

Original Article

Study on tetanus toxoid vaccination coverage among female garment workers in two selected factory

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Abstract:

This was a cross sectional descriptive study conducted to assess the coverage of tetanus vaccine immunization among the female garment workers using a semi-structured questionnaire employing purposive sampling technique with a sample size of 214 by face to face interview from March to June 2018. Most of the respondents (44%) belonged to the 25-30 years age group. Majority (68%) of them were illiterate and Only 15% of the respondents had education level of HSC or more. More than half of the respondents were unmarried. The mean monthly income was taka 2275. It was revealed that 160, (74.76%) of the respondents completed immunization schedule, 40, (18.70%) not completed while 14, (6.54%) were not immunized against EPI diseases. There is statistically significant association between education and immunization status ($p < 0.05$). Prevention of tetanus specially depends on tetanus immunization and early diagnosis. Health education and positive public attitude will play significant role in prevention and control the tetanus. The study recommends for effective strategies to increase TT5 vaccination coverage countrywide especially among vulnerable women.

Key words: Tetanus, Female garments worker, Prevention. Vaccine, Tetanus toxoid

Introduction:

Tetanus Toxoid (TT) is administered to women of reproductive age (15-44 years) to protect them from tetanus and their newborn babies from neonatal tetanus. Neonatal tetanus is a grave disease caused due to contamination of umbilical stump of the child during childbirth usually in an unhygienic condition.^{1,2} Tetanus toxoid is a vaccine used to immunize the people to protect against the fatal infectious disease 'tetanus'. Inadequate immunization service, home delivery, unhygienic cutting of umbilical cord increases susceptibility to tetanus². In Bangladesh where most women still do not have access to clean birth or skill birth attendant, approximately 90% reduction of neonatal tetanus mortality has been achieved in the last 20 years. Neonatal tetanus is a swift and painful killer disease that killed 58,000 newborns in 2010 alone³. Massive increase in tetanus toxoid immunization among childbearing age ensures that both mothers and babies are protected against tetanus infection⁴.

In developing countries delivery takes place mostly

at home and attended by untrained 'dais', who usually cuts the umbilical cord of the new born by unsterilized instruments and the umbilical stump is sometimes covered with dung, dirt, mud, ashes etc. due to this type of unhygienic practice *Clostridium tetani* gains entry through the umbilical stump and causes neonatal tetanus, which was the major cause of neonatal death⁵. Another important factor is that in the developing countries most of the women are illiterate and are from lower socioeconomic classes who are not aware of professional cleanliness and have very little knowledge of safe delivery, these factors also favours the development of neonatal tetanus in the children as well as puerperal tetanus of the mother.

Tetanus toxoid immunization of women of child bearing age and proper practice of safe delivery can prevent neonatal tetanus almost completely⁶. Tetanus causes 1 million deaths in the world and half of these being in the new born infants⁷. Although neonatal tetanus (NT) has been declared eliminated from Bangladesh in June 2008, it is not uncommon in Infectious Disease Hospital

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(IDH) in Dhaka.⁸ In Bangladesh neonatal mortality rate is 25/1000 live birth.⁹

About 85% of women with a child under 1 year of age had received 2 tetanus toxoid immunization, only 11% of women of reproductive age had obtained the complete series of 5 TT vaccine and only 52% of women of reproductive age had receive 1 or more tetanus immunization⁸. To eliminate neonatal tetanus at least 90% coverage of tetanus vaccine in the target group should be done and sustained. In addition to this safe delivery, provision of training to the traditional birth attendance, supply of safe delivery kits to be ensured. Improvement of maternal and child health care service and awareness of the illiterate groups can prevent tetanus¹⁰. This study was carried out to know the tetanus immunization coverage of the female workers of garments factory in Dhaka city.

Materials and methods

This was a cross sectional descriptive study conducted to assess the coverage of tetanus vaccine immunization among the female garment workers using a semi-structured questionnaire employing purposive sampling technique with a sample size of 214 by face to face interview from during the period of March to June 2018. Data were cleaned, edited and was analyzed with the help of SPSS 17 version software and expressed in frequency and percentage.

