IJNH

Research Article

To Assess the Knowledge of Mothers in Relation to Selected Aspect of Immunization

Harshada Kishor Joshi[1], Suchita Sawant[2], Shweta Rasaria[3]

[1]Department of Mental Health Nursing, Bombay Hospital College of Nursing, Mumbai, Maharashtra, India, [2]Department of Medical-Surgical Nursing, Bombay Hospital College of Nursing, Mumbai, Maharashtra, India, [3]Department of Child Health Nursing, Bombay Hospital College of Nursing, Mumbai, Maharashtra, India

Abstract

Background: Immunization is the most cost-effective public health intervention to protect the child from diseases. It is profoundly tragic that almost 2 million children still die each year from diseases for which vaccines are available.

Objectives: The objective of the study was to assess the knowledge of the mother regarding immunization and to correlate the knowledge of the mothers regarding immunization with selected demographic variables.

Methods: A descriptive approach was used for the study. The study was conducted in Chuim Community, Khar Danda. Non-probability convenient sampling technique was adopted for sample selection. They were selected as per criteria laid down for the selection of the sample study and consisted of 50 samples. The data gathering process began from September 10, 2017, to September 20, 2017. The data collected were analyzed in terms of frequency percentage.

Results: The majority of sample belong the age group of 23–27 years, i.e., 48% (24) and 28–32 years, i.e., 36% (18). About 38% (19) of mothers were belonging to education primary and 78% (39) of mothers were housewife. About 70% (35) of mothers have the children between the age group of 1 and 5 years. About 22% (11) of mothers had knowledge of pentavalent vaccination, it site, doses and management and disease prevented by vaccine. About 72% (36) of mothers had knowledge of bacillus Calmette–Guérin (BCG) vaccine among the 50 sample. About 50% (25) of mothers had knowledge of measles, mumps, and rubella (MMR) vaccine among the 50 sample. About 84% (42) of mothers had knowledge of side effect of injectable vaccine and its reason behind the side effect. About 48% (24) of mothers had knowledge of the management of side effect of vaccine.

Conclusion: This research concluded, it proves that the community was unaware of newer vaccination (pentavalent vaccine) and also in some cases, community was unaware of the management and side effect of vaccines. Majority of samples know about the immunization, i.e., BCG and MMR vaccines, but majority of samples are not having adequate knowledge of the pentavalent vaccine.

Keywords: Children, immunization, mother, vaccines

Introduction

Immunization is the most effective method in prevention of infectious disease by systematic active immunization. Many developed countries have virtually eliminated vaccine-preventable disease (VPD) such as diphtheria, pertussis, tetanus, measles, mumps, rubella, hepatitis B, and poliomyelitis. The global eradication of smallpox off course has been causing glory of immunization. Immunization is the activation of immune response to the object by inducing protection against the development of infectious disease.

Review of 13 case–control studies reported that the efficacy of bacillus Calmette–Guérin (BCG) ranging from 2.89% the efficacy being more in preventing primary tuberculosis than pulmonary tuberculosis. A recent hospital-based retrospective

Access this article online
Website: http://innovationalpublishers.com/Journal/ijnh
ISSN No: 2454-4906
DOI: https://doi.org/10.31690/ijnh/43

Address for Correspondence:
Mrs. Shweta Rasaria, Department of Child Health Nursing, Bombay Hospital College of Nursing, Mumbai, Maharashtra, India. E-mail: harshadajoshi96@gmail.com

