

Mothers Knowledge on EPI and Immunization Status of Their Under Five Children

Huda S M N¹, Asaduzzaman A K M², Latif A³, Akhiruzzaman⁴, Zaman F⁵, Islam M A⁶, Forhad C M R Q⁷

Abstract

The Expanded Programme on Immunization is a World Health Organization programme with the goal to make vaccines available to all children. The objective of this study is to find out "Mothers knowledge on immunization of children and immunization status of under five children in selected villages of Modhukhali". For this purpose a descriptive type of cross sectional study was conducted during the period of November 2017 to march 2018. During the survey data were collected from 370 conveniently selected mothers who had at least one child under 5 years. After taking verbal consent a face to face interview was conducted through a pretested questionnaire

The result showed that mean(\pm SD) age of mother was 26.71(\pm 6.43) years. Most(46.49%) of the respondents have completed primary education and 5.67% have completed graduation. The study revealed that about 98.64% people have knowledge about immunization, 96.46% of people know when to start vaccination of their child, 85.31% population accomplished EPI schedule. About 99% people gave BCG vaccine, 95.40% people gave pentavalent vaccine, 91.62% people gave PCV vaccine and 94.87% people gave OPV vaccine to their child.

EPI services of the country have been improved by some years but yet there are some gaps in rural areas. The health education programme about EPI should be run in the rural areas in a proper organized way. There is also need for strong supervision & monitoring of EPI services throughout the country.

Key word: EPI, Vaccine, Knowledge on Immunization, Immunization status, Under 5 children.

Introduction

Expanded programme on immunization is one of the world health organization programmes which have a goal to make vaccines available to all the children throughout the world.

Globally, immunization currently averts an estimated 2 to 3 million deaths every year. In Bangladesh it has prevented an estimated 2 million deaths from 1987- 2000, and continues

to prevent approximately 200,000 deaths each year¹. WHO introduced EPI (Expanded Programme on Immunization) in 1977 at Alma-Ata, the capital of Kazakhstan for the underdeveloped countries. Subsequently Bangladesh has launched EPI. In our country immunization coverage was 52% in 1991, 53% in 2000, 79% in 2010, 80% in 2011 and 81% in 2013 which signifies our excellent success for prevention of communicable diseases in successive years¹. So, EPI in Bangladesh has been recognized for its sustained high coverage and great contribution to the reduction of childhood morbidity and mortality and it received two GAVI best performance award in 2009 and 2012.¹

A recent estimate suggest that immunization programmes annually prevent 3.2 million child deaths, and represent one of the most cost effective health intervention. Data indicate that more extensive delivery of EPI could further improve the survival and health status of children.^{2,3,4,5,6}

Bangladesh officially initiated EPI activities in 1979, but EPI efforts were seriously considered only after 1985 when the country made its commitment at the United Nations to reach universal child immunization by 1990.

The intensified immunization program was expanded in phases. In 1985 the first phase of EPI commenced in 8 thana; it expanded to 190 thana in 1988, and near universal access to immunization service was achieved by the end of 1989.⁷

Timely vaccination, i.e., the receipt of all scheduled vaccinations in an age-appropriate fashion, is critical for the prevention of deadly diseases in infants and achievement of the UN Millennium Development Goal to reduce infant

1. Dr. S.M. Nazmul Huda, Lecturer, Department of Community Medicine, Diabetic Association Medical College, Faridpur.
2. Professor Dr. AKM Asaduzzaman, Professor, Department of Community Medicine, Diabetic Association Medical College, Faridpur.
3. Dr. Md. Abdul Latif, Consultant Radiology and Imaging Department, General Hospital, Madaripur.
4. Dr. Akhiruzzaman, Assistant Professor, Department of Community Medicine, Diabetic Association Medical College, Faridpur.
5. Dr. Fouzia Zaman, Lecturer, Department of Community Medicine, Diabetic Association Medical College, Faridpur.
6. Dr. Mohammad Alimul Islam, Assistant Registrar, Medicine, Faridpur Medical College Hospital.
7. Dr. C.M. Reza Qureshi Forhad, Professor (CC), Department of Biochemistry, US Bangla Medical College, Dhaka.

Correspondence to:

Dr. S.M. Nazmul Huda; MBBS
Lecturer, Department of Community Medicine
Diabetic Association Medical College, Faridpur.
Email: nazmulbappi14@gmail.com

mortality. Infants, especially in rural or underprivileged settings often receive delayed vaccinations leaving them susceptible to vaccine-preventable illnesses early in the first year of life.⁸

More research can help to find out the laps and gaps of immunization coverage in rural area and helps to strength the programme through the country.

Methodology:

This cross sectional study was conducted in selected villages of modhukhali upazilla during the period of November 2017 to March 2018 to assess the Mothers Knowledge on Immunization of Children and Immunization Status of Their Under Five Children. During the survey data were collected from 370 conveniently selected mothers who had at least one child under 5 years. After taking verbal consent a face to face interview was conducted through a pretested questionnaire. At first the interview questionnaire were checked and rechecked to reduce the errors if any. Secondly necessary corrections were made. Thirdly the responses were coded adequately. Fourthly a master sheet was prepared based on variables used in the study. Finally necessary calculations were made from the master sheet and were presented data by tabulations and charts.