Results

A total of 214 female garment workers from selected factory was the study group. Among them (48, 44.86%) was between age group of 25-30 years (Table-1). It was observed from the study that majority of respondents (146, 68.22%) were illiterate, (32, 14.95%) had primary education, (20, 9.35%) passed high school and only (16, 7.48%) of them had education higher secondary and above (Figure I). Among the respondents Almost (94, 43.92%) were married and (120, 56.07%) were unmarried. Among the married women (76, 80.86%) had 1-3 children. More than one third (79, 37.14%) of the respondents had monthly income between 2500-3500 taka with a Mean 3275 taka (Figure-2). Almost three fourth of the respondents (160, 74.76%) were immunized against tetanus, (14, 6.54%) were not vaccinated; of them (187, 87.5%) got vaccinated inside the factory (Table-2 &

Table-3). Almost (170, 79.44%) of the total respondents have no knowledge about advantages of tetanus toxoid vaccination. There is a significant association between educational level of respondents & tetanus immunization (p<0.05) (Table-4).

Table-1: Age distribution of the respondents. (n=214)

Age in years	Frequency	Percentage (%)
15-20	16	7.48
20-25	54	25.23
25-30	96	44.86
30-35	30	14.02
35-40	18	7.41
Total	214	100

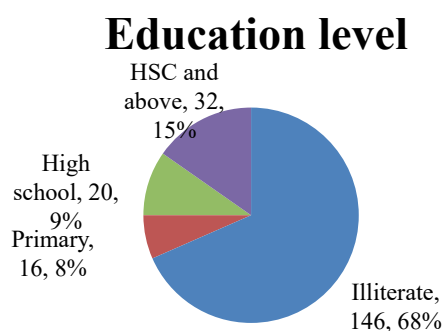


Figure-1: Educational level of the study population (n=214)

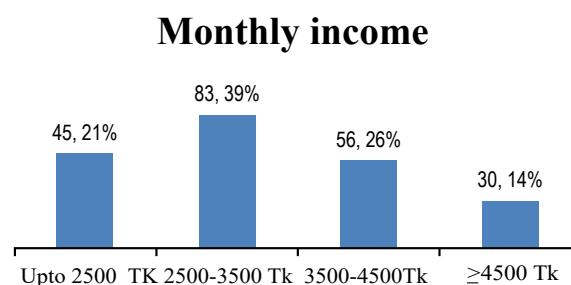


Figure-2: Monthly income of the respondents (n=214.)

Table-2: Immunization status of study population

Immunization status	Frequency	Percentage (%)
Complete immunization	160	74.76
Incomplete immunization	40	18.70
Not immunized	14	6.54
Total	214	100

Table-3: Distribution of the respondents according to the

place of vaccination.

Place of vaccination	Frequency	Percentage (%)
Inside factory	140	87.5
Govt. institution	20	12.5
Total	160	100

Table-4: Relation between educational level of the respondents and TT vaccine taken.

Educational level	Taking TT	Not taking TT	Total	P value
Illiterate	88	58	146	
Literate	60	8	68	<0.05
Total	148	66	214	

*P value from pearson’s chi square test

Discussion

The present study was aimed to explore the status of tetanus immunization among the garment worker. Total 214 respondents of child bearing age were selected. It was found that 44% of the garment workers were from age group 25-30. Similar findings were observed in a longitudinal study in China 2000-2012, where the mean age of the mothers was found 27.2±4.8 years.¹⁰ In this study we found that more than half of the respondents about 68.22% were illiterate and the mean monthly income was 3274 taka. A study conducted in Dhaka city, found that 61.11% of neonatal tetanus occurred in low socioeconomic condition by Bose and Begum which is much similar with this study¹⁰. WHO and UNICEF estimate of national immunization coverage shows in 2010 that 93% coverage of tetanus immunization has been achieved in Bangladesh¹². This study also shows a higher coverage of tetanus immunization among the respondents which corresponds with the survey mentioned above but this study does not reflect the whole country as most of the respondents (87.5%) took vaccine inside the factory. Respondents had no idea about importance of tetanus vaccination is (79.44%). The present study shows that the rate of taking tetanus vaccination was more in case of literate respondents than illiterate. A significant association was found between the educational level of the study population and taking tetanus toxoid (p<0.05) which was similar to the study conducted by WG Haldy et al.¹³

Conclusion

Broad based campaign is needed to promote access to tetanus immunization and completion of all five doses of tetanus and to achieve the goal of complete protection against tetanus and awareness in women in Bangladesh.

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