

A Study to Evaluate the Effectiveness of Planned Teaching Programme on Knowledge Regarding Tetanus and Its Prevention among Farmers

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ABSTRACT

In India, around 60% of the population is working in the agricultural field. Farmers in the field may have exposure to different issues like sunburn, injury, snake bite, etc. Injuries lead to tetanus which transmits from soil to the wounded part of the body. As farmers are more subjected to direct contact with soil, transmission rates are often high. The main objective of this study is, assess the knowledge of farmers about tetanus, its prevention and to evaluate the effectiveness of the planned teaching program. A conceptual framework based on Pender's health promotion model involves the analysis by a structured questionnaire to assess knowledge and effectiveness of planned teaching programme.

Material and methods: A quasi-experimental study with 50 farmers was selected from Sikkeri village, Bagalkot with a simple random sampling technique. One group's pre-test & post-test designs were used in this study. Data collected by structured questionnaires are mainly assessed by knowledge, prevention and effectiveness of planned teaching programme.

Results: The findings indicate that out of 50 members, 29 (48%) members have satisfactory knowledge and 1 (2%) member have adequate knowledge. However, after the planned teaching programme 45 (90%) members have adequate knowledge and 5 (10%) members have satisfactory knowledge.

Conclusion: Early detection and preventive measures among occupational diseases are important. Effective education like a planned teaching programme on tetanus and its prevention among farmers is a scientific, logical, and cost-effective strategy.

Keywords: effectiveness planned teaching programme, knowledge, tetanus, prevention, and farmers.

INTRODUCTION

Farmers are actively involved in economic, livelihood activities of growing crops and primary agricultural commodities like cultivators, tenants, fishers, etc. [1] In India 37 to 118 million people are engaged in different agricultural sectors. [2] According to FAO, India is the largest producer of many fruits and the second-largest producer of rice and wheat, the world's major food staples. [3] Over 50% of the Indian workforce was driven by agriculture and contributed more than 18% of the country's GDP. But they faced several health issues, especially biological, respiratory, musculoskeletal problems, etc. [4] Tetanus is one of the major health problems in developing and undeveloped countries. It is associated with mortality and morbidity rate with environmental issues, incomplete vaccination action, low educational status, and high case prevalence. According to WHO (2020), worldwide 12459 cases were reported in that 7001 cases were reported in India. [5]

A retrospective study hospital-based study was conducted during 2017-2019, Epidemic disease hospital, Bangalore. The study result revealed that, out of 58 cases, 87% of cases were from the rural area. The majority of them are from the agricultural sector (70%) (barefoot). The site of injury was the foot (65%). So this study concluded

that proper knowledge and vaccination need to start at all primary health care levels. [6]

A cross-section study was conducted in western villages of Turkey within a selection of 293 participants. In that, serum protective tetanus antitoxin level ($>0.1\text{IU/ml}$) was detected in 99 out of 293. This study concluded that Farmers of advancing age are at high risk because of their working environment and lesser knowledge about vaccination. [7]

A ten-year retrospective study on tetanus at the Epidemic hospital, Mysore shows that out of 512 cases, 75 (14.6) portal of entry was wound and 32 (6.2%) have fissure feet. Mainly it affects farmers due to being barefoot. [8]

A retrospective study was conducted in Faridapur Medical College, Bangladesh. Total 80 cases were reported, in that risk factors analyzed by identifiable acute injury in 85%. Prevention during wounds is important to prevent the spread of this disease. [9]

The current study has evaluated the effectiveness of the planned teaching programme on knowledge regarding tetanus and its prevention among farmers of Sikkeri Village, Bagalkot District.

Objective:

The objectives of the study were as follows:

1. To assess the knowledge of farmers regarding tetanus and its prevention.
2. To evaluate the effectiveness of the planned teaching programme regarding tetanus and its prevention.
3. To find out the association between the knowledge regarding tetanus and its prevention with selected demographic variables.

Hypothesis:

H1: The mean post-test knowledge score of subjects exposed to planned teaching programme on tetanus and its prevention will be significantly higher than their mean pretest score.

H2: There will be a significant association between the knowledge regarding tetanus and its prevention among farmers with selected demographic variables.

MATERIALS AND METHODS

An evaluator approach with the pretest post-test quantitative method was used in the study. The intervention was introduced as one group pre-test and post-test methods. It can show as follows.

P1....X...P2

P1=Pre test score before introducing intervention.

P2= Post-test knowledge score after the intervention program.

In this planned teaching programme, tetanus and its preventive measures are independent variables and knowledge of farmers is the dependent variable. Around 50 samples were selected in this simple random sampling method. Farmers who present at the time of study and willingness were used as scale factors in the inclusion criteria. The structured questionnaire consisted of three sections: demographic variable, knowledge and the last session covered preventive measures. The investigator gets permission and ethical clearance from the institution and authorities.

