

Original Article



A Survey on Tetanus Toxoid (TT) Vaccination Status of Women of Reproductive Age in a Rural Community of Satkhira

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Abstract

Background: Tetanus is a preventable disease. No age is immune unless protected by previous vaccination. Infection generally occurs through wound infection and unhygienic condition of child birth. **Objective:** To find out the TT vaccination status of women of reproductive age group. **Materials and Method:** This cross-sectional type of descriptive study was carried out during January, 2017 to May 2017. Data were collected from 219 respondents selected by purposive type of sampling through face to face interview using a pretested mixed type of questionnaire. **Results:** Among total respondents, majority 53 (24.20%) were belonged to 20-25 years of age group. Two hundred and fourteen (97.71%) of total respondents had knowledge about TT vaccination. In present study, 184 (84.02%) had coverage and among them 93 (42.47%) of respondents had completed their vaccination (5 doses). One hundred and seventy (92.39%) of respondents received vaccination from government organization. Current study also reflects gradual increase in health consciousness among young women as 44 (28.38%) of respondents completed vaccination before their first pregnancy. **Conclusion:** Acceptance of TT vaccination has been increased up to a satisfactory level. Another large scale study is recommended to find out TT coverage among all women of reproductive age group (15-49 years) of Bangladesh.

Key words: Reproductive age, Tetanus toxoid, Vaccination, Knowledge.

Date of received: 29.07.2018.

Date of acceptance: 25.02.2019.

KYAMC Journal.2019;10(2): 73-76.

DOI: <https://doi.org/10.3329/kyamcj.v10i2.42782>

Introduction

Tetanus (from ancient Greek "Tetano" means taut) is a medical condition characterized by a prolonged contraction of skeletal muscle fibers.¹ The primary symptoms are caused by Tetanospasmin, a neurotoxin produced by gram positive rod shaped obligate anaerobic bacterium "Clostridium tetani". Infection generally occurs through wound contamination, unhygienic condition of child birth or deep puncture. Tetanus is a preventable disease. No age is immune unless protected by previous immunization. Patients who have recovered from tetanus must be actively immunized, because the amounts of toxin responsible for the disease in man do not stimulate protective immunity.^{2,3} Protection by TT vaccination begins 15 days after the second dose and completion of 5 doses of TT vaccination in schedules ensure immunity during whole

reproductive life of the women.^{4,5} In Bangladesh two major vulnerable groups for tetanus; pregnant women and neonates reside in rural part of the country. Tetanus Toxoid is an ongoing vaccination program under EPI in Bangladesh and the target population of this program is women of reproductive age. Success of the program results decrease in mortality of bother and newborn from tetanus.⁶ Since it is difficult to ensure clean deliveries in the developing countries like Bangladesh. The Government of Bangladesh launched EPI programme on 7th April, 1979 with special global agenda to immunize all the women of reproductive age.^{7,8}

Materials and Methods

A cross sectional type of descriptive study was carried out on TT vaccination status of women of reproductive age

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(15-49 years) in Nawabeki, a village of Shamnagor, Satkhira, Bangladesh from January 2017 to May 2017. A total number of 219 respondents of women of reproductive age were enrolled. A pretested mixed type of questionnaire was used to collect and record the necessary information. After collection data were verified and edited for its consistency. The data on the key variables were compiled, processed and tabulated by using computer. Data were analyzed manually and by Computer. Data were presented by Tables, Pie Chart and Bar Diagram.

