

Original article

Status of knowledge and practice about complete tetanus toxoid immunization of unmarried female students of a public university in Dhaka

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Abstract:

Objective: The present study was undertaken to assess the level of knowledge and practice about tetanus toxoid immunization of a group students from a public university.

Materials & Methods: This cross-sectional survey was carried out on 113 female students randomly selected from Dhaka University. The interview was conducted using a structured questionnaire. **Results:** Mean age of the respondents was 19.7±1.2 years (mean±SD). About 90% of the respondents knew about tetanus. Regarding age groups prone to develop tetanus, 49% respondents told 'children <1 year', 26.5% 'neonate', 14.7% 'children of 1-5 years', 3.9% 'children of 6-12 years', 5.8% 'women of 15 years and above'. Respondents showed lack of knowledge about the target group for TT vaccination. None has mentioned about the necessity of TT immunization before the start of reproductive life. Regarding number of dose for complete vaccination 60% respondents mentioned 'five', 10.9% 'three' and 4.9% 'two'. Twenty two percent (22.1%) of the respondents did not know. Over one-third (34.5%) of the respondents was found to be completely immunized, 24.8% on schedule, 17.7% incompletely immunized and 23% was not at all immunized. Respondents' source of knowledge about TT immunization was TV in 35% cases followed by health workers 24%, newspaper 16%, radio and other sources 25%. Among the nonvaccinated group 50% respondents told of their unawareness about need for vaccination against tetanus before the start of their reproductive life, 15.4% told about lack of information regarding of place and time of vaccination and 19.6% complained about inconvenience schedule and place of vaccination. **Conclusions:** More than two-thirds of the respondents had

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knowledge about tetanus toxoid immunization before the start of their reproductive life but only half of them were completely vaccinated. Mass media found to be the main source of information. So planners and policy-makers should utilize mass medium and gear up the activities of health workers to convey the correct messages regarding tetanus toxoid immunization to its clients.

Key words: Female reproductive life · tetanus · TT immunization Knowledge · vaccination age.

Introduction

Tetanus, commonly called lock jaw, is a highly characteristic disease caused by a potent neurotoxin by *Clostridium tetani*, a ubiquitous organism, found in the soil throughout tropical and temperate regions of the world. It affects the central nervous system and despite being entirely preventable by immunization using toxoid vaccine, neonatal tetanus (NT) remains one of the leading causes of death worldwide including Bangladesh¹. The goal of neonatal tetanus elimination was adopted by the World Health Assembly in 1989 and by the World Summit for Children in 1990². Considering the contribution of traditional abortion practices in tetanus related maternal death in Bangladesh, a proposal on maternal tetanus prevention policy was considered. The primary strategies for achieving the goal include: a) vaccination of all pregnant women with at least two doses of TT and b) provision of clean delivery services to all pregnant women. The high-risk approach (HRA) comprises

supplemental vaccination targeted at women of childbearing age³.

The Expanded Program on Immunization (EPI) in 1985 rescheduled five doses of TT for all women of childbearing age. But the strategy could not attain the coverage as expected, because large number women of child bearing age were not aware of the benefit of immunization and complete protection against tetanus. Even the educated females of child-bearing age do not seem to have the knowledge of complete immunization against tetanus. It has also been reported that even where knowledge was adequate, practice did not corresponds with knowledge which suggested additional factors might have been preventing translation of knowledge into ones practice⁴.

About half of the students of the different universities are female who are likely to get married in near future and begun reproductive life. Tetanus related maternal morbidity and mortality still remains to be a serious problem in our

society. Since awareness is a useful tool to address any public health problem it is felt assessment of status of knowledge and practice regarding complete immunization against tetanus among the vulnerable would be important. Hence the present study was undertaken to assess the status of knowledge and practice about complete protection against tetanus among unmarried female students of a public university in the Dhaka city.

Material and Methods

The present descriptive cross-sectional study was carried out in the campus of a public university in the Dhaka city between January to June 2005. Unmarried female students were invited through personal communication to volunteer the study. A structured questionnaire was designed, field-tested and then used to collect the information of interest. In the first place nature and purpose of the study was briefed to each individual and assured them about the confidentiality of the information. On giving the consent the volunteers were given the questioner. On completion of data collection, data-sheets were checked and rechecked to exclude any error or inconsistencies. A total of 113 students finally entered the study. Data were analyzed using Statistical Package for Social Sciences (SPSS) for Windows. Descriptive statistics were

used to describe the data.

