

Assessment knowledge of female academic staff in Kirkuk- Technical Institute to tetanus toxiod vaccination

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Abstract

Background: Tetanus is a preventable disease and no age is immune unless there is a previous protection with tetanus toxiod immunization which is a highly effective and the immunity lasts several years.

Objective: To assess the female academic staff knowledge regarding the vaccination status with tetanus toxiod.

Patients and Methods: A cross-sectional study was conducted in Kirkuk Technical Institute for the period from 1st January /2014 till the end of May 2014. A randomly selected sample from different scientific departments and a special questionnaire form was prepared by direct interviewing with the study sample and 100 female academic staff were participated in the study after receiving a verbal consent from them before establishing the study.

Results: The results revealed that 43.0% of study female academic staff aged (41-50) years , (53.0%) having a master certificate , (61.0%) of them are assistant lecturers , and (81.3%) of study female staff were vaccinated with tetanus toxiod ,and 73.6% of them are completed their vaccination schedule with tetanus toxiod during their reproductive life.

Conclusion: The study concluded that female staff who are not completed their vaccination status with tetanus toxiod because of over load working.

Key words: Vaccination, women, Tetanus toxiod, Kirkuk.

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Introduction

Tetanus is one of the life-threatening disease which caused by the bacterium *Clostridium tetani* that enters to the body through an abrasion wound, and it has been referred as the “inexcusable disease” because of its serious and completely preventable nature[1]. Tetanus is a very

highly dangerous fatal disease with a mortality rate about 35% , and a proximal (309000) deaths occurs due to maternal or neonatal tetanus which reflect a triple failure of public health because of defect in routine immunization program during pregnancy period , poor ante- natal care

health services, increase home delivery, and unhygienic delivery condition [2, 3] , therefore many women die every year due to maternal tetanus that is responsible for more than 5% of maternal deaths and 30, 000 women affected by the tetanus disease[4].

In the recent years , there was a high decline in tetanus disease occurrence because of the widely coverage of immunization program with (Tetanus Toxioid)TT vaccine and WHO recommended that administration of single TT vaccine is not enough to protect the women from Tetanus disease , so the women need more than two doses of vaccine (TT1, TT2) in order to receive a sufficient immunity through out their life [5].

The protection from Tetanus disease started 15days after the 2nd dose of TT vaccine and it should be complete the recommended 5 doses of it through a regular interval schedule to maintain the essential provided protection[6].

Tetanus Toxioid (TT) is usually given to the reproductive women at the age between (15- 44) years in order to protect both of (mother from Tetanus disease) and (New born infant from Tetanus Neonatorum which is regarded as a fatal disease caused by a bacterial infection due to unhealthy condition) [7, 8] , and for that reason Tetanus vaccine is the only preventable one against Clostridium bacteria which is mainly found in the human gut , domestic animals and soil[9].

The evaluation of a patient's immune response and mechanism to certain vaccinations like (TT) serves as a relation to his/her ability to fight natural infections and it is necessary in the assessment of the humeral immune system., so the clinical indications and guide lines for assessing and evaluating vaccine responsiveness include many items like (frequent and recurrent Sino pulmonary or otic infections, chronic gastrointestinal infections, any severe or unusual infections, and abnormal need for antibiotics)[10, 11].

The study aimed to assess the teachers knowledge regarding the vaccination status with tetanus toxiod vaccine.

Patients and Methods

A- Study subjects

Official permission was taken from / Kirkuk Technical Institute / and a verbal consent was taken from each women before establishing the study . A cross-sectional study was carried out in Kirkuk Technical Institute and a randomly selected sample of 100 teachers from different scientific depts.

A special questionnaire form was conducted after receiving their agreements to participate in the study. The study was done during the period from 1st January /2014 till the end of May 2014. The participant teachers were ensured confidentially that this questionnaire form was for research purposes only and allow them to be free with drawl from the study at any time they want.

B- Study methods

The data was collected by direct interviewing them and full explanation of the study aim was done by the investigator, then full case history about the vaccination status with tetanus toxiod (TT) during their pregnancies with the help of vaccine cards which was received from the primary health care centers during their attendance to them .

The prepared questionnaire form contained 5items about the TT vaccine which are:

Part-1- Demographic characteristics including (age, certificate ,scientific degree, marital status).

Part-2- Teachers vaccination status .

Part-3- Teachers knowledge regarding the tetanus toxiod vaccine.

Part-4-Teachers future suggestions regarding vaccination program.

Part -5-Teachers distribution about the causes for not completed their vaccination.

The last overall final question which is: “Are you received a 5 doses of TT vaccine

through your attendance to primary health center (PHC) ?” had an answer of “Yes” or“No” only.

