

FREQUENCY OF TETANUS TOXIOD VACCINATION IN PREGNANT WOMEN ATTENDING A TERTIARY CARE HOSPITAL

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ABSTRACT

Objectives: To determine frequency of Tetanus Toxioid (TT) vaccination status during pregnancy and obstacles involved in TT vaccination.

Material and Methods: It was a descriptive cross sectional study which was carried out in February 2015 to September 2015 in Khyber Teaching Hospital, Peshawar, Pakistan. A total 500 study subjects were selected through non probability sampling technique. A structured questionnaire was used to collect data, and face to face interviews conducted. Sample includes on pregnant women who came for their antenatal visits and post-partum women (up to 40 days) who were admitted in the Gynae wards. Data was processed and analyzed in software SPSS16 and then results were presented in text, tables and graphical forms.

Results: Vaccination coverage was 70% among women living in villages and 75.2% of in women living in cities. Non vaccinated women were 28.8% in rural areas and 24.8% in urban areas. Majority of women age was from 15 to 25 years. Majority of the respondents were illiterate and unemployed having monthly income between Rs. 5,000 to 15,000. In both Rural and Urban areas knowledge about TT vaccination is low.

Conclusion: Low literacy rate, unemployment and lack of visits by the field workers are the main causes of low TT vaccination in pregnant women.

Key Words: Tetanus, Vaccination.

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INTRODUCTION

Tetanus causes high death rates during pregnancy and neonatal age group. Pakistan is struggling to decrease death rate during pregnancy and infancy but it has failed to eradicate polio, measles and tetanus. TT vaccination is an effective way of prevention of tetanus in women and children¹. Tetanus is a non communicable infectious disease which can be prevented using TT vaccination. It is caused by gram negative spore producing rods called clostridium tetani². Tetanus infection is commonly observed during pregnancy and in first few postpartum weeks³. Estimates show that 5% of

death in women during or after termination of pregnancy and 14% neonatal deaths are due to Tetanus infection⁴. There are 40 countries worldwide which have failed to eliminate the disease; Pakistan is one of those countries. According to WHO report, more than 59,000 neonates died of Tetanus in the year 2008. Prevention of Tetanus is possible through TT vaccination⁵. Delivery in unhygienic environment and low TT vaccination coverage is the main risk factor for tetanus in women and the children born to these high risk women are also at risk for development of neonatal tetanus.⁶ Pakistan is among the top eight countries where 73% of neonatal deaths are due to tetanus. More than 22,000 neonatal deaths occur every year in Pakistan are due to tetanus⁷. Tetanus vaccination is the main preventive measure in prevention of the disease and this practice has globally resulted in decrease in prevalence of maternal and neonatal tetanus⁸. A study conducted at Peshawar shows 60-70% TT vaccination coverage in urban and rural areas⁹. Another study shows that TT vaccination coverage in Lahore is 87%¹⁰. Expanded program on immunization (EPI) is in practice in Pakistan which schedules two doses of

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TT vaccination during pregnancy and total five doses during reproductive age group. Considerable financial resources are spent on EPI program but TT coverage is still low in pregnant women which is manifested by the fact that TT vaccination coverage declined from 56% in the year 2003 to 53% in the year 2006¹¹. In this study the authors focuses on different factors responsible for low TT vaccination and recommendations for improvement in this regard.

MATERIAL AND METHODS

It was a cross sectional study of descriptive type which was conducted in the ante-natal clinic of Gynecology department, Khyber Teaching Hospital, Peshawar from February to September 2015. Target population included all pregnant women from rural and urban areas of Peshawar, who came for their antenatal visits and post-partum women (until 6 weeks after delivery) and women who were admitted in obstetric and gynecology ward. Convenient sampling technique was used and total sample size was 500. A structured questionnaire was used as data collection tool. Verbal consent for the study regarding their immunization status was taken from the respondents. Subjects unwilling to appear in interview were excluded from the study. Subjects were checked for TT vaccination record either looking for their vaccination cards or asking them verbally. Data was collected by direct face to face interviews with respondents.

Information was gathered on characteristics such as basic demographics, socio-economic status, educational status of the women, immunization coverage in previous pregnancies; her view about the importance of tetanus vaccination during pregnancies and reasons for choosing to remain unimmunized. Results were deduced by using sampling arithmetic calculations i.e. percentage, average, ratio, proportions, median, mean, etc. and cross tabulation was also done. Data was processed and analyzed by software SPSS 16 and

then results were presented in text tables and graphical forms. Limitations were our study was restricted to Khyber Teaching Hospital only, non cooperation of the respondents, cultural and social restrictions.

RESULTS

Age at the time of marriage both for rural and urban areas are expressed in Figure 1. Women from urban areas are more educated than rural areas as shown in Table 1. Occupational status of husbands of respondents is shown in Figure 2. Unemployment percentage is higher in urban areas than rural areas. Knowledge about TT vaccination is shown in Table 2. Table 3 shows distribution of vaccinated and non-vaccinated ladies in rural and urban areas. Reasons of not receiving TT vaccine is shown in Table 4. Unemployment percentage is higher in urban areas than rural areas.