Results

Nearly three-quarter (73.9%) of the respondents were of between 18-20 years, 22.1% >20 years and 8% <18 years. The mean (\pm SD) age (in yrs) of the respondents was 19.7 ± 1.2 and the lowest and highest ages were 17 and 21 years respectively (Table I). About 90% of respondents found to have heard about the tetanus. Respondents who heard about tetanus were further asked about the age groups are prone to develop tetanus. About half (49%) told children <1 year, 26.5% neonate, 14.7% children of 1-5 years age, 3.9% 6-12 years, 2.9% 15-49 years and 2.9% other age groups. About 40% of the respondents told that target group for TT vaccination was newborn, another 40% told women of child bearing age, 25.7% pregnant women, 23.7% both mother and newborn, 19.8% only mother of newborn, 17.8% children <5 years of age and 16.8% did not know about the target group (Table II). In response to the question about number of dose that confer complete protection against tetanus over 60% of the respondents told five doses, 10.9% three and 4.9% two. A reasonable proportion (22.1%) of the respondents, however, was found to be ignorant about the exact number of doses for complete protection against tetanus (Table II). Respondents stratified by status of TT

immunization showed that over one-third (34.5%) was completely immunized, 24.8% partially immunized but on schedule, 17.7% incompletely immunized and 23% was not at all immunized (Fig 1). Respondent's source of knowledge about TT immunization was found to divergent; watching television 35%, health workers 24%, newspaper 16%, radio 13% and other sources 12% (Fig 2). In

response to question for not receiving vaccination, 50% respondents told of their unawareness about the need for TT vaccination before the start of reproductive life, 15.4% told of the lack of information about the place and time of vaccination and 19.6% complained of the inconvenient schedule and place of vaccination and, 7.7% respondents decided to have complete TT vaccination in future.

Table I: Distribution of the respondents by age (n = 113)

Age (years)	Frequency	Percentage
<18	09	8.0
18 - 20	79	73.9
> 20	25	22.1

Table II: Respondent's distribution by knowledge on different aspects of tetanus

Knowledge on different aspects of tetanus	Frequency	Percentage
Heard about tetanus (n=113)		
Yes	101	89.9
No	12	22.1
Age group prone to tetanus (n=101)		
Neonate (0 - 28 days)	27	26.8
1 month - 1 year	50	49.6
1 – 5 years	14	13.9
6 – 12 years	04	3.9
Women of 15 – 49 years	03	2.9
Others	03	2.9
Target group for immunization (n=101*)		
Newborn	40	39.6
Mother of newborn	20	19.8
Both mother and newborn	24	23.7
Women of 15 – 49 years	40	39.6
Pregnant women	26	25.7
Children <5 years	18	17.8
No idea	17	16.8
Doses for TT immunization (n=101)		
Two	05	4.9
Three	11	10.9
Five	62	61.4
No idea	23	22.8

*Total will not correspond to 100%, for multiple responses.

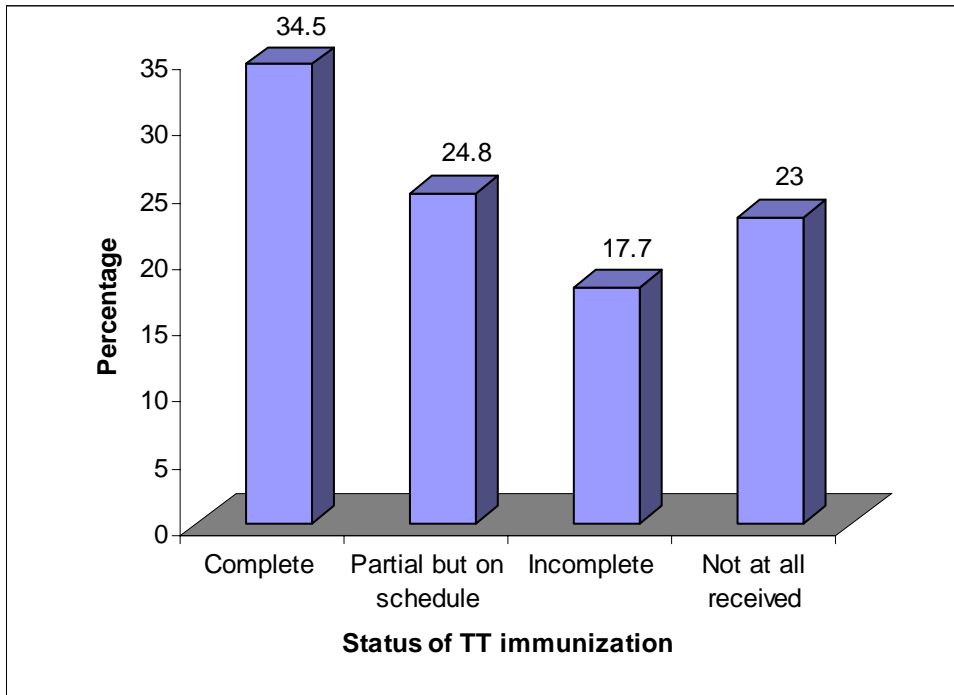


Figure.1: Immunization status of the respondents (n = 113)

