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Analysis of vaccination services, breastfeeding and complementary feeding in ayurvedic institute at Pilibhit

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Abstract

Immunization is the process of inducing immunity against a specific disease. Vaccination refers to providing antigenic material (a vaccine) to stimulate an individual's immune system to develop adaptive immunity to a pathogen. Breast milk is an ideal food for a normal neonate. Breast feeding should be initiated as soon as possible. Though reported vaccination coverage and breastfeeding status is always higher, there is a wide gap in reported and evaluated coverage in India. Hence study was designed to evaluate the status of vaccination and feeding patterns in patients coming to Lalit Hari State Ayurveda Post graduate Medical College. Institution is providing vaccination services nearly since last 25 years.

Keywords: vaccination services, feeding, pilibhit, institute

Introduction

Immunization is the process of inducing immunity against a specific disease. Immunity can be induced either passively through administration of antibody-containing preparations or actively by administering a vaccine or toxoid to stimulate the immune system to produce a prolonged humoral and/or cellular immune response. Vaccination refers to providing antigenic material (a vaccine) to stimulate an individual's immune system to develop adaptive immunity to a pathogen. Vaccines can prevent or ameliorate infectious disease. Vaccination is the most effective method of preventing infectious diseases. The World Health Organization (WHO) estimate that vaccination averts 2-3 million deaths per year (in all age groups), and up to 1.5 million children die each year due to diseases which could have been prevented by vaccination. The World Health Organization launched Expanded Programme on Immunization (EPI) in 1974. Immunization programme in India started with the aim to reduce VPDs, completed three decades in 2008. It has partially succeeded in reducing the burden of vaccine preventable diseases; however, significant proportion of VPDs still exists for the reason of suboptimal coverage with the UIP antigens. Though reported vaccination coverage is always higher, there is a wide gap in reported and evaluated coverage in India. Hence study was designed to evaluate the status of vaccination and feeding patterns in patients coming to Lalit Hari State Ayurveda Post graduate Medical College. Institution is providing vaccination services nearly since last 25 years. Breast milk is an ideal food for a normal neonate. Breast feeding should be initiated as soon as possible. It is the best gift that a mother can give to her baby. It contains all the nutrients for growth and development.

Infant feeding norms

- Initiation of breastfeeding immediately after birth
- Exclusive breast feeding for first 6 months
- Appropriate and adequate complementary feeding
- Continued breastfeeding upto the age of 2 years or beyond

Early initiation of breastfeeding preferably within half an hour of birth provides successful lactation. It provides colostrums to the newborn. Colostrum is the milk secreted during the initial 3-4 days after delivery. It contains more antibodies and provides first immunization to the newborn. Benefits of Breast milk includes *Nutritional superiority*, Immunological superiority, Lactose is in a high concentration (6-7g/dL) in breast milk. The galactose is necessary for the formation of galactocerebrosides. Breast milk is rich in polyunsaturated fatty acids, Omega 2 and Omega 6, necessary for the myelination of the nervous system. Its protien is easily digestible as the baby cannot metabolize a high protein load. It contains amino acids

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which are necessary for neurotransmission. Breastfed baby does not require any additional months of life. Breast milk contains a number of growth factors, enzymes, hormones and epidermal growth factor. It enhances the maturation of the intestinal cells and thus reduces the risk of allergy in later life. Breastfeeding also helps in lactating mothers ie uterine involution and provides protection against pregnancy due to lactational amenorrhea. All mothers can successfully breastfeed except in acute maternal febrile illness, breast abscess, mother taking antithyroid drugs, anticancerous drugs. Primipara should be motivated and prepared for early initiation of breast feeding, exclusive breast feeding and educate regarding cleanliness of nipples and breast. Complementary feeding refers to food that complements breast milk and ensures that the child continues to have enough energy, protein and other nutrients to grow normally. Complementary feeding after 6 month of age is very important, as breast milk alone is not enough. Study area of this research is Pediatric OPD and Vaccination Desk. Average attendance of pediatric OPD is 30-40 patients per day. Every Tuesday and Thursday is vaccination day. Hence our study was restricted to vaccination days. Although hospital is catering wide range of patients but lower economic strata is mostly catered here hence it very important to provide services and information in a simplest way so study is designed to analyze the awareness about vaccination days, schedules, safety and effectiveness of vaccination and status of breastfeeding (frequency and duration) in vaccinated child at Balroga OPD, LHRAC&H, Pilibhit.

