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EFFECT OF EDUCATION PROGRAM ON IMPROVING KNOWLEDGE ATTITUDE, AND PRACTICE TOWARDS TETANUS IMMUNIZATION AND CLEAN DELIVERY EL-MANAGIL LOCALITY, GEZIRA STATE, SUDAN

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ABSTRACT

Tetanus is a leading cause of sickness and death of women worldwide. Neonatal tetanus remained a major public health problem in Sudan and its elimination a dire Challenge. Despite previous attempts at accelerated campaigns in the late 2000, very little impact was achieved 41%. The current maternal and neonatal tetanus (MNT) elimination initiative was adopted in 2005 as part of a five year plan of action. The research goal was to evaluate the effect of the health education program, on improving the knowledge, attitude and practice of the childbearing mothers towards, tetanus immunization and promotion of clean delivery at Al-Managil and Al-Huda and Al-kermet area during (2010-2013). This was interventional study in which total coverage (400) of child bearing mother were intervened, before and after educational program, (200) of them as intervention group and 200 was control group. Pre-tested questionnaire was used, in order to assess application of health education program addressing mainly tetanus toxoid immunization and clean delivery. Focus groups discussion was conducted among 4 groups in each camp with 6-9 participants each, aiming to identify the wrong concepts and practices. The study using community representatives established health education program addressing EPI goals. After memory gap. Of four months, post intervention survey was conducted. The study showed high illiteracy rate knowledge, about tetanus disease practicing clean delivery and the vaccination (98%) of mothers in both control and study groups in the baseline survey. There were statistical significant improvement of knowledge among study group, regarding the definition, symptoms and signs and mode of transmission and the preventive measures against tetanus disease, (compared to the control group). There was improvement among the intervention group on practicing clean delivery and the vaccination rate from (30%-65%) after correction the wrong concepts addressed by the study during health education program. In conclusion before the education program the people in this area doesn't know even what tetanus is and how clean delivery should be, but there was significant improvement regarding tetanus immunization and practicing clean delivery after it. The study recommended the following: Frequent Education program regarding Immunization in the nearby camps Offer women, guidelines for immunization doses,. Future study to know their knowledge and attitude after the program. Involving community leaders during education and social mobilization.

KEYWORDS: Tetanus, Knowledge, Gezira, Sudan.

INTRODUCTION

Tetanus is a medical condition characterized by a prolonged contraction of skeletal muscle fibers. The primary symptoms are caused by tetanospasmin, a neurotoxin produced by the Gram-positive, obligate anaerobic bacterium Clostridium tetani. Infection generally occurs through wound contamination and often involves a cut or deep puncture wound. As the infection progresses, muscle spasms develop in the jaw (thus the name "lockjaw") and elsewhere in the body.[Wells CL, Wilkins TD (1996).] Infection can be prevented by proper immunization and by post-exposure prophylaxis.[*CDC Pink Book2007*.]

Maternal Mortality and Morbidity

Each year more than 600,000 women die from complications during pregnancy and Childbirth. (World Health Organization (2000)). On average, there are as many as 480 maternal deaths per 100,000 live births in developing countries. (WHO. Reduction of Maternal Mortality (World Bank (1999). Of these maternal deaths, 15 percent (90,000 women) result from puerperal infections, including 5 percent (30,000 women) from tetanus. (United Nations Children's Fund (UNICEF), WHO, United Nations Population Fund (UNFPA). "Maternal and Neonatal Tetanus Elimination by 2005. (November 2000). The incidence of both puerperal

infections and tetanus can be reduced through immunization and clean delivery practices.

Maternal and Neonatal Tetanus (Sudan)

The Expanded Program on Immunization (EPI) in Sudan began in July 1979 and, in 1986, made a response to the Universal Child Immunization goal.

One of the four strategies is eliminating neonatal tetanus by 2008. Women of childbearing age are given vaccines that contain tetanus toxoid not only protecting women against tetanus, but also prevent neonatal tetanus in their newborn infants. In June 2000, the 57 countries that have not yet achieved elimination of neonatal tetanus and Sudan was listed together with them, twenty other countries in Class A, a classification for countries close to maternal and neonatal tetanus elimination. The Maternal and Neonatal Tetanus Elimination by 2005 issued by the United Nation Children's Funds, World Health Organization and United Nations Population Fund on December 1999 during the World Health Assembly, aims Neonatal tetanus elimination will be reduced to less than one case per one-thousand live births in every district of every country. One-hundred four out of one-hundred-sixty-one developing countries have achieved elimination. However, because neonatal tetanus continues to be a significant problem in some countries, maternal tetanus has now been added to the elimination goal. Neonatal tetanus has remained a major public health problem in Sudan and its elimination a dire Challenge. Despite previous attempts at accelerated campaigns in the late 1990s, very little impact was achieved.