Result:

The findings of the survey have been presented in the following section.

Table 1: Socio demographic status of the respondents (n=370)

Attributes	Frequency	Percentage
Distribution of the respondents by age (Years)		
16-25	170	45.94
26-35	174	47.02
36-45	21	5.67
>45	05	1.35
	Mean Age: 26.71 years; SD: ±6.43	
Average monthly family income (tk)		
1-15000	258	69.72
15001-25000	94	25.40
25001-40000	18	4.86
	Mean income: 11,892 taka	
Educational status of the respondents		
Illiterate	45	12.16
Primary	172	46.49
SSC	112	30.28
HSC	16	4.32
Graduation	21	5.67
Post graduation	4	1.08

Table 1 shows that mean(±SD) age of mother was 26.71(±6.43) years and most(47.02%) of the respondents belong to age group of 26-35 years. Average monthly income was 11,892 taka and most(69.72%) of the respondents belong to monthly income of 1-15000 taka. It also revealed that 12.16% were illiterate, 46.49% of the respondents completed primary education and 1.08% were post graduate.

Table 2: Distribution of respondents by knowledge about immunization (n=370).

Knowledge about immunization	Frequency	Percentage
Yes	365	98.64
No	05	1.36
Total	370	100.00

Table 2 shows that majority (98.64%) of the respondents had knowledge about immunization of child and 1.36% had no knowledge about immunization of child.

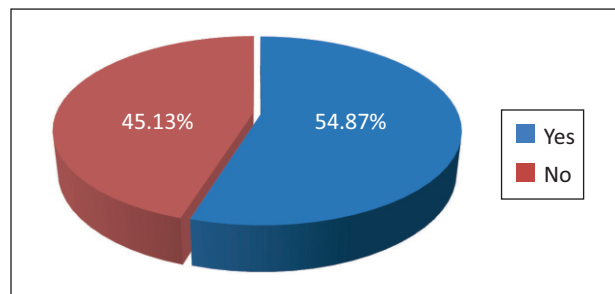


Figure 1: Distribution of respondents by the knowledge about the diseases preventable by EPI

Figure-01 shows that 54.87% of mother know about the EPI preventable diseases while the rest can only name a few.

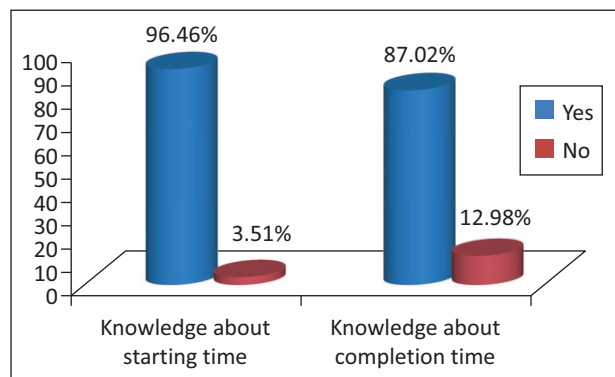


Figure 2: Distribution of respondents having the knowledge about starting and completion of EPI schedule for children

Figure-02 shows 96.46% of respondents had knowledge about when to start vaccination of their child and 87.02% had knowledge about time of completing vaccine schedule.

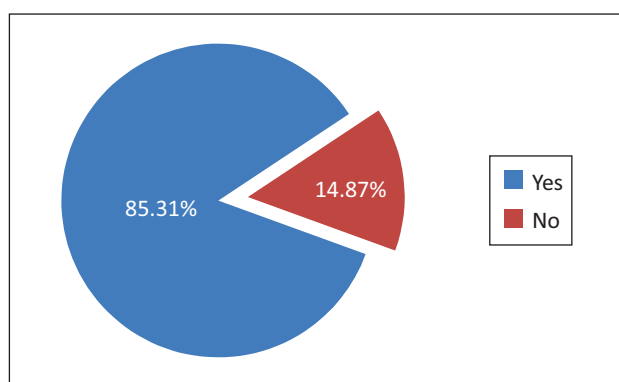


Figure 3: Distribution of respondents by the Completion of EPI schedule of their under five children.

Figure 3 shows that majority(85.31%) of the respondents gave all the vaccines of EPI schedule to their child where only 14.87% didn't complete schedule.

Table 3: Status of Vaccination to child (n=370).

Vaccines	Did you give vaccine to your child	Frequency	Percentage
BCG	Yes	366	99
	No	4	1
PCV	Yes	339	91.62
	No	31	8.38
Pentavalent	Yes	353	95.40
	No	17	4.60
Polio	Yes	351	94.87
	No	19	5.13
MR	Yes	348	94
	No	22	6

Table 3 shows that majority(99%) of the child received BCG vaccine. About 95.40% of children completed 3rd dose of pentavalent, 91.62% of children completed PCV vaccine, 94.87% of children completed OPV, 94% of children completed MR vaccine.

Discussion

The result showed that mean (\pm SD) age of mother was 26.71(\pm 6.43) years which is similar to all other rural areas in Bangladesh having under five children.