Material and Methods

Research design

This analytical study was conducted in LHRA hospital, Pilibhit, Uttar Pradesh, India to determine and evaluate the effectiveness of vaccination services in outpatients department (OPD) and vaccination desk. The interview questionnaire was the tool in collecting data for assessing and the data were collected when patients were waiting for vaccination/after vaccination at OPD.

Inclusion criteria

1. The patient/patient attendant of Balroga OPD and of vaccination age (new born till 5 years)
2. Willing to provide the answer to questionnaire.
3. Patient who have made at least 1 visit to hospital.

Exclusion criteria

1. Patient cannot speak or listen.
2. Patient attendant not willing to answer questionnaire.
3. Patients were in serious condition.
4. Patients have a mental health problem.
5. Patients from another units (medicine, ENT, surgery etc.) were not included in this study.
6. First time visiting to hospital.

Research instrument for data collection

Research instrument for data collection was a structured questionnaire. It was used as measurement tool. The questionnaire contains questions which are subjective/objective type of questions. Questions are divided into general information, vaccination related question, and breastfeeding related questions convenience and physical facilities according to requirement of research.

Data collection

This study was conducted in hospital during working hours. The data was collected from 1st march to 30th April 2018 excluding public holidays. Data collection needed utmost care at the time of data collection. This was imperative for quality control of data. Questions were in easily understandable wordings. Total 100 respondents selected randomly. Questionnaires were circulated among the patients/ patient attendants coming for vaccination at OPD and then it is collected. Although data was collected by means of self-administered questionnaire, but for the respondents who did not know reading and writing accompanying attendants or data collectors were allowed to assist in filling the questionnaire.

Observation

A written informed consent was obtained from the parents of 100 children aged newborn to 60 month approached before participation in the study.

Details of age and sex wise distribution can be seen in Table No. 01 and figure No. 1

Table 1: Age distribution

Age group	No of child (n=100)
0-6 month	44
7-12 month	18
13-60	38

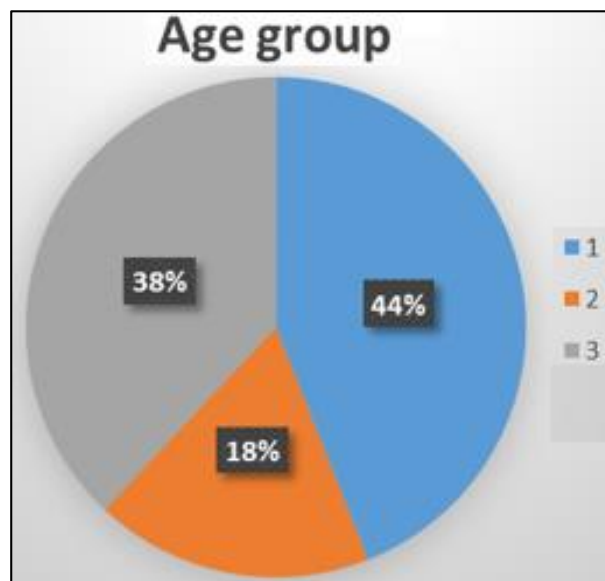


Fig 1

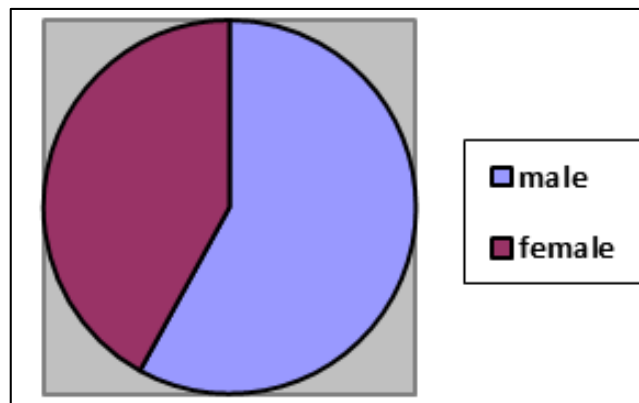


Fig 2: Total male child under the study were 58 while 42 were female children, shown in figure 2