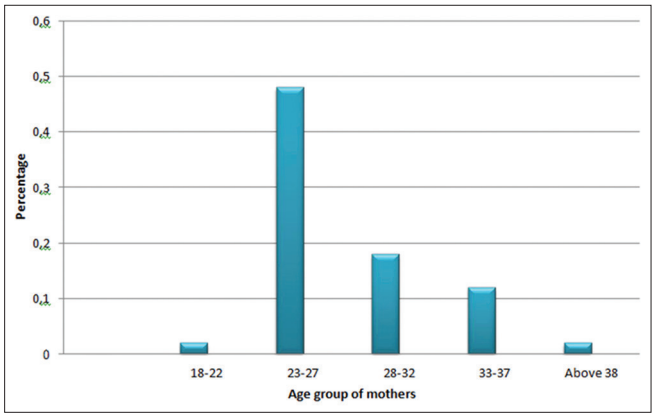

Figure 1: Distribution of sample in relation to mother age group

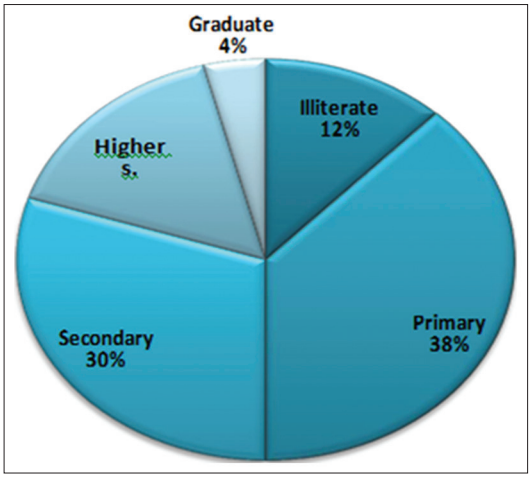

Figure 2: Distribution of sample according to the education of the mothers

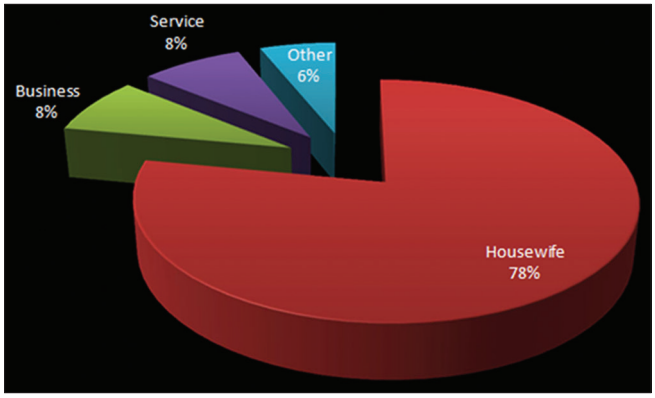

Figure 3: Distribution of sample in relation to occupation

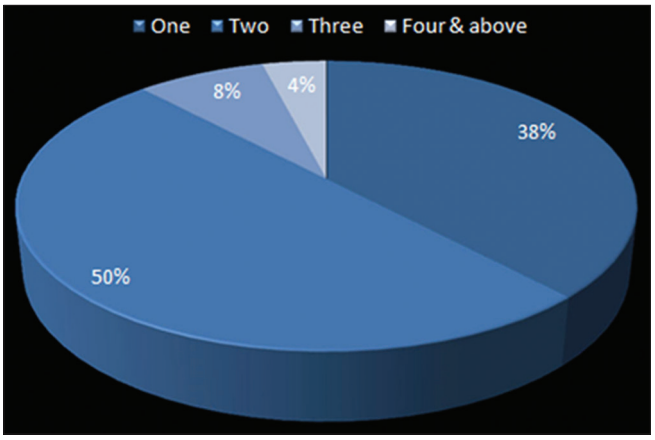

Figure 4: Distribution of sample in relation to the number of children

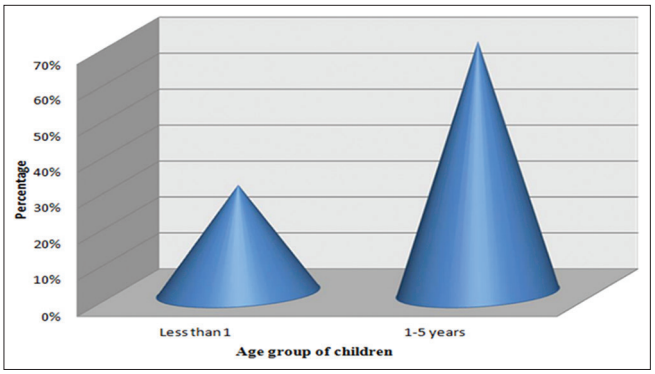

Figure 5: Distribution of sample in relation to the age group of children

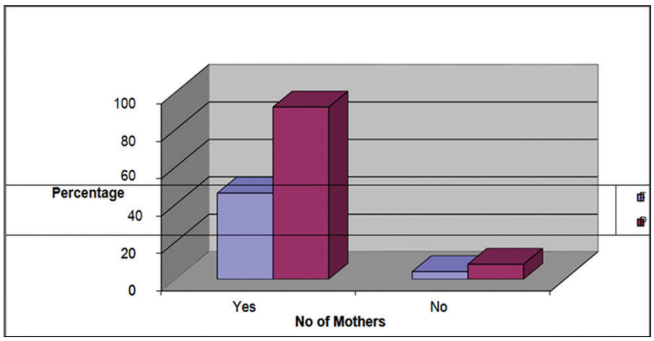

Figure 6: Distribution of sample according to the knowledge of immunization

case–control study from Nagpur found only very limited protective efficacy of BCG, in the face of the conflicting reports, the WHO recommends continuation of the ongoing BCG vaccination program.[1-5]

