International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064

A Study to Evaluate the Effectiveness of Planned Teaching Programme on First Aid Management of Dog Bite among Rural Population Karad Taluka

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Abstract: ***The aim of the study is to improve the knowledge of first aid management of dog bite among rural population. Objective of doing this study is to assess the knowledge of first aid management of dog bite among rural population and to evaluate effectiveness of Planned Teaching Programme (PTP) on first aid management of dog bite. To find out association between socio-demographic variables and knowledge of first aid management of the dog bite. Material & Methods used for the study is the Evaluative approach with pre & post test control group design was used. Study was conducted on 100 subjects from rural population, Kale ,Karad. Using Systematic Proportionate sampling technique with randomly allocation of groups, It was observed that Overall Mean knowledge regarding dog bite wound and it's first aid among the subjects was (15%) had good knowledge, (71%) had average, while (14%) had poor knowledge.2) The overall Mean knowledge about management of first aid in dog bite among the subjects was (16%) had good knowledge, (80%) had average while (4 %) had poor knowledge.3) It was evident that maximum number of subjects had average knowledge and average management about dog bite wound.4) Calculated χ^2 values showed there is association between the socio-demographic variables of subjects and level of knowledge regarding dog bite wound & it's first aid at p=0.05 level of significance.***

Keywords: PTP, First aid management

1. Introduction

"The secret of Nations health lies in the homes of the people."

Health has been declared as a fundamental human right National governments all over the world are striving to expand and improve their health care service to overcome a continuous threat from emergence diseases. WHO reports, all over world there are 4.5 million cases are bitten each year by dogs & about 30,000death every year that means 67% deaths occurs in world [1].

Rabies is one of the oldest recognized diseases affecting humans and one of the most important zoonotic diseases in India. Rabies is endemic in India, A vast country with a population exceeding 1.02 billion and a land area of 3.2 million km^2. In India, about 15 million people are bitten by animals, mostly dogs, every year and need most exposure prophylaxis. Since 1985, India has reported estimated 25000-30000 human deaths from rabies annually. The majority of people who die of rabies are people of poor or low income socio-economic status and school age children [2].

Diseases that can be transmitted from animals to humans, can pose serious health risks to immune-compromised people. This disease prevention/ health promotion project provides physicians and veterinarians with information, created specifically to share with patients and client's, about the health risks and benefits of pet ownership [4].

According to W.H.O. more than 3 billion people are at risk for rabies in over 85 countries and territories worldwide., and about 50,000 to 60,000 human deaths from rabies are estimated to occur annually, even through effective vaccines for post exposure prophylaxis (PEP) are available and over 10 million individuals actually receive rabies post exposure prophylaxis (PEP) each year [5].

Animal bites are public health issues, with up to 2 % of the population being bitten each year. WHO reports, all over the world there are 4.5 million cases are bitten each year by dogs & about 30,000 deaths occurs every year that means 67% deaths occurs in the world [6]. By above mentioned studies it can be concluded that most people have inadequate Knowledge regarding transmission of disease from domestic animals. However, these diseases can be prevented if they have adequate knowledge regarding to these diseases.

2. Literature Survey

A study conducted by Agarwal N, Reddajah V P. (2004) Rabies is a deadly disease with no cure which is mainly caused by dog bites. Data on dog bites and knowledge, attitude and practices related to dog bites are not generally available to rural communities. A cross section study of a rural community of ten villages served by a primary health centre selected by random sampling. Households selected by systematic random sampling were interviewed of KAP regarding dog bites. The dog bite ratio was 25.7/1000 population per year. The rate for males was higher than for males half of the bites were in summer 40% did not go for any prophylaxis, half of the victims are treated their wounds with chilly powder.80 % of they were class II or III and leg bites were more common. The majority of the community did not know the correct incubation period. Most knew that injections were available to prevent rabies. Only half they

would visit a hospital for treatment, around 50% received tetanus toxoid [8].

A study by Hampson K, Andy Dobson,Magai Kaare, Jonathan Dushoff et al .(2008) A structured open-ended questionnaire was administered to bite victims at 3 designated District Hospital (in Magu, Misungwi. & Tarime) to obtain information on intervals between exposure and reporting to hospitals for PEP funds. Information was collected on household socio-economic status using indicators sensitive to local determinants of wealth, previously identified through Rapid Rural Appraisal approaches. Records were extracted for patients originating from Serengeti & Ngorongoro and correlations with rabies exposures and observations of rabid animals were examined by regression. On the basis of descriptive case histories 97% of animals that caused bite injuries were classified as suspected rabid (648) or (406). Of those that seek medical attention, a significant proportion do not receive PEP because of the expense or because of hospital shortages and victims who were poorer, and who live further from medical facilities, typically experience greater delays before obtaining PEP. This study shows that there is a need to raise awareness about rabies dangers and prevention, particularly prompt PEP, but also wound management [9].

A study conducted by Nagrota Bagwan (Times of India) (2010) A hospital based retrospective study conducted in the department of Community Medicine on dog bite cases admitted during one year in a Community Health Center (CHC) .Nagrota Bagwan, Himachal Pradesh to estimate the extent of problem of bite cases and various epidemiological factors associated with it. Tests of percentages and proportions were used for statistical analysis. Among all 30 bite cases 56.7% were females (p> 0.05) on fisher's exact probably test. And most (66.6%) of dog bite cases were observed in the age group of 6-15 years. The study concludes that dog bites are especially devastating to children because they are smaller and their faces are within easy reach of the animal's mouth. This study recommended that regional strategies should be made for prevention and first aid measures of dog bite cases and local home management [10].