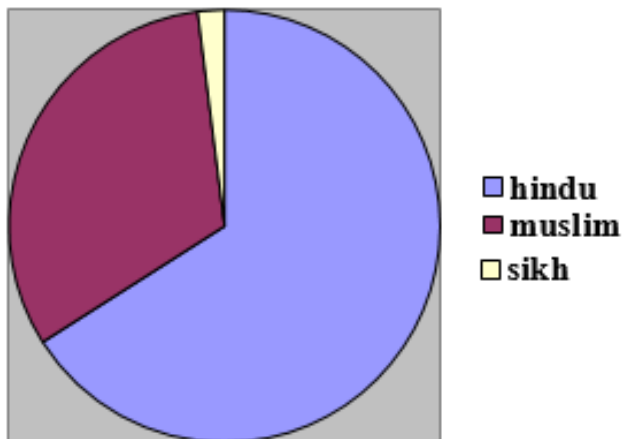


Fig 3: 66 patients were hindu, 32 were muslim and rest 2 patients were sikh, shown in figure 3

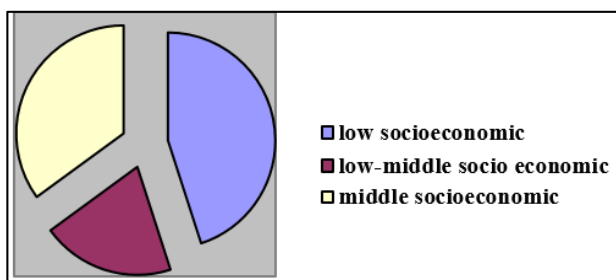


Fig 4: There were 45 patients who were categorized as low socioeconomic (monthly income less than 5000 rupees), 20 lower middle socioeconomic status (monthly income 5001 to 10000 rupees) and rest 35 patients were categorized in middle socioeconomic status group (monthly income more than 10000 rupees) shown in figure 4

Education status of the parents coming to get vaccination for their kids, shown in Table no 2. And figure No.5

Education status	Mother	Father
Illiterate	15	11
Up to intermediate	46	54
Graduate	21	20
Post graduate	18	15

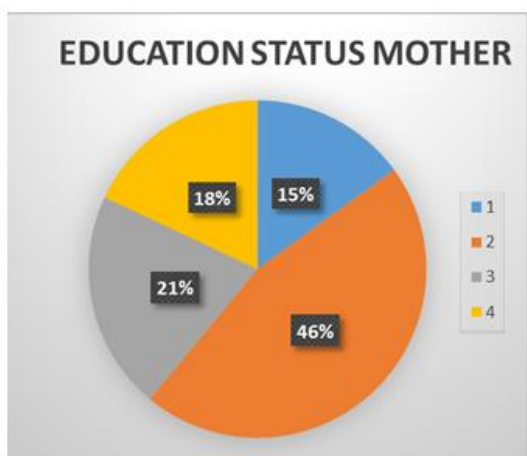


Fig 5

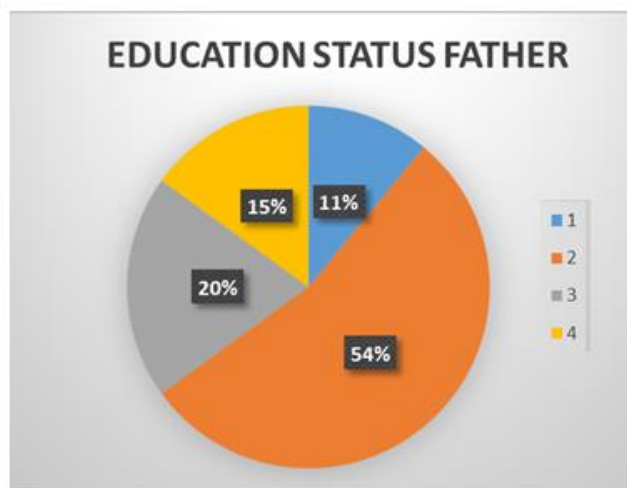


Fig 6: Vaccination status of children under study shown in table No-3atus

Vaccination status	Number	Total
Complete up to age	92	100
Not complete up to age	8	
Patient defaulted in vaccination	12	100
Patient taken vaccination without default	88	
Patient taken vaccination other than universal immunization program	04	