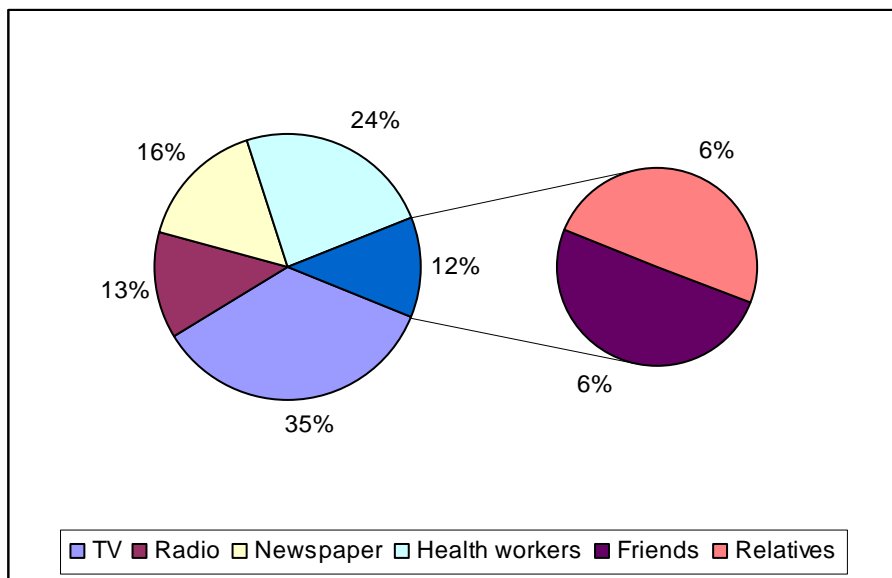


Figure.2: Respondent's source knowledge about TT vaccination (n = 113)

Discussion

The present study was aimed at status assessing the knowledge and practice of unmarried university students about tetanus TT vaccine revealed that nearly 90% of the respondents were aware about tetanus. But regarding the age group most at risk of acquiring the disease, a little more than one-quarter (26.8%) told 'neonates' and only 2.9% told 'women of child bearing age 15-49 years'. The rest of the respondents provided misleading information. With regard to target group for TT vaccination, the respondents' answers were very divergent. About 40% told 'women of child bearing age' and 25% 'pregnant women'. A considerable proportion of respondents mentioned newborn (39.6%), mother (19.8%), both mother and newborn (23.7%) and under 5 children (17.8%) as the target group for vaccination. Multiple responses in this regard suggest that most respondents are preoccupied with both correct and misleading information. Respondents with no idea about target group for TT vaccination were also no less (16.8%). All these data point towards providing correct information to the target population as well as to mass population to bridge the information gap among the target group for TT vaccination. The rate of correct response about number of TT doses

needed to confer complete immunity against tetanus could be considered average (61.4%). At the time of interview 34.5% of the respondents were fully immunized against tetanus and 24.8% was on schedule together comprising nearly 60%. Thus we see a consistency between correct knowledge about TT immunization and receiving full doses of tetanus toxoid by the target group. The respondents who did not receive vaccination told about their ignorance regarding the matter. However, the situation is far better than it was two decades ago in the mid 1980s when Bangladesh had one of the highest incidences of neonatal tetanus in the world: 41 cases for every 1000 live births. Only 5% of women of child bearing age were immunized with tetanus toxoid and only 5% of pregnant women had access to clean birth⁴. A district survey of EPI coverage conducted in 1993 by CARE Bangladesh demonstrated that 70% of the failure of coverage is due to lack of information and 30% due to various obstacles⁵. A study was conducted in 1992 in Chittgong city which included 118 mothers. Of them 106 were up to date with their immunization status, 2 were with appropriate contraindication and 10 with missed opportunities⁶. Respondents' source of knowledge about TT immunization revealed that

TV was the prime source of information and health workers were the next leading source. The study revealed though about 90% of the study subjects knew about tetanus but substantial proportion were unsure about the target group and dose of vaccination and necessity for immunization before the

reproductive life. Knowledge about tetanus and TT immunization they gained from electronic media, particularly TV. To achieve the goal of complete protection against tetanus in women of child bearing age requires more measures in different areas particularly its campaign.

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