Statistical Analysis

The data was statistically analyzed by using descriptive statistics for questions with yes and no answer .

The items of teachers knowledge were rated according to type of likert scale as(yes- uncertain-no) and scored as [12]:

3 for yes answer

2 for uncertain answer

1 for no answer

Cut off point $(3+2+1)/3= 2.0$, so the results calculated by using the following formula :

No. of teacher said yes $\times 3$ + No. of teacher said uncertain $\times 2$ + No. of teacher said no $\times 1$ /Sample size (100)

Results

Table(1)shows that majority of study women aged between 41-50 years (43.0%), with a Master certificate (53.0%) , assistant lecturers (61.0%) , and they are married (91.0%).

Table (1): Socio demographic characteristics of the study sample.

Socio- demographic parameter		Study teachers N=100	
		No,	%
Age Group (years)	<30years		
	31- 40 years	12	19.0
	41-50 years	21	21.0
	51-60 years	43	43.0
	> 60 years	15	15.0
Certificate	2	2	2.0
	PhD	7	7.0
	Master	53	53.0
	Diploma	8	8.0
Scientific degree	Bachelors	32	32.0
	Assistant proof	2	2.0
	Lecturer	37	37.0
Marital status	Assistant lecturer	61	61.0
	Married	91	91.0
	Unmarried	9	9.0

* un married women were excluded from the study

Regarding the vaccination status , the results show that most of teachers were vaccinated with tetanus toxiod (81.3%) ,

and (18.7 %) of them were not vaccinated as in table.

Table (2): Frequency distribution of study teacher sample according to their vaccination status with tetanus toxiod.

Vaccination status with tetanus toxiod	Study teachers (Married) N=91	
	No.	%
Vaccinated	74	81.3
Not vaccinated	17	18.7
Total	91	100.0%

Majority of teachers have a grand mean knowledge index above 2.0 regarding the importance of tetanus toxiod vaccine [2.1]

and its doses [2.02] while it is below [2.0] for vaccination time and last dose of it [1.9] as in table(3).

Table (3): Distribution of female teachers according to their knowledge index regarding the tetanus toxiod vaccination.

Knowledge parameter	Teachers number = 50			Mean of score	Crand mean (CM)/assessment value
	Yes	uncertain	No		
Importance of Tetanus toxoid vaccination					
a- Prevention of tetanus disease in pregnant women only .	13	42	19	2.4	GM=2.1 Above cut- off point
b- Prevention of tetanus disease in child only	27	18	29	1.9	
c- Prevention of tetanus disease in both of them	41	10	23	2.2	
Vaccination time					
a-One single dose during pregnancy period	15	39	20	1.9	GM=1.9 Below cut-off point
b-Two doses through out the pregnancy with one booster dose after delivery	30	21	23	2.1	
c- Two doses during pregnancy with booster dose through 5 years period	21	17	36	1.7	
Vaccination doses					
a- Single dose	24	20	30	1.9	GM=2.02 Below cut- off point
b-Two doses + one dose later	17	28	29	1.8	
c- Two doses + 2 doses later	36	14	24	2.1	
d- 5 recommended doses	43	14	17	2.3	
Last doses of vaccination					
A-Before one month of delivery	7	40	27	1.7	GM=1.9 Above cut- off point
B-Before two months of delivery	27	18	29	1.9	
c-Before three months of delivery	45	12	17	2.3	

Table (4) presents that 73.6% of teachers with tetanus toxiod during their reproductive life are completed their vaccination schedule

Table (4): Distribution of female teachers according to their complete status of tetanus toxoid Vaccination.

The reasons for not completing TT vaccine	Study teachers (Not completed) N=24	
	No.	%
Long time needed to reach the PHCC	4	16.7
Vaccine usually not found in the PHCC	6	25.0
No encouragement from husband	3	
Lack of motivation	0	0.0
Fear of vaccination side reaction	2	
Over load working	9	37.5
Total	24	100.0%

37.5% of study teachers were not completed their vaccination status with tetanus toxoid because of over load working.

Table (5): Distribution of female teachers according to their reason for not completing tetanus toxoid vaccination.

Validity of TT vaccine	Study teachers (Completed) N=67	
	No.	%
Valid vaccination	53	79.1
Crude vaccination	14	20.9
Total		100.0%

*Valid vaccination = any women receive 5 doses of TT vaccine at recommended schedule.

*Crude vaccination = any women receive 5 doses of TT vaccine at different interval.

Table (5) reveal that 79.1% of the study teachers were completed their valid vaccination status during their life.