In this study it was found that about 5.67% had completed graduation which shows a small difference with another study conducted by Nisar N et al in 2010 at Karachi⁹. This variation is due to high literacy rate of Bangladesh 72.76% compared to Pakistan only 58%^{10,11}.

In rural areas the mothers were aware of the need for education but poverty is the main obstacle. This study showed that average monthly income was 11,892 taka.

Which is similar to our annual national monthly income 11,534 taka¹⁰.

This study revealed that 85.31% accomplished EPI schedule which is almost similar to another study in Zone 3 of Dhaka City showed that 90% of population had obtained all of their immunizations¹².

In this study it was found that 98.64% people have knowledge about immunization which is similar (98.6%) with the report conducted in a village of Karachi⁹.

This study reported that only 54.87% of respondents had the knowledge about the name of EPI preventable diseases which is similar(52%) with studies conducted among slum dwellers in Zone 3 of Dhaka city¹³.

Breiman et al estimated that 97% children received BCG, 98% children received measles vaccine and 93% children received DPT vaccine. In this study it was found that 99% people had done BCG vaccine, About 95.40% people gave pentavalent vaccine and 94% completed MR vaccine to their child¹⁴. These are almost similar to this study.

Conclusion

Normally it is seen that the rural people have some limitation in getting the health related knowledge. According to the study, majority of mothers of Modhukhali village have sound knowledge about the immunization of children under five years of age. Most of the people know about the immunization programme about the disease which are prevented by the programme.

Infant and under 5 child mortality are important health indicators of any country. As the mother is the first caretaker and first teacher of the child, it is important that the mothers are informed about EPI schedule and vaccination. So that infant and child health can be promoted.

We hope that government will give emphasize on the spread of information on health issues to every corner of community specially focusing the rural people to gain more and more knowledge on EPI and vaccination in near future. So that educated mother will give raise healthy and educated children, as a result, a potential and dynamic future generation will be created.

References

1. Sarkar PK, kumar Sarker N, Doulah S, Bari TI. Expanded Programme on Immunization in Bangladesh: A Success Story. Bangladesh Journal of Child Health.;39(2):93-8.
2. Black RE, Huber DH, Curlin GT. Reduction of neonatal tetanus by mass immunization of non-pregnant women: duration of protection provided by one or two doses of aluminium-adsorbed tetanus toxoid. Bulletin of the World Health Organization. 1980;58(6):927.

3. Koenig MA, Khan MA, Wojtyniak B, Clemens JD, Chakraborty J, Fauveau V, Phillips JF, Akbar J, Barua US. Impact of measles vaccination on childhood mortality in rural Bangladesh. *Bulletin of the World Health organization*. 1990;68(4):441.
4. Arya SC. Human immunization in developing countries: practical and theoretical problems and prospects. *Vaccine*. 1994 Jan 1;12(15):1423-35.
5. Pan American Health Organization. The Impact of the Expanded Program on Immunization and the Polio Eradication Initiative on Health Systems in the Americas. Final Report of the 'Taylor Commission' 1995. Vol. PAHO Document No. 1995-00003.
6. Ginneken JV, Bairagi R, Francisco AD, Sardar AM, Vaughan P. Health and demographic surveillance in Matlab: past, present and future. Dhaka: International Centre for Diarrhoeal Disease Research, Bangladesh 1998.
7. Talukdar LR, Basu RN, Shareef M, Khan MR. The near miracle: how immunization services are delivered. In: Huq M (ed), *Near Miracle in Bangladesh*. Dhaka: University Press Limited; 1991, 57-74
8. Vasudevan L, Labrique AB, Mehra S, Wu L, Levine O, Feikin D, Klemm R, Christian P, West Jr KP. Maternal determinants of timely vaccination coverage among infants in rural Bangladesh. *Vaccine*. 2014 Sep 22;32(42):5514-9.
9. Nisar N, Mirza M, Qadri MH. Knowledge, Attitude and Practices of mothers regarding immunization of one year old child at Mawatch Goth, Kemari Town, Karachi. *Pak J Med Sci*. 2010 Jan 1;26(1):183-6.
10. Department of Film and Production. Government of the Peoples Republic of Bangladesh 2017.
11. Pakistan Literacy Rate stands at 58pc, *International The News*, April 27, 2017.
12. Perry H, Weierbach R, Hossain I, Islam RU. Childhood immunization coverage in zone 3 of Dhaka City: the challenge of reaching impoverished households in urban Bangladesh. *Bulletin of the World Health Organization*. 1998;76(6):565.
13. Quaiyum A, Tunon C, Hel Baqui A, Yum ZQ, Khatun J. Impact of national immunization days on polio-related knowledge and practice of urban women in Bangladesh. *Health Policy and Planning*. 1997 Jan 1;12(4):363-71.
14. Breiman RF, Streatfield PK, Phelan M, Shifa N, Rashid M, Yunus M. Effect of infant immunisation on childhood mortality in rural Bangladesh: analysis of health and demographic surveillance data. *The Lancet*. 2004 Dec 18;364(9452):2204-11.