BCG vaccination has been found to be harmless and effective, especially in preventing general miliary tuberculosis and tuberculosis meningitis. It is the cheapest and easiest method for the prevention and control of the disease. In developing countries like India, where there is a high risk of infection with minimal resources, BCG vaccination is an important tuberculosis control measure in children. Universal immunizations with diphtheria toxoid provide constant protection against diphtheria throughout the life. It provides immunity when at least 70–80% of a population is immunized. Whooping cough occurs in all the countries since the beginning of this century. Pertussis is a clinically serious illness, with high mortality and complication rates. Case totality rates in developing countries range from 4.15% infants. About 10% of all whooping cough case and about half of the deaths occur in children under 1 year of age. According to the census, it was

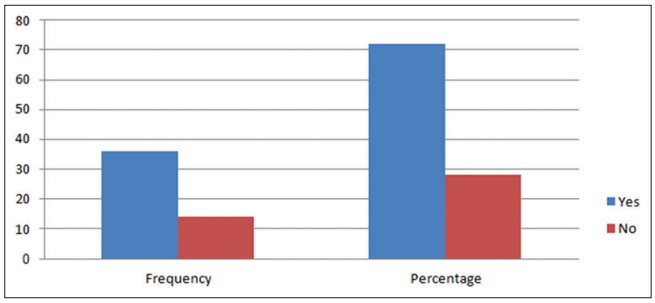

Figure 7: Distribution of sample according to bacillus Calmette–Guérin vaccination

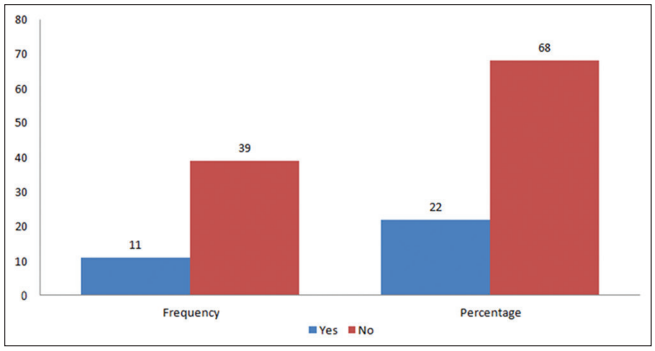

Figure 8: Distribution of sample according to the knowledge of pentavalent vaccine

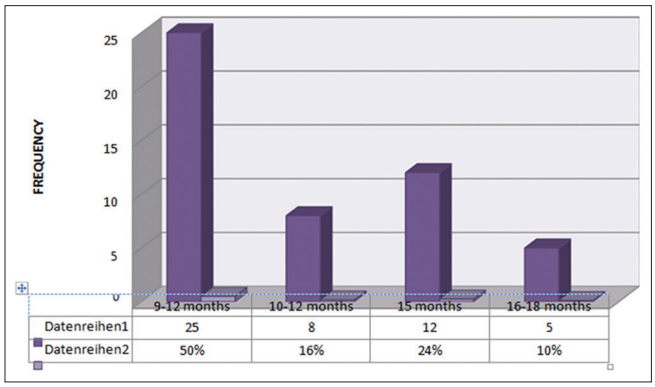

Figure 9: Distribution of sample in relation to the knowledge of the age of measles, mumps, and rubella vaccination

estimated that around 2.95 lakh children died of whooping cough during the year 2002.[6-10]

In India, there is a marked decline of whooping cough from 1987 to 2005. The National Family Health Survey (2005) reported that only 43.5% of children in India received all of their primary vaccines by 12 months of age. One main reason identified for poor coverage includes inadequacy of community, participation in routine immunization, and IEC activities. Therefore, the study was carried out to assess the level of knowledge and attitude of mothers of under-5 children regarding VPDS and routine immunization.[11-14] At the same time, mothers can be motivated by updating their level of knowledge regarding the importance of immunization, as