Discussion

The current study show that majority of study teachers were vaccinated with tetanus toxoid during their reproductive life . A study was conducted by Siddigi etal / 2007 [13] in Pakistan to assess the coverage of expanded program of immunization and they found that most of study women were not vaccinated with the tetanus vaccine because of the difficulty and unavailability of it in the primary health care center during their visiting.

A similar study was done by Mohammed etal / 2010 [14] in Peshawar / Pakistan to verify the coverage rate of TT vaccination and assess the main factors related to it among women in the reproductive age groups between (17- 45) years . They mentioned in this study that 55.6 % of the study sample were completed their vaccination with TT and 22.4% were

vaccinated incompletely , and 22.0% of them were never taken any dose of vaccine at all .

Regarding the knowledge of teachers towards the TT vaccine , the present study show that most of them having a high grand mean knowledge index regarding the value of TT vaccination and its doses.

A study was conducted by Islam etal / 2009[15] in Bangladesh / Dhaka District / BoroChandrial village among 224 women at reproductive age between (15- 49) years to determine the TT vaccination coverage in a rural area . They reported in their study that main causes for TT vaccination decline due to 1- lack of educational back ground about the necessity of the vaccine during their life (54.4%) 2- un awareness of completing the 2nd and 3d doses of it (48.5%) . Further more they reveled that their knowledge about the benefits of TT was very fair for both the mother and child and there was a clear defect in the attitude of the study sample regarding the value of

vaccination for them. Concerning the complete status of TT vaccine, the present study shows that more than two thirds of the study women completed their vaccination schedule with tetanus toxoid. Rahman / [16] performed a similar study in Bangladesh /2009 to assess the utilization and coverage of TT among reproductive women. He found in his study that there was a significant decline in the immunization coverage among them because of their husband had a low educational level. In addition to, there was a statistically relation between the women knowledge and TT vaccination and complete status of it.

Another study was conducted by Afridi et al / [17]2005 in Peshawar among female of reproductive age to assess the main factors associated with the immunization coverage with TT vaccine. They found that the women who are not vaccinated because of low educational level and unawareness of vaccination importance during their life.

WHO [18]estimated that the TT2 vaccination was 55% and this variable results related to demographic changes in Pakistan. A similar study was prepared by Mohammad et al / [19] 2014 in Al-Shattha district / Al-Shattha PHCC/Iraq among reproductive attendant women aged between (15- 45) years. They found that most of studied women were not completing the vaccination status and 73.3% of them were vaccinated while 24% were not vaccinated.

Another study was prepared by Hasnain et al / 2007[20] in Lahore district to

determine the main reasons behind the low coverage of TT vaccination among pregnant women and they reported that most of study women were not complete their recommended schedule and the coverage rate of immunization program was (87%). They documented in their study that both of the health care provider and public health system should maintain the acceptance and delivery of the recommended vaccination.

Regarding the main causes for not completing the TT vaccination were overload working issues and the vaccine usually not found in the PHC. Inakci et al / 2009 [21] mentioned in their study in Sanliurfa to assess the coverage of TT vaccination that the main reason behind low immunization coverage are lack of awareness between the mother, and family income which has an important role in decreasing the immunization level and lastly the far distance between the health care center and their home which unable them to reach it.

Same results were obtained from Nisar et al [22] /in Pakistan / Karachi to evaluate the knowledge, attitude of women towards TT vaccination and they found that the main causes behind that were the lack of motivation too attended the PHCC and too much time needed to reach it because of the far away distance between their homes and it. Concerning the validity of vaccination status with TT vaccine, the current study shows that most of teachers having a valid vaccination and complete 5 doses of the recommended schedule.

A study was prepared by Khan et al / [23] 2009 in Dhaka district to assess the coverage rate of immunization with TT vaccine and its validity among reproductive women and they found that the proportion of invalid vaccination was 6.2% for TT2, and for TT3 doses was 7.3% , for TT4 was 12.5% and the lowest value for TT5 is 10.8% , and 55.6% for over all decrease in the TT doses from TT1- TT5 and they explained this defect due to unawareness of women towards the necessity of vaccination during their reproductive life and lack of motivation to complete the remaining doses of the recommended schedule . Another possible cause that this variation in results appear due to different study places which affected directly the outcomes.

Conclusions

- 1-There was a good knowledge index regarding the importance of TT vaccination and its doses.
- 2-Study teachers were completed their vaccination schedule with TT during their life.
- 3- The main causes for not completing the recommended doses was of over load working.
- 4- Most of teachers having a valid status with TT vaccine.

Recommendations

Further educational programs concentrated upon the importance of TT vaccination schedule through out their reproductive life and health care provider should play an essential role in supporting the necessary scientific knowledge about

the completeness of immunization doses with regular home visits by health workers about the immunization coverage with the recommended doses of TT vaccine especially for women between the age of 15- 45 years .

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