

Immunisation Status of Under Five Children in a Tribal Colony of Northern Kerala

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Abstract

Background: One of the most cost effective and easy methods for the healthy wellbeing of a child is immunization. Paniyans is one of the major tribes of Wayanad and are the largest single tribal community. The sociocultural, political, and topographical uniqueness of the tribal groups in Kerala, their needs of health care, attitudes, and health-care-seeking behaviors differ from the nontribal population and thus, challenge the present service-delivery system that has largely been based on the needs and priorities formulated for the nontribal population.

Methods: This was a cross-sectional study done between November 2018 to January 2019 at Jai Hind colony, Wayanad district among Paniyan tribes. All the under 5 children in the colony were the study subjects. The parents were approached individually in their houses and data was collected using a predesigned and pretested investigator-administered questionnaire. Responses were obtained from a total 21 parents of the subjects.

Results: The maximum coverage was for BCG (100%), followed by OPV₀ and hepatitis B₀ doses (95.23% for both) and the least was MR₂ and DPT₁ doses (52.94% for both). Majority of the children (52.38%) were partially immunized and there were no children (0%) who were non immunized. The most common reason for partial immunization was unawareness regarding the need for immunization (54.54%).

Conclusions: The proportion of fully immunized children was significantly lower in the study. The maximum coverage was for BCG and the least was MR₂ and DPT₁ doses. The most common reasons for partial/no immunization in the current study was lack of awareness regarding the need for immunization

Keywords: Immunization, under five children, Paniyan tribe, Wayanad, Kerala

Introduction

Infectious diseases are a major cause of morbidity and mortality in children. One of the most cost effective and easy methods for the healthy wellbeing of a child

is immunization. The goal of immunizing children against Tuberculosis, Polio, Diphtheria, Pertussis, Tetanus, Hepatitis B, and Measles, responsible for child mortality and morbidity, is indeed a noble one.¹ The most important indicators mentioned in the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) for which India is a signatory, are the under-five mortality rate (U5MR) and Infant Mortality Rate (IMR).² About one-quarter or 25% of the under-five mortality in India is due to vaccine preventable diseases.³ In 1974, the WHO launched its “Expanded Programme on Immunization” (EPI) against

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six, most common, preventable childhood diseases, viz. diphtheria, pertussis (whooping cough), tetanus, polio, tuberculosis and measles. The Government of India launched its EPI in 1978 with the objective of reducing the mortality and morbidity resulting from vaccine-preventable diseases of childhood, and to achieve self-sufficiency in the production of vaccines. Universal Immunization Program was started in India in 1985.⁴

In India, immunization services are offered free in public health facilities, but despite the efforts of the government, the immunization rate at the national level remains 62%.⁵ According to the National Family Health survey (NFHS)-5 data, the proportion of 12-23 months children fully immunized is 77.8% in Kerala state and 86.4% in Wayanad district.⁶ Wayanad is predominantly a hilly district set high on the Western Ghats with altitudes ranging from 700 to 2100 meters and has a large proportion (>40%) of its surface area covered with forest. It is also among 250 most backward districts of India.⁷ Wayanad has the largest tribal population in Kerala with 8 scheduled tribes residing here. Paniyans is one of the major tribes of Wayanad and are the largest single tribal community with a population of 92,787. It was a patrilineal slave tribe community until the 1970s Bonded labour act, distributed in Wayanad, Kannur, Kozhikode and Malappuram, and presently work mainly as agricultural labourers.⁸ The sociocultural, political, and topographical uniqueness of the tribal groups in Kerala, their needs of health care, attitudes, and health-care-seeking behaviors differ from the nontribal population and thus, challenge the present service-delivery system that has largely been based on the needs and priorities formulated for the nontribal population.⁹ Hence the assessment of difference in knowledge and practice of immunization programme by tribal and non-tribal communities in a similar rural set up is a topic of research relevance.¹⁰

In this context, the present study was conducted to assess the immunization status of children under 5, to find out the various reasons for partial or non-immunization of children in a tribal colony of Wayanad.

Materials and Methods

This was a cross-sectional study done between November 2018 to January 2019 at Jai Hind colony, Moopainad panchayat, Wayanad among Paniyan tribes. All the under 5 children in the colony whose parents were willing to participate in the study were the study subjects. After obtaining approval from the college administration, the parents were approached individually in their houses and briefed about the purpose of the study. Participation in the study was voluntary. Oral informed consent was obtained from the parents and data was collected using a predesigned and pretested investigator-administered questionnaire in the local language, which had questions pertaining to basic socio demographic details of the subjects, details about vaccination and reasons for not taking the same. Details about immunization were cross checked from the child's immunization card wherever available and in the event of the card being not available based on careful recollection of details (like site of administration, number of injections etc.,) related to immunization.