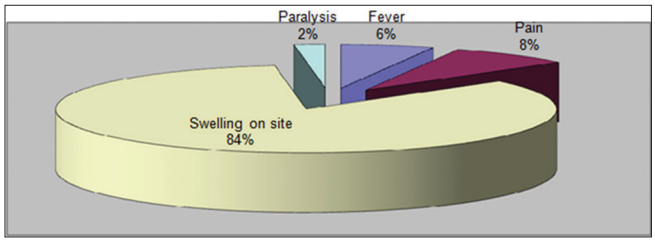

Figure 10: Distribution of sample according to the knowledge of the side effect of injectable vaccine

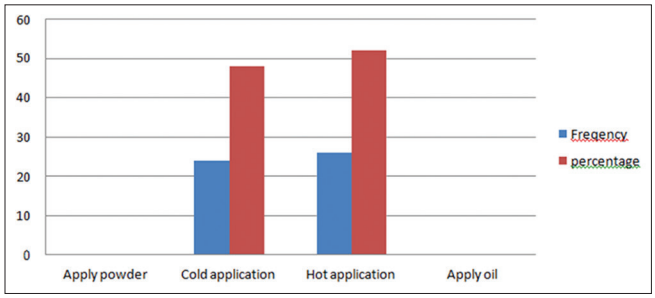

Figure 11: Distribution of sample in relation to the knowledge of the management of side effect of injectable vaccine

Table 1: Distribution of sample in relation to mother age groups ($n=50$)

Variables (years)	Frequency (%)
18–22	1 (2)
23–27	24 (48)
28–32	18 (18)
33–37	6 (12)
Above 38	1 (2)
Total	50 (100)

Table 2: Distribution of sample in relation to education ($n=50$)

Variables	Frequency (%)
Illiterate	6 (12)
Primary	19 (38)
Secondary	15 (30)
Higher secondary	8 (16)
Graduate	2 (4)
Total	50 (100)

the mother of under-5 children is very receptive to advice given by doctor and paramedical staff regarding the health of the child.[15,16] The objective of the study was to assess the knowledge of the mother regarding immunization and to correlate the knowledge of the mothers regarding immunization with selected demographic variables.

Methods

A descriptive approach was used for the study. The study was conducted in Chuim Community, Khar Danda. Non-probability convenient sampling technique was adopted for sample selection. They were selected as per criteria laid down for the

Table 3: Distribution of samples in relation to the occupation of mothers ($n=50$)

Variables	Frequency (%)
Housewife	39 (78)
Business	4 (8)
Service	4 (8)
Other	3 (6)
Total	50 (100)

Table 4: Distribution of samples in relation to number of children ($n=50$)

Variables	Frequency (%)
One	19 (38)
Two	25 (50)
Three	4 (8)
Four and above	2 (4)
Total	50 (100)

Table 5: Distribution of sample in relation to the age group of children ($n=50$)

Variables	Frequency (%)
<1 year	15 (30)
1–5 years	35 (70)
Total	50 (100)

Table 6: Distribution of sample according to the knowledge of immunization ($n=50$)

Knowledge of immunization	Frequency (%)
Yes	46 (92)
No	4 (8)
Total	50 (100)

Table 7: Distribution of sample according to the BCG vaccination ($n=50$)

Knowledge of BCG vaccination	Frequency (%)
Yes	36 (72)
No	14 (28)
Total	50 (100)

BCG: Bacillus Calmette–Guérin

selection of the sample study and consisted of 50 samples. The data gathering process began from September 10, 2017, to September 20, 2017. The data collected were analyzed in terms of frequency percentage. The research approach in this study was a survey, to assess the knowledge and practice of mother about immunization in children below 5 years of age.

Setting of study

To carry out this study, investigation has selected urban community area.

Population

According to Polit and Hunger (1987), population is the entire aggregation of cases that meet a designated set of criteria. In this study, population consist mother of children (0–5 years) age group in community. In urban setup (clinic, crèche centre, visiting house) who are receiving the immunization for their child.