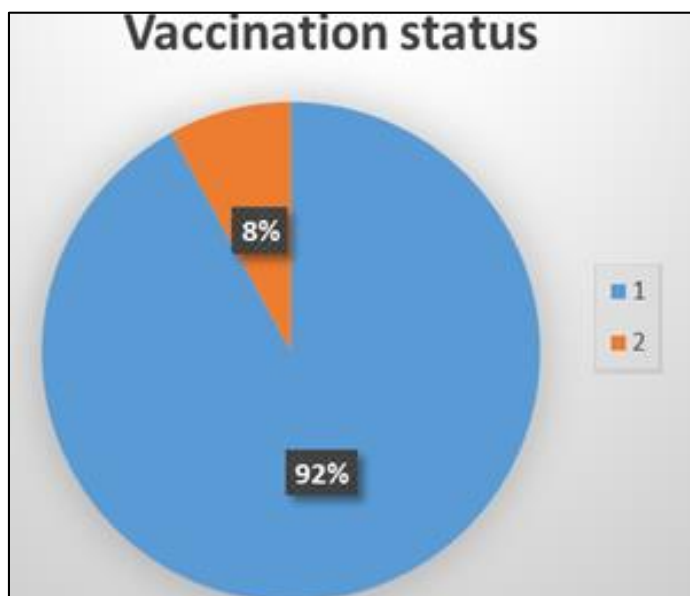


Fig 7

Average time spend in OPD in first visit was 15 (8 min-25 minutes) while in subsequent visit this average time spend in OPD has dropped down to 12 minutes. Average waiting time over vaccination desk was 8 minute, average vaccination time (preparation time per patient + injection time + post injection time) was 5 minute and average counseling time per patient after vaccination is 2 minute. Shown in figure 8 and 9. Figure 8

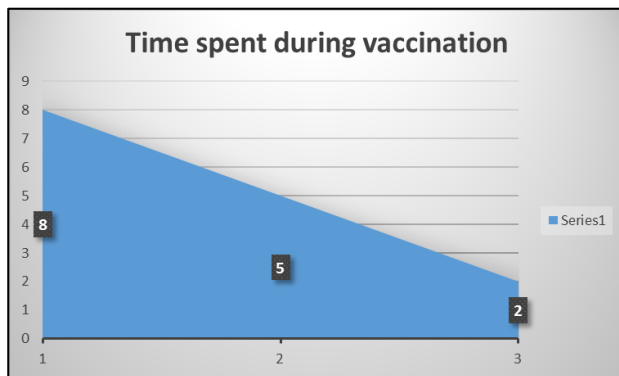
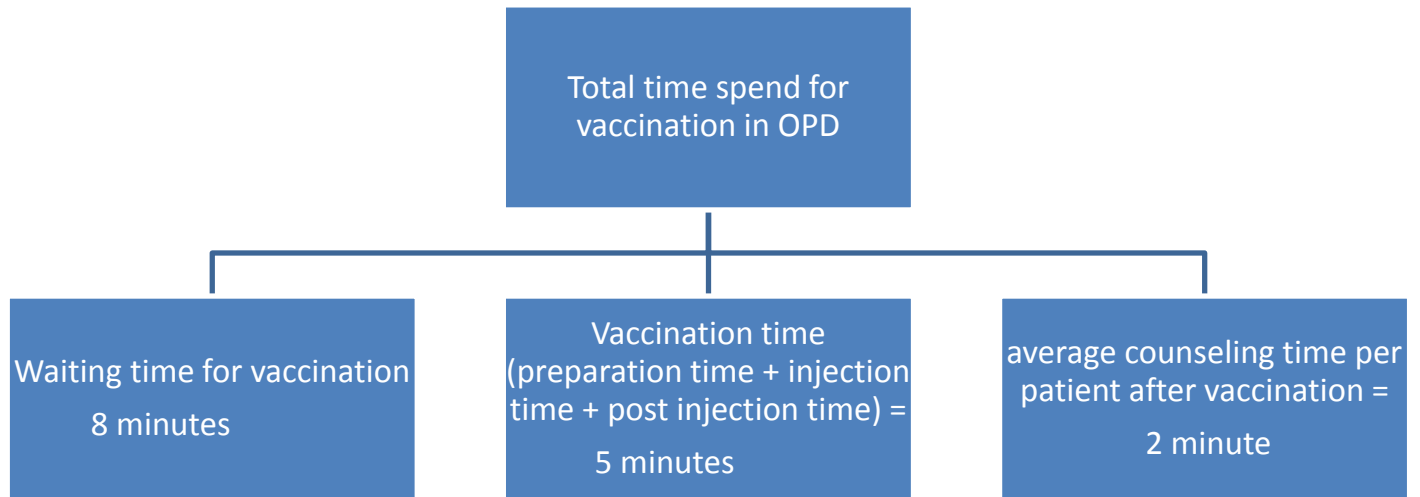