DISCUSSION

Vaccination prevalence in urban areas is 75.2% which is greater than rural areas of 71.2% which is almost comparable with other international studies¹². Causes of low vaccination were found to be low level of knowledge, culture restrictions and misconception

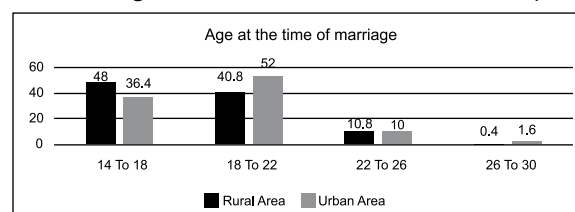


Figure 1: Age at time of marriage

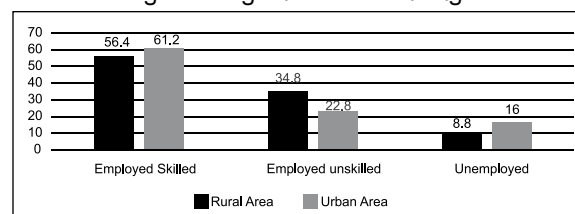


Figure 2: Occupational status of husband

Table 1: Education status: Women from urban areas are more educated than rural areas

	Illiterate	Primary	Metric	FA/FSc	BA/BSc	MA/MSc
Urban	58.8%	8.8%	6.4%	15.6%	6%	4.4%
Rural	64.4%	7.2%	19.2%	7.2%	1.2%	0.8%

Table 2: Knowledge about TT Vaccination

	Urban	Rural	Total
	No. of Respondents	No. of Respondents	
No Knowledge	82 (32.80%)	118 (47.2%)	200
Good for Health	124 (49.6%)	111 (44.4%)	235
Bad for Health	44 (17.6%)	21 (8.4%)	65
Total	250 (100%)	250 (100%)	500

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Table 3: Showing Vaccinated or Non Vaccinated

	Urban Area	Rural Area	
	No. of Respondents	No. of Respondents	Total
Vaccinated	188(75.2%)	178 (71.2%)	366
Non Vaccinated	62(24.8%)	72 (28.8%)	134
Total	250 (100%)	250 (100%)	500

Table: 4 Reasons of not Receiving TT Vaccine

Reasons	Urban	Rural	
	No. of Respondents	No. of Respondents	Total
Vaccine not Available	8 (3.20%)	4 (1.6%)	12
Staff not available	9 (3.6%)	4 (1.6%)	13
Cultural Restrictions	13 (5.2%)	9 (3.6%)	22
Unaffordable	1 (0.4%)	0 (0%)	1
Lack of Knowledge	29 (11.6%)	40 (16%)	69
Misconception	9 (3.6%)	5 (2%)	14
Others	6 (2.4%)	0 (0%)	6
Vaccinated	175 (70%)	188 (75.3%)	363
Total	250 (100%)	250 (100%)	500

about the TT vaccination¹³. From the study it's observed that majority of the respondents both in the rural and urban areas belongs to the age of 15 to 25 years, their marital age lies between 14 to 18 years and 18 to 22 years and majority of them are married having up to three children i.e. 60% in rural areas and 63.2% in urban areas, almost same results are reported in local and international studies^{14,15,16}.

Most of the respondents are illiterate both in urban and rural areas, and rest of the respondent having qualification of primary, metric, intermediate, bachelor and master. Majority of them are unemployed. Low vaccine coverage and literacy rate is according to national and international study reports^{17,18}. It is of the great concern that 32.80% in rural areas as and 47.2% in urban areas have no knowledge about TT vaccination. The opinion of 49.6% respondent in rural areas and 44.4% respondents in urban areas is that TT vaccination is good for both the mother and child health¹⁹. It is observed that in rural areas more number of respondents replied that TT vaccination is bad for health as compared to urban areas. But media and medical staff is playing a vital role in creating awareness regarding TT vaccination in both rural and urban areas.

From the study it is also observed that numbers of respondents vaccinated are greater than non-vaccinated in both rural and urban areas, govt. hospitals are playing vital role in TT vaccination private hospitals and other like clinics also contribute in TT vaccination^{20,21}. Majority of the respondents are not having TT vaccina-

tion card, i.e. 51.2% in rural areas and 42.4% in urban areas are not having TT vaccination card.

The main cause in majority of the respondent's for not been vaccinated is lack of knowledge about TT vaccine²². Whereas culture restriction is the main reason for non-vaccination in rural areas. Non availability of staff and non-availability of vaccine becomes the reason of no vaccination in both rural and urban areas which is according to national and international studies^{23,24}.

In both rural and urban areas majority of the EPI centers are 1 to 5 km away and are within the reach of the respondents. But in some rural areas there is no vaccination centers, so they have to travel down districts or any other city. It is also observed from the study that most of the field workers visit the area on monthly basis or even do not visits the areas that come under jurisdiction which is also observations in other studies²⁵.

CONCLUSION

Lack of visits of the field workers, along with low literacy rate and unemployment are the main causes of low TT vaccinations in primi and multigrand para patients.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

- Gul R:** Contributed to conception, design, acquisition of data, final approval.
Bibi S: Data collection.
Khan HM: Data analysis, proof reading.
Ayub R: Drafting of manuscript.
Alam SR: Bibliography.
Afridi A: Data collection.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.