MATERIALS AND METHODS

This was a quasi-experimental study done in Aljazeera area (Alkeramit& Alhuda). Total coverage was taken, door to door for childbearing mother's during the study period (2010 – 2013), sample from the six camps: Bihary camp, silk camps, falata camp, kamil nomak camp, khadiga camp, abugroun camp was obtained 400married women at child bearing.

The research design was case control interventional study in which, questionnaire with child bearing mother's age (15-49), Were interviewed by the researcher before and after educational program. An experimental group of study group subjected to the new educational methodology (used education behavioral community change BCC). The program focus in community behavior change strategies urging following mothers to reach at least three doses of tetanus vaccine, prevention of infection and safe delivery practices.

1st stage of the sampling, three camps from each area (Al-keramit- Alhuda) was selected randomly,

2nd stage of sampling, a list of these six camps from the both selected area during the first stage was drawn up.

3rd stage of sampling, three camps from each area (Alkeramit& Alhuda) selected randomly to be studied Al-keramit area (camp Bihary, Silk, and Falata), while the other three selected randomly for control, Alhuda area, (camp Khadiga, Abu groun, Kamilnomak).

Data collection technique and tool .Pre-tested and modified structure questionnaire was used. The questionnaire was divided into 5 sections to collect information on the following topics: social, demographic and education level, number of deliveries; information about tetanus disease. Knowledge about TT vaccination, clean delivery and the reasons for non-vaccination.

Data was analyzed by computer (stata 20 program). Data were compared by using Chi – test. Data was presented using descriptive statistics including frequency, percentage, mean with standard deviation (SD) and P-value of ≤0.05 was considered statistically significant for relationship. Official letter was taken from Gezira University to Gezira State ministry of health D.G .office, immunization program authorities, committee at Wad Madani, and the Gezira State ministry of health D.G .office at Al-managil & immunization program authorities, committee at al-managil. Permission to conduct the study from all above mentioned parties is given to the researcher The goal of the research has been explained to respondents participating in both parts, and they were informed of their right to participate voluntary and confidentiality is ensured.

RESULTS

Table (4-1): Distribution of study population according to their age, (case & control) from 2010 to 2013.

Age group	Case		Control		Total	
	Count	%	Count	%	No	%
15-30	148	74%	142	71%	290	77%
31-49	52	26%	58	29%	110	23%
Total	200		200		400	100

P – Value: 0.2

socio –demographic characteristics among the study group (case & control), with regard to their age, more than two third (74,71%) in the both studied groups and control group were in the age of 15 – 30 years. the mean age was 20.25 for both group.

Table (4-2): *Distribution of study population according to their* Education level (case & control) from 2010 to 2013.

Educational status	Case		Control	
	Number	Percent %	Number	Percent
Illiterate	196	98%	192	96%
1-5 years schooling	4	2%	7	**3.5%**
6-11 years schooling	0	%	1	0.5%
11 years or more schooling	0	0%	0	0%
Total	200	100%	200	100%

p value 0.3

Most of the study group were illiterate 98% of the intervention group,96 % of the control group, there is strong statistical significant association between knowledge of immunization and clean delivery and level of education.

Table (4-3): Distribution of study population according to their knowledge about transmission of tetanus disease, (case& control from 2010 to 2013(n=400).

knowledge about transmission of tetanus disease	Case				Control			
	Pre		Post		pre		Post	
	Count	%	count	%	count	%	count	%
Through wound	10	5%	80	40%	12	6%	15	7.5%
By unsterile equipment during delivery	5	2.5%	65	32.5%	7	3.5%	9	3.5%
Unimmunized person	10	5%	45	22.5%	13	36.5%	9	4.5
Don't know	175	87.5%	10	5%	168	84%	166	83%
Total	100	200	100	200	100%	200	100%	200

P=0.000 $Chi^2 = 2.49$

Table (3) shows that (87%) of the study group before education and control group don't know about How the infection happens versus only (5%) of the study group after education. This variation was highly significant (P=0.000)