Fig 9

According to data collected for breastfeeding 91 children were breastfed while 9 were never been breastfed. Breastfeeding is continue in 62 children while out of these 62, less than 6 month age children were 38, 6-12 month children were 14 while more than 12 month children were 10. However those who have received breastfeeding up to only less than 6 months were 9 children, 9 children were stopped for breastfeed at age between 6-12 months while 11 kids were more than 12 month of age when breastfeed was stopped. Showing results in Table No. 4 and Figure 10.

Breastfeed	Received =91			
	Not received at all= 9			
Breastfeed continue	62	< 6 month =38	6-12 month =14	>12 month 10
Breastfeed discontinued	29	<6 month = 9	6-12 month= 9	12month = 11

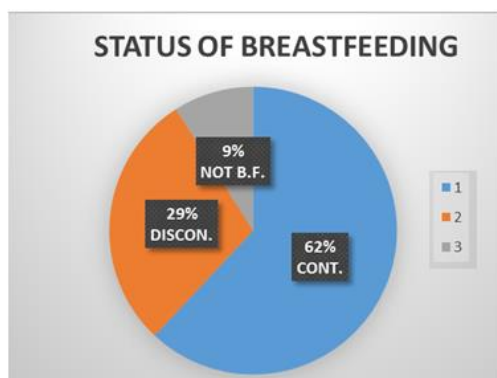


Fig 10

According to data collected, complementary food was given to 68 children while 32 were not given any complementary food. Out of 68, 24 were complemented at birth, 30 before 6 month of age while 14 were given complementary food after 6 month of age. Out of 32 non-complemented children 26 were below age 6 month while 6 were above the age of 6 month.

Table 5: showing the data

Complementary food	Given = 68			Not given = 32	
	At birth = 24	<6 month = 30	>6 month = 14	< 6 month = 26	>6 month = 6
Type of complementary food	Cow milk= 51				
	Formula feed = 13				
	Cerelac = 2				
	Other = 2				

Discussion

The effectiveness of vaccination service was analyzed in terms of convenience, physical facilities, general information, vaccination related question and breastfeeding. Effectiveness was measured on the basis of the respondents who came to vaccination OPD at the time of interview. According to the results of study it was found that: A total of 100 children, aged new born to 60 month, comprised 58 male children and 42 female children shown in figure no.1. Maximum children were in 0-6 month age depicting probable future increase (future visits for further vaccination) in vaccination registration at LHRA vaccination desk, while 38 children were above 1 year but below 5 years of age, rest were landed in 7-12 month frame. 66 hindu patients were reported for vaccination while only 2 sikh and 32 muslim patients were reported for vaccination. Good percentage of muslim patient (32%) is showing their awareness for vaccination benefits irrespective of some illogical rumours /confusions against vaccination in muslims.