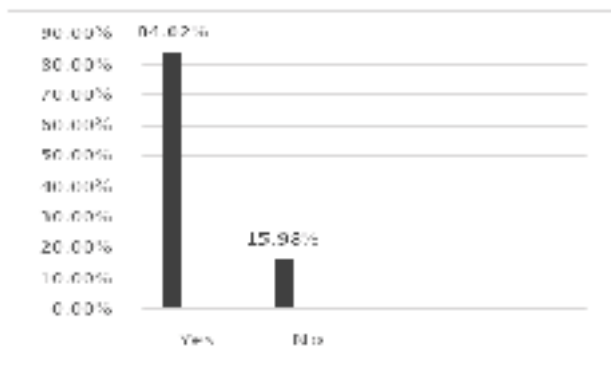
Results

Table I: Distribution of respondents according to their ages

Age group	Number	Percentage %
15-19	46	21.00
20-24	53	24.20
25-29	40	18.26
30-34	24	10.96
35-39	25	11.42
40-44	28	12.79
45-49	03	1.37
total	219	100

Table 1 shows that mean age of the respondents was 25.57 (SD±8.7) years. Among 219 respondents, 53 (24.20%) belonged to 20-24 years age group and only 03 (1.37%) belonged to 45-49 years age group.

Figure 1: TT vaccination coverage



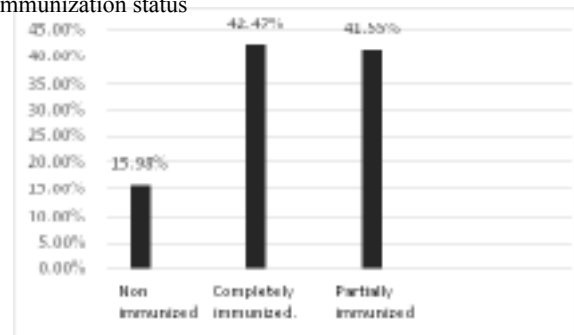
Most of the subjects (84.02%) were vaccinated

Table II: TT vaccination coverage according to socioeconomic status

Socioeconomic status	TT vaccination coverage				Total
	Yes	%	No	%	
Lower class	9	60	6	40	15
Middle class	130	85.53	22	14.47	152
Upper class	45	86.54	7	13.46	52
Total	184	84.02	35	15.98	219

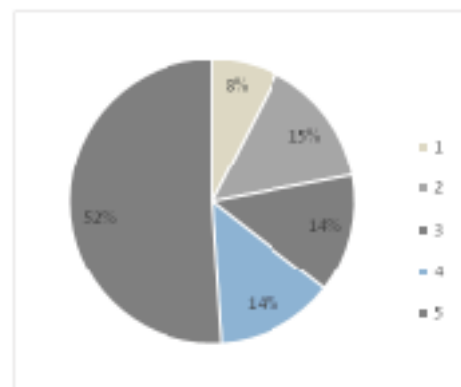
It was revealed that TT vaccination coverage was maximum (86.54%) in upper Claes (Table II). and only (60%) in lower class respondents

Figure 2: Distribution of respondents according to Immunization status



Above diagram shows that only 93 (42.47%) respondents were completely immunized, whereas 35 (15.98%) of the respondents were non immunized (Figure II)

Figure 3: Distribution of respondents by number of completed TT doses.



The pie diagram shows that 93 (52%) of the respondents completed five doses of TT vaccination and only 14 (8%) respondents received 1 dose of TT vaccine

Table III: Non immunized respondents according to educational status

Educational status	Non immunized respondents						Total
	Lack of awareness		Cultural Barrier		Religious barrier		
	No	%	No	%	No	%	
Illiterate	3	75	1	25	0	0	4
Only able to put signature	5	62.50	2	25	1	12.50	8
Primary	7	100	0	0	0	0	7
Secondary (SSC incomplete)	10	100	0	0	0	0	10
SSC	3	100	0	0	0	0	3
HSC and above	3	100	0	0	0	0	3
Total	31	88.57	3	8.57	1	2.86	35

In table III, it was found that out of 35 non-immunized respondents, 31 (88.57%) mentioned the reason for not taking TT vaccine due to lack of awareness, though out of this, 10 respondents were educated up to secondary level. Three (8.57%) respondents mentioned the cause as cultural barrier of which 2 respondents can only put signature and 1 mentioned about the religious barrier.