3. Material and Method

The evaluative approach was used; pretest post test control group design was used. Study was conducted on 100 subjects from rural population, Kale, Karad. By using Systematic Proportionate sampling technique with randomly allocation of groups. Data were collected, tabulated and analyzed in terms of objective of the study using descriptive and inferential statistics.

Section-1

Table 1: Distribution of subjects according to socio-demographic variables, N=100

S. No.	*Socio-Demographic Variables*	*Frequency (F)*	*Percentage (%)*
1	**Age In Years**		
	a)14-24	15	15
	b)25-34	20	20
	c)35-44	28	28
	d) 45 & above	37	37
2	**Gender**		
	a)Male	60	60
	b) Female	40	40
3	**Religion**		
	a)Hindu	72	72
	b)Muslim	8	8
	c)Christian	0	0
	d)Others	20	20
4	**Education**		
	a)Illiterate	12	12
	b)primary	23	23
	c)Secondary	26	26
	d) HSc	18	18
	E) Graduate	18	18
	F)Post Graduate	3	3
5	**Occupation**		
	a)skilled worker	24	24
	b) self employed	12	12
	c)farmer	38	38
	d)Housewife	13	13
	e)unskilled workers	5	5
	f) others	8	8
6	**Monthly income of family**		
	a) Less than 3000	57	57
	b) 3001-6000	20	20
	c) 6001-9000	11	11
	d) 9001 & above	12	12
7	**Type of family**		
	a) Nuclear	23	23
	b) Joint	76	76
	c) Extended	1	1

The data presented in Table 1-indicates that:

- Majority of the samples 37 (37%) belong to age group of 45 years in terms of Gender, 60 (60 %) subjects were males. Majority 72 (72%) of the subjects are belonged to Hindu religion. Educational status of the subjects 23 (23%) are from primary education.
- Majority 38(38%) subjects were farmer.
- Majority of the family of subjects 57 (57%) had monthly income up to Rs. less than 3000/-. Majority 76 (76%) subjects were belongs to joint family while 23 (23%) are from nuclear family.

Section II – PART A

Table 2: Knowledge of subjects regarding dog bite wound and it's first aid management. **N = 100**

Area of analysis	*Knowledge regarding dog bite wound & it's first aid*	*No. of subjects*	*Percentage*
Part 1 : (Knowledge regarding dog bite wound & it's first aid)	Good	17	17 %
	Average	69	69 %
	Poor	14	14 %
	Total	100	100%

Table II -depicts that the 69 (69%) subjects having average knowledge regarding dog bite wound and it's first aid & 17(17%) having good knowledge whereas 14(14%) having poor knowledge dog bite wound and it's first aid.

Section II – PART B

Table 3: Area wise distribution of subjects according to knowledge pre test scores regarding first aid management of dog bite, N= 100

Area of Analysis	*Knowledge Regarding First Aid Management of Dog Bite.*	*no. of subjects*	*Percentage*
Part - 1(Knowledge Regarding First Aid Management Of Dog Bite.)	Good	10	10 %
	Average	81	81 %
	Poor	9	9 %
	Total	100	100%

Table III- Shows that the 81 (81%) subjects having average knowledge regarding first aid management of dog bite. & 10(10%) having good knowledge Whereas 9(9%) having poor knowledge regarding first aid management of dog bite**.**

Table VI: Distribution of subjects according to mean , median, mode ,SD, and range of pre and post test knowledge scores regarding dog bite wound and it's first aid. N= 100

Area of analysis	*Mean*	*Median*	*Mode*	*S.D*	*P Value*	*H-L*
Part A-(Pre Test Knowledge Regarding Dog Bite Wound & It' First Aid.)	14.22	14	14	**3.595**	**<0.0001**	**22**
Part A-(Post Test Knowledge Regarding Dog Bite Wound And It' First Aid.)	20.45	**21**	**21**	3.439	**<0.0001**	**27**

Above tables depicts that the knowledge regarding dog bite wound and it's first aid mean (14.22) & median (14) whereas in post test mean (20.45) & median (21).

Table V: Distribution of subjects according to mean, median, mode, SD, and range of pre and post test knowledge scores regarding first aid management of dog bite. N = 100

Area of analysis	*Mean*	*Median*	*Mode*	*S.D*	*P Value*	*H-L*
Part B -(Pre Test Knowledge Regarding First Aid Management)	3.25	**3**	**3**	1.282	**<0.0001**	6
Part B-(Post Test Knowledge Regarding First Aid Management.)	4.33	**4**	**4**	.055	**<0.0001**	6

Above tables depicts that the pre test knowledge regarding first aid Management mean (3.25) & median (3) whereas in post test mean (4.33) & median (4)

Section II – (PART A) Findings on knowledge of subjects regarding dog bite wound and it's first aid.

Table VI: Area wise distribution of subjects according to knowledge post test scores regarding dog bite wound and it's first aid. **N = 100**

Area of analysis	*Knowledge Regarding Dog Bite Wound & It's First Aid*	*No. of subjects*	*Percentage*
Part 3 - PART A- (Knowledge Regarding Dog Bite Wound & It's First Aid)	Good	14	14 %
	Average	71	71 %
	Poor	15	15 %
	Total	100	100%

Above table depicts that the 71 (71%) subjects having average knowledge regarding dog bite wound and it's first aid & 14(14%) having good knowledge whereas 15(15%) having poor knowledge dog bite wound and it's first aid.

Section II – (PART -B)

Table VII