Responses were obtained from a total 21 parents of the subjects. The parents of under 5 children unavailable on the first visit were visited on subsequent 2 days. Data were kept confidential.

The following operational definitions were used

Fully immunized: a child who has received all vaccines as per the National immunization Schedule appropriate to its age

Partially immunized: A child who has missed any dose in National immunization Schedule appropriate to its age (and has not taken even after 6 months lapse from the ideal time)

Non-immunized: a child who has not received any dose as per the National immunization Schedule appropriate to its age (even after 6 months lapse from the ideal time)

The data collected was entered in MS Excel and analysed with the same. Descriptive statistics like numbers and percentage were used in the analysis

Results

Total number of subjects were 21. The mean age of the subjects was 34.13 (\pm 34.72) months. 11 (52%) of the subjects were male and 10(48%) female.

Table 1: Immunization coverage of individual vaccines

Vaccine	Coverage
BCG (n=21)	21 (100)
OPV 0 (n=21)	20 (95.23)
Hepatitis B 0 (n=21)	20 (95.23)
Pentavalent 3 (n=20)	10 (50)
MR 1 (n=20)	16 (80)
MR 2 (n=17)	9 (52.94)
DPT 1 (n=17)	9 (52.94)

The maximum coverage was for BCG (100%), followed by OPV₀ and hepatitis B₀ doses (95.23% for both) and the least was MR₂ and DPT₁ doses (52.94% for both)[table 1].

Table 2: Overall Immunization coverage status

Immunization status	No (%)
Fully immunized	10 (47.62)
Partially immunized	11 (52.38)
Total	21 (100)

Majority of the children (52.38%) were partially immunized and there were no children (0%) who were non immunized (table 2).

Table 3: Reasons for partial/non immunization

Reasons for partial/non immunization	No (%) (n=11)
Unaware of the need for immunization	6 (54.54)
Unaware of the subsequent doses	4 (36.36)
Lack of motivation/Postponed until another time	1 (9.1)

The most common reason for partial immunization was unawareness regarding the need for immunization (54.54%).

Discussion

In the current study, 47.62% were fully immunized and 52.38% partially immunized. Similar findings were observed by Manglik CG et al in their study in rural Mangaluru.¹¹ However Khargekar et al., in their study in a tribal area of Thane district Maharashtra have observed that the proportion of fully, partially and non-immunized were 71.1%, 17.8% and 11.1%.¹² Kumar et al., in their study in slums of Mangaluru have observed that proportion of fully and partially immunized were 58.7% and 41.3%. The possible reasons for the difference could be the differences in the sociocultural and demographic characteristics of the study subjects.

In the current study the maximum coverage was for BCG and the least was MR₂ and DPT₁ doses. Similar findings were noted by Manglik et al., and Kumar et al.,^{12,13} The most common reasons for partial/no immunization in the current study was lack of awareness regarding the need for immunization. Similar findings were observed by Manglik et al.,¹¹ But in the study by Kumar et al., the most common reason was lack of awareness about subsequent doses.¹³ The possible reasons for the difference could be the differences in the sociocultural and demographic characteristics of the study subjects.

The limitations of the study is that it is based on a single colony of Paniyan tribe. Hence the findings cannot be generalized to the entire paniyan tribe or to the entire tribal population of the Kerala state or India.

Conclusions

The proportion of fully immunized children was significantly lower in the study and majority were only partially immunized. The maximum coverage was for BCG and the least was MR₂ and DPT₁ doses. The most common reasons for partial/no immunization in the current study was lack of awareness regarding the need for immunization

Recommendations

Efforts should be made by means of SMS reminders or phone calls for the vaccine doses after 1 year of age.

More IEC activities are to be conducted in the tribal colonies of Wayanad to increase the awareness about the need for immunization and also the services available in the Public health facilities

Conflicts of Interest: Nil

Acknowledgements: The authors would like to sincerely acknowledge the support provided by the Management of the DMWIMS and also the co-operation of the members of the Paniyan tribe during the study.

Ethical Clearance: This study was a student project, and had time constraints as it had to be submitted before their university exams. Hence though IEC approval couldn't be obtained, ethical issues were appropriately addressed as follows

1. Anonymity of subjects was ensured
2. No pressure/allurement of any sort was exerted on the subjects to participate in the study and participation was completely voluntary
3. Confidentiality of data was ensured. It was saved in password protected systems which had access only to the investigators

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