Table 8: Distribution on sample according to the knowledge of pentavalent vaccine ($n=50$)

Knowledge of pentavalent vaccine	Frequency (%)
Yes	11 (22)
No	39 (68)
Total	50 (100)

Table 9: Distribution of sample in relation to the knowledge of age for MMR vaccination ($n=50$)

Knowledge of the age of MMR vaccination	Frequency (%)
9–12 months	25 (50)
10–12 months	8 (16)
15 months	12 (24)
16–18 months	5 (10)
Total	50 (100)

MMR: Measles, mumps, and rubella

Table 10: Distribution of sample according to the knowledge of the side effect of injectable vaccine ($n=50$)

Knowledge of the side effect of injectable vaccine	Frequency (%)
Fever	3 (6)
Pain	4 (8)
Swelling on sites	42 (84)
Paralysis	1 (2)
Total	50 (100)

Table 11: Distribution of sample according to the knowledge of the management of side effect ($n=50$)

Knowledge of management of side effect	Frequency (%)
Apply powder	0 (0)
Cold application	24 (48)
Hot application	26 (52)
Apply oil	0 (0)
Total	50 (100)

Table 12: Distribution of sample in relation to overall knowledge score

Knowledge	Category/s	Frequency (%)
Poor	1–10	27 (54)
Average	11–15	12 (24)
Good	15–20	2 (4)
Excellent	20–25	9 (18)

Sample

According to Oxford dictionary, "sample" means a number of people closer and only (random) from a larger group. In this study, the sample consists of 50 mothers selected by convenient sampling technique that fulfilled the criteria laid down for this study.

Criteria for sample selection

Eligibility criteria are the characteristics that delimit the population of interest. The study was conducted based on the following criteria:

Inclusion criteria

The criteria that specify the characteristics that mothers in the population must possess are referred as inclusion criteria. The inclusion criteria of the present study are as follows:

Table 13: Correlation coefficients

Age of the mothers	18–22 years	23–27 years	28–32 years	33–37 years	Above 38 years	Total
Numbers	1	24	18	6	1	50
Mean	10	10	10	10	10	50
Significance value	0.081	0.392	0.192	0.064	0.081	-

There is no correlation found between any of the demographic data

- Mother of child, i.e., children from the age group of 0–5 years
- Mother of child, i.e., children who are receiving immunization
- Mother of children who are willing to participate in the study.

Exclusion criteria

The criteria that specify the mothers who are having children of above 5 years of age were excluded from the study.

Sampling technique

Tool and technique

Technique is the method which is used to gather the data during a study. The technique used for data collection is interview and the tool used for this is questionnaire.

Validity

Validity refers to the degree to which an instrument measures what it is supposed to be measuring. The tool was subjected to scrutiny by an expert in the field of nursing education.

Reliability

Reliability is the degree of consistency or accuracy with which an instrument measures the attribute it is designed to measure. The method of reliability used for research is the test-retest method.

Pilot study

A pilot study is a small-scale version trial run of the major study. The time taken to complete the task is 10 days with questionnaire method. Clients understand the questions. Those questions were difficult to understand by the clients reframed under the guidance of an expert in the field of nursing education.

Data analysis

Based on the objective of the study, analysis and interpretation of the data obtained in the study were done using descriptive and inferential statistics. The data collected were edited, tabulated, analyzed, and interpreted and the findings were presented in the form of tables and diagrams under the following section; the details of each section are presented below based on the objectives on the study.

Results and discussion

According to the above shown sample, majority of sample belonged to the age group of 23–27 years, i.e., 48% and minority of samples to the age group were 18–22 years and above 38 years, i.e., 2% [Table 1 and Figure 1].

According to the above shown Table 2 and Figure 2, the majority of people had pursued primary education, i.e., 19 (38%) and only 2 (4%) people were graduates.

According to above shown sample Table 3 and Figure 3, 39 (78%) mothers were housewife and in occupation of business and service were (4) 8%.

According to the above shown samples Table 4 and Figure 4, 50% (25) of mothers had two children.

According to the above shown sample Table 5 and Figure 5, 70% (35) of children belonged to the age group of 1–5 years.

According to the above shown sample Table 6 and Figure 6, 92% (46) of mothers had knowledge of immunization.

According to above shown sample Table 7 and Figure 7, 72% (36) of mothers having knowledge of BCG vaccination and 28% (14) of mothers not having knowledge of BCG vaccination.

According to the above shown Table 8 and Figure 8, 22% (11) of mothers had the knowledge of pentavalent vaccine.