Table (4-4): Distribution of study population according to their knowledge of tetanus signs among study group (case & control) from 2o10 to 2013.

knowledge of tetanus sign	Case				Control			
	PRE		POST		Pre		Post	
	Count	%	Count	%	Count	%	Count	%
muscle spasms	4	2%	29	14.5%	7	3.5%	5	2.5%
Painful muscle contraction	0	0%	12	6	3	1.5%	0	0%
Lock-jaw	6	3%	21	10.5	9	4.5	7	3.5
. 1, 2,3	5	2.5%	38	19	3	1.5	14	7
Unable to breast feed	15	7.5%	89	44.5	13	6.5	9	4.5
Don't now	170	85%	11	5.5	165	82.5	165	67.5
TOTAL	200	100	200	100	200	100	200	100

P = 0.00 $Chi^2 = 2.47$

Table (4) shows that the majority of responders were, unaware of what the tetanus disease sign, in both groups study (85%), and control group (67%), which Shows statistical significant associated between both group before education. There was significant improvement in knowledge about tetanus sign among intervention after training program.

Table (4-5): Distribution of study population according to their knowledge if tetanus disease as preventable disease. (case & control) from 2o10 to 2013.

knowledge of if tetanus disease as preventable	Case				Control			
	PRE		POST		Pre		Post	
	Count	%	Count	%	Count	%	Count	%
Yes	16	8%	165	82.5%	47	23.5	53	26.5%
No	59	29.5%	13	6.5	56	28%	60	30%
Don't now	125	625%	22	11.5	97	48.5	87	43.5
TOTAL	200	100	200	100	200	100	200	100

P = 0.00 $Chi^2 = 1.27$

It can be seen in table (5) that there was significant improvement in knowledge about tetanus as a preventable disease among the intervention group, 8% pre intervention and 82%post intervention, versus 49.0% of the control group doesn't know if its preventable or not . The variation was significant.

Table (4-6): Distribution of study population according to their practice of receiving tt vaccine, (case & control) from 2010 to 2013.

Do you have received any tt vaccine?	Case				Control			
	Pre		POST		Pre		Post	
	Count	%	count	%	count	%	Count	%
Yes	35	17.5	158	79%	39	19,5%	52	26%
No	167	83.5	42	21%	161	81.5%	148	74%
Total	200	100	200	100	200	100	200	100

P = 0.00 Chi^2 = 1.126

Table (6) shows significant improvement in practice of tt vaccination, among intervention group after the training program, (79%). Compared to Control group.

DISCUSSION

Using demographics data as a starting point, the education levels of the mothers was the most significant predictor of poor immunization behavior – the more Illiterate a mother was, the more likely not use immunizations as a means of protection from disease, in this study illiteracy rate of these mothers was very high. (Mark R, Darden P (1999). In Their research indicate that if mothers have been well schooled have subsequently adopted the regimens accounts for the high level of immunization behavior. We determent to have our respondent, in rural areas where the population were not immunized, and deliveries at home conducted by untrained in unsanitary conditions, without adequate sterile procedures. Confirm with Vandelaer, Birmingham, Gasse, Kurian, Shaw, & Garnier S, 2003). Data showed considerable knowledge deficits among control population notably, the questions referring specifically if any relation between tetanus immunization and clean delivery had one of the highest proportions of knowledge deficits responses. These responses suggest that women don't know linkage between immunizations, clean delivery, other study were presented by a research conducted by(Baig L, at el 2001;51:367–9). They suggested that improvement of women's understanding of the linkage between immunization and clean delivery.. It is known that education and skills have paramount effect on prevention of diseases determinants. (Tslemeti Distric, Ethiopia. Ethio J Health Dev 2005).

CONCLUSION AND RECOMMENDATION

In conclusion before the education program the people in this area doesn't know even what tetanus is and how clean delivery should be, but there was significant improvement regarding tetanus immunization and practicing clean delivery after it. knowledge attitudes, and practice related to tetanus and TT immunizations was improved (30%-65%)

They apparently succeeded in making every woman take the vaccine at least in the camps included in the study (30%-65%).

The study revealed that an awareness of immunization and clean delivery was very poor.

✓ RECOMMENDATION

Based on the research results, the recommendation will be concerned about the:

- Frequent Education program regarding Immunization in the nearby camps
- Future study to know their knowledge and attitude after the program.
- Involving community institutions and leaders during social mobilization

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