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 (NFIS), 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.

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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