Analysis of education status of parents revealed that post graduated parent has no default while they are also aware about vaccination other than UIP.

Analysis of data of Vaccination

Only 8 children were not having vaccination complete up to age, rest 92 were completely vaccinated up to age.12 patient had defaulted for vaccination, out of which 4 patient had completed in catch up schedule. Only 4 parents were aware of vaccination other than UIP and had those vaccinations to their

kids. Average waiting time for Vaccination desk is 8 minute. Average vaccination time per patient is 5 minute. Average post vaccination counseling time is 2 minute.

Analysis of data of breastfeeding

91 n=100) were breastfeed while 9 kids were never been breastfeed (no visible medical cause). Breastfeeding is continuing in 62 kids although 38 of them are less than 6 month of age and rests are above 6 month. One kid continuing breastfeed even at age of 36 month. 29 kids were not breastfeed at the time of interview, out of them 20 were above the age of 6 month and rest 9 were discontinued for breastfeed even before the 6 month including one neonate. Complementary food was given to 68 children while 32 were not given any complementary food. Out of these 68, only 14 were complemented at right time ie 6 month rest 44 were complemented at birth or before 6 month. 26 children were below age of 6 month who are not given complementary food while 6 are above 6 month which are still devoid of complementary food. Commonest complementary food was cowmilk, while dal- pani, formula feed and cerelac were other complementary food.

Regarding convenience, majority of patients had satisfaction from the service process of registration, availability of required medical staff during working hours of OPD, ease of finding vaccination OPD, The waiting time for getting treatment from doctor. The patients had low satisfaction from the convenience of going from pediatric OPD to vaccination desk and from the waiting time for getting vaccinated. So the improvements in these few aspects should create more effectiveness of vaccination.

Regarding physical facilities majority of patients had satisfaction from the atmosphere of OPD is clean & tidy, sitting chairs are available at waiting area, availability of drinking water & clean toilet, the inside of the hospital has good ventilation and there was enough light inside the OPD. The patients had low satisfaction from clear signs & directions to indicate where to go in the area & easy to follow. In courtesy the patients had satisfaction from the friendliness & courteous manner of medical staff, the attentiveness of doctors/ nurses while answering the patient's questions, opportunity given to ask about patient's illness, provide appropriate time for medical examination, Privacy from doctors & nurses during examination and treatment.

The overall effectivity of vaccination services was satisfying, although it can be further improved by increasing the distribution of vaccination-IEC, reducing the distance in Pediatric OPD and Vaccination desk, reducing the waiting time for vaccination, properly visible information displays of vaccination services, etc.

Summary

It was observed that overall effectiveness of vaccination services depends on awareness of parents about vaccination, vaccination services like skilled staff, persuasive capacity of staff, proper counseling after vaccination, giving full information about vaccination card, information about next date of vaccination due etc.

Based on the result of the study an improvement is needed in few of the items of waiting time at vaccination desk and for proper signage and direction. So improvement in those areas is suggested.

Recommendations

1. Waiting time at vaccination desk section can be reduced by

- a) Adopting a queuing theory.
- b) Appointing an additional trained nursing staff dedicated to vaccination.
- c) Reducing the distance between Pediatric OPD and Vaccination desk (providing both services in same compound/room)

2. For proper signage and colour codes

There should be proper information display for literate patients/parents and signage and colour codes for illiterate patients/relatives at all the prominent and important places/intersections of OPD. The signage and colour codes must be starting from the enquiry and registration counters and should end at the respective clinic and or service areas. So the person sitting at the enquiry and registration counters can simply ask the patient to follow the colour line to reach his/ her required clinic/ department /service area.

3. There should be a Token Display unit in front of OPD and vaccination desk
4. There should a play arena / play zone in pediatric OPD/Vaccination desk so that the waiting time can also be enjoyable to children coming for vaccination.
5. There should be some educational displays (like ABCD chart, counting chart, etc) in waiting area.
6. Possibility of forming a social media group of parents of vaccinated children so that all information about vaccination can be float over that platform.

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