The data obtained were analyzed based on the objective and significant association-based hypothesis acceptance and rejection were analyzed with the inferential statistics based. The plans of data analysis were as follows:

1. Frequency and percentage distribution of farmers according to the demographic variables.
2. Distribution of study subjects according to the level of knowledge in pre-test and post-test.
3. Area-wise analysis of Mean and Standard deviation values per pre and post-test scores of knowledge and its dimension.
4. Comparison of pre and post-test score of knowledge and its dimensions by paired t-test

5. Association between knowledge and demographic variables.

RESULTS

Table1: Frequency and percentage distribution of farmers according to demographic variables. n=50

Demographic variables	Frequency (Percentage of respondents)
Age(in years)	
20-29 years	20(40%)
30-39 years	24(48%)
40 years and above	06(12%)
Gender	
Male	40(80%)
Female	10(20%)
Work experience (in years)	
Less than 01year	15(30%)
01-05 years	22(44%)
5 years and above	13(26%)
Education Qualifications	
No formal education	13(26%)
Part time/adult education	09(18%)
Primary	12(24%)
Secondary	07(14%)
Higher Secondary/PUC	05(10%)
Graduate/Dipoma/Above	04(08%)
Religion	
Hindu	41(82%)
Muslim	05(10%)
Christian	04(08%)
Marital status	
Married	36(72%)
Unmarried	14(28%)
Duration of work (Hours per day)	
0-8 hours	04(08%)
Above 08 Hours	46(92%)
Diet	
Mixed	15(30%)
Vegetarian	35(70%)
Monthly income	
≤3000/-	15(30%)
Rs. 3001/- to 10000/-	21(42%)
Rs.10001/- to 17000/-	10(20%)
≥Rs. 17001/-	04(08%)
Previous history of Tetanus	
Yes	29(58%)
No	21(42%)

Demographic variables observed in table:1 revealed that out of 50 samples, 24 (48%) samples belong to 30 to 39 year old and 40 (80%) samples were from males. 22 (44%) samples were from people with more than 1 to 5 years of experience in the agricultural field but the majority (13 : 26%) of them have no formal education, most of them are from Hindu religion (41:82%), marital status – 36 (72%) members were married, 46 members (92%) work more than 8 hours per day in field, 35 (70%) members are vegetarian in diet and monthly income (21:42%) lies between Rs.3000 to 10000/-. The next analysis is done, to evaluate the effectiveness of the planned teaching program in the pretest as 29 (48%) of them have only satisfactory knowledge and 20(40%) have inadequate knowledge. But after the Planned teaching programme's seventh-day post-test score indicates that 45(90%) of them have adequate knowledge and 05(10%) of them have satisfactory knowledge. Table 2 clearly describe the comparison score between pre and post-test based on paired t-test. From the result of table 2, pre-test and post-test knowledge scores are found statistically significant ($t=41.94, p=0.00$). It means that the post-test knowledge score (28.44 ± 3.06) is higher than the pre-test score (13.60 ± 3.6). It represents post-test scores of total knowledge and its dimensions are higher than pre-test scores.

Table 2: comparison of pre test and post test scores of knowledge and its dimensions by students paired t test

Variables	Test	Mean	Std.Dev	Mean Diff.	SD.Diff	Paired t value	p-value
Knowledge	Pre test	7.2200	2.75011	-8.640	2.1390	-26.3445	0.0 *
	Post test	15.860	2.0405				
About Tetanus	Pre test	6.3800	1.9989	-6.20	2.2315	-19.6463	0.0*
	Post test	12.580	1.7034				
Total	Pre test	13.600	3.6365	-14.840	2.5019	-41.9417	0.0
	Post test	28.440	3.0583				

* $P < 0.001$

The multiple regression analysis showed that pre-test and the post-test score of age, gender, exposure of tetanus, and monthly income significantly associated between knowledge and its preventive measures, but the duration of work pre-test and post-test score along with work

experience, diet, educational qualification, and marital status pre-test knowledge have no significant association.

DISCUSSION

This study shows that, out of 50 farmers, 29 have previous experience of

tetanus. A similar study was conducted about tetanus seroprevalence among farmers shows that out of 102 subjects antiTT concentration for the farmers (median=2.74IU/ml) were higher compare to the general population.^[10]

This study shows that farmers have (mean:7.22) little knowledge about tetanus and its preventive measures. A similar study conducted by Ricco M, Razio B, Panato C, etc conducted a study about knowledge, attitude, and practices of agricultural workers toward tetanus vaccine. Total 707 participants attended this study, only 370(52.3%) gave proper answer about their knowledge in tetanus which shows that half of them have inadequate knowledge its preventive measures.^[11]

This study shows that knowledge about tetanus post-test score is higher (15.86±2.04) as compared to (7.22±2.75) pre-test scores. Also in terms of knowledge about prevention of tetanus, the post-test scores are higher (12.58±1.70) as compared to (6.8±2) pre-test score. So it shows that knowledge about tetanus and preventive measures increased after the planned teaching programme. A similar study shows that, a quasi-experimental study about the effectiveness of structured teaching programme to assess the mothers' knowledge regarding vaccine-preventable disease among children. This study result shows that, out of 112 mothers, knowledge about vaccination (12.88 3.51) was poor, after teaching programme (27.12 3.89) which 66.14% of the total score revealing good knowlege.^[12]

CONCLUSION

This study helped farmers to improve their knowledge regarding tetanus and its prevention. The investigator concluded that tetanus is one of the communicable diseases, is to be taken off from our country by conducting preventive programme and enable diagnosis before the development of the disease. So community field workers can prevent any disease with a

proper awareness program with optimum utilization of the health care system.

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Ethical Approval: Approved

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