencing it: A hospital based study [Internet]. *Journal of the Indian Medical Association*. U.S. National Library of Medicine; [cited 2022May2]. Available from: <https://pubmed.ncbi.nlm.nih.gov/23785914/>

10. Nonita Dhirar SD. Childhood morbidity and mortality in India - analysis of National Family Health Survey 4 (NFHS-4) findings. [Internet]. PubFacts. Indian Pediatr; 2022 [cited 2022May2]. Available from: <https://www.pubfacts.com/detail/29726828/Childhood-Morbidity-and-Mortality-in-India-Analysis-of-National-Family-Health-Survey-4-NFHS-4-Finding>
11. Comparison of immunization coverage status reported through NFHS. Available from: https://www.researchgate.net/publication/342206656_Comparison_of_Immunization_Coverage_Status_Reported_through_NFHS_Coverage_Evaluation_Survey_and_HMIS_in_Maharashtra
12. Health Management Information System [Internet]. HMIS. [cited 2022May2]. Available from: <https://hmis.nhp.gov.in/>
13. Husain Z, Saikia N, Bora RS. Opportunities and challenges of Health Management Information System in India: A case study of uttarakhand [Internet]. Munich Personal RePEc Archive. 2012 [cited 2022May2]. Available from: <https://mpr.ub.uni-muenchen.de/id/eprint/40014>
14. Nath B; Singh JV; Awasthi S; Bhushan V; Kumar V; Singh SK; A study on determinants of immunization coverage among 12-23 months old children in urban slums of Lucknow District, India [Internet]. Indian journal of medical sciences. U.S. National Library of Medicine; [cited 2022May2]. Available from: <https://pubmed.ncbi.nlm.nih.gov/18025746/>
15. Chaudhary V, Kumar R, Agarwal VK, Joshi HS, Sharma M. Evaluation of primary immunization coverage in an urban area of Bareilly city using cluster sampling technique. [Internet]. Pesquisa. 1970. Available from: <https://pesquisa.bvsalud.org/gim/resource/pt/sea-152581>

Tables

TABLE 1 IMMUNIZATION COVERAGE STATUS FROM NFHS-4 AND NFHS-5

Sr No	Indicator	Data comparison	
		NFHS 4 (2015-16)	NFHS 5 (2019-21)
1	Fully immunized children aged 12 to 23 months (BCG, measles, and three doses of polio and DPT) (%)	54.8	83.2
2	BCG-administered children aged 12 to 23 months (%)	88.8	97.4
3	Children aged 12 to 23 months who have had three DPT vaccine doses (%)	71.6	91.6#
4	Children aged 12 to 23 months who have been vaccinated against measles (%)	78.1	93.5
5	Children between the ages of 12 and 23 months who have had three doses of the Hepatitis B vaccine (%)	53.1	90.1#
6	Children aged 9 to 35 months who had had a vitamin A dose in the previous six months (%)	44	64.5##
7	Children between the ages of 12 and 23 months who received the majority of their vaccines at a public health facility (%)	94.4	95.3

Pentavalent 3; ## % Children given Vit A dose 1 to Reported live birth

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TOURIST ATTRACTION

Konark Temple is situated on the northeastern corner of Puri. Temple is a UNESCO World Heritage site and one of the prime tourist attractions of Odisha. The temple is attributed to king Narasimhadeva I of the Eastern Ganga dynasty about 1250 CE.

Temple is located in the sacred town of Puri, the Jagannath Temple or the pride of India was built in the 11th century by King Indrayudhama. This glorious temple is the abode of Lord Jagannath who is a form of Lord Vishnu.

Shanti stupa is a Buddhist Peace Pagoda and the main attraction for people who believe in Lord Buddha or appreciate detailed artworks. It is a big white building covered with dome on top and is adorned with intricate carvings on it.

Chilika Lake is a brackish water lake and a shallow lagoon with estuarine character spread across the districts of Puri, Khurda and Ganjam in the state of Odisha in eastern India.