According to above shown Table 9 and Figure 9, 24% (12) of mothers had knowledge of the age of measles, mumps, and rubella (MMR) vaccination.

According to the above shown Table 10 and Figure 10, 84% (42) of mothers had the knowledge of the side effect of injectable vaccine.

According to the above shown sample Table 11 and Figure 11, 48% (24) of mothers had the knowledge of the management of side effect of injectable vaccine.

From the above distribution Table 12 and 13, 54% of mothers had poor knowledge, 12% average, 4% good, and 18% had excellent knowledge.

As a descriptive statistic, the correlation coefficient summarizes the magnitude and direction of a relationship between two variables. As an inferential statistic, "r" is used to test hypotheses about population correlations. In a correlation situation, the null hypothesis is in which there is no relationship between two variables of interest.

Conclusion

Majority of samples know about the immunization, i.e., BCG and MMR vaccines, but majority of samples are not having adequate knowledge of the pentavalent vaccine. Samples are aware that there are certain side effects in general relation with immunization, but majority of samples could not give

any answer regarding the side effects of specific vaccines, i.e., BCG. Samples also have the knowledge of home management of vaccination.

Ethical approval

Approved by Ethical Guidelines Committee.

References

1. Richard E. Behrman MD, Robert M. Kliegman MD. Nelson Textbook of Pediatric. 17th ed. India: Elsevier Adhvision of Reed Elsevier India Pvt. Ltd.; 2006.
2. Dagnew AF, Hussein J, Abebe M, Zewdie M, Mihret A, Bedru A, *et al*. Diagnosis of latent tuberculosis infection in healthy young adults in a country with high tuberculosis burden and BCG vaccination at birth. BMC Res Notes 2012;5:415.
3. Briassoulis G, Karabatsou I, Gogoglou V, Tsorva A. BCG vaccination at three different age groups: Response and effectiveness. J Immune Based Ther Vaccines 2005;3:1.
4. Harrop JE. Management of pain in childhood. Arch Dis Child Educ Pract 2007;92:ep101-8.
5. Singhi S. Management of shock. Indian Pediatr 1999; 36:265-88.
6. Duggal R, Dilip TR. Health and nutrition in Maharashtra. Human Development Report. New Delhi: Oxford University Press; 2002. p. 53-77.
7. Panari H, Anuchithra. Study on immunization among the mothers of under five children, Halaga Village, Belgaum, Karnataka. Asian J Nurs Educ Res 2016;6:191.
8. Department of Health and Family Welfare. Immunization Handbook for Medical Officer. Govt. Of India: Department of Health and Family Welfare; 2009.
9. Kukarni NJ. Vaccination, What's The Confusion? The Times of India Newspaper; 2005.
10. Bhore NR, Pujari K, Dhanwade A. Planned health teaching programme regarding legal aspects. Sinhgad e-J Nurs 2014;4:1-4.
11. Prathiba V, Umarani J. Teaching package improves mothers knowledge on vaccine preventable diseases and vaccination: A quasi experimental study. Int J Res Med Sci 2014;2:976-82.
12. Varghese R, Swami PG, Patel SV, Patel SH, Patel SJ, Patel V, *et al*. Effectiveness of planned teaching programme on knowledge regarding immunization among antenatal mothers at selected villages of Waghodia Taluka. Int J Appl Res 2016;2:157-60.
13. Baru R, Acharya A, Acharya S, Kumar AS, Nagaraj K. Inequities in access to health services in India: caste, class and region. Econ Polit Wkly 2010;5:49-58.
14. Torisu M, Miyahara T, Shinohara N, Ohsato K, Sonozaki H. A new side effect of BCG immunotherapy BCG-induced arthritis in man. Cancer Immunol Immunother 1978;5:77-83.
15. Mereena SR, Sujatha R. A study on knowledge and attitude regarding vaccines among mothers of under five children attending pediatric OPD in a selected hospital at Mangalore. IOSR J Nursing Health Sci 2014;3:39-46.
16. Agarwal G, Bithu KS, Agarwal R. An epidemiological study of acute poisoning in children in a tertiary care hospital of Western Rajasthan, India. Int J Contemp Pediatr 2016;3:1249-51.

How to cite this article: Joshi HK, Sawant S, Rasaria S. To Assess the Knowledge of Mothers in Relation to Selected Aspect of Immunization. Innov J Nurs Healthc. 2019;5(4):7-12.