Discussion

This current cross sectional type of descriptive study was conducted on "TT vaccination status of women of reproductive age" in Nwabeki, a village of Shamnagar, Satkhira, Bangladesh with a view to evaluate the level of knowledge about TT vaccination and immunization status among respondents. There were 219 study sample selected purposively and the data were collected with a pretested mixed type of questionnaire by face to face interview and then were analyzed manually according to the objectives of the study. Among the total 219 respondents majority 53(24.20%) were in the age group of 20-24 years, 80 (36.53%) educated up to secondary level and only 8 (3.65%) were illiterate. One hundred and thirty respondents were housewife, and 10 (4.57%) were involved in small trade. One hundred and fifty two (69%) respondents belonged to middle class family, 214 (97.71%) of the respondents heard about TT vaccine. All these findings represented the findings of the survey conducted by Nielsen Company⁵ and IOCH.⁶ One hundred and eighty four (84.02%) of respondents had received TT vaccine, among them, 91 (41.55%) were partially and 93 (42.47%) were completely immunized (those who had completed 5 doses of TT vaccine are treated as completely immunized and those who had started but not completed 5 doses are partially immunized). These findings were very close to the findings of Bangladesh Maternal Mortality and Health Care Survey in 2010, which found 90.0% women received TT1 vaccine followed by 37.0% crude vaccination coverage and 31.0% valid vaccination coverage among the women of Chittagong hill tracts.⁹ So, it was deserved that

a good percentage of respondents had already got themselves vaccinated despite living in rural area. Among the vaccinated respondents, 93 (52%), 27 (15%), 25 (14%), 25 (14%) and 14 (8%) completed 5,4,3,2,1 dose respectively. These findings were much better than the findings of survey of the Perry H et al, 1995, which revealed among the respondents 85% had received one or more TT vaccination. Only 11% of women of reproductive age had obtained the complete series of five TT vaccinations.¹⁰ Almost all (92.39%) of the respondents received vaccination from government hospitals whereas only 5.97% from private practitioners. The study finding was consistent with the findings of the study conducted by Islam S on general and maternal health status in Khayerhuda and Monoharpur of Chuadanga where most of the women received TT vaccine from government hospitals.¹¹ Majority respondents (88%) had no adverse events following immunization. Among 22 respondents, 68.18% of the respondents suffered from fever, 18.18% suffered from allergic reaction. Among 155 respondents, 71.61% were vaccinated during 1st pregnancy and 28.38% completed 5 doses before 1st pregnancy and 6.45% completed 1 dose before 1st pregnancy. The survey reveals that 85.53% the respondents coming from middle class family received TT vaccination. This percentage in upper class was satisfactory (86.54%) and lower class was 60%. So, we see that respondents from middle class family are much more aware regarding TT vaccination. Among 35 non-immunized respondents, 88.57% mentioned the reason of not taking vaccine as lack of awareness, though out of this, 32.25% were secondary level educated. Three (8.57%) of the respondents mentioned the cause as cultural barrier who can only put signature. Similar findings were noticed by the Farzana Sobhan's study.¹² Regarding reasons for never vaccination, the women addressed 'fear of TT' 24.6%, 38.3% 'don't think it necessary' 38.3%, 'husband and family member doesn't like' 12.6%, 'don't know the need of vaccination' 54.4% and 'will receive vaccination in future' 16.7%.

Conclusion

Eradication regarding tetanus, there was no alternative to TT vaccination. From this study, we have got a satisfactory TT vaccination status. But still there was a group of people those were totally ignorant about it and some have idea about it though they were not conscious about the vaccination. Some of the respondents started vaccination at their early reproductive period or during pregnancy but they did not continue dose schedule which was very disappointing. For appraisal of a wide range of coverage of vaccination, our government should be more concerned about the effective delivery of health care and other non-government organizations, donor agencies and most importantly mass media can play a major role in this respect.

Acknowledgement

Thanks to Almighty Allah, that by His endless grace, we have been able to complete this study successfully. It is also a great pleasure to express our sincere indebtedness and

gratitude to all the villagers who gave me time and co-operated cordially during data collection without which the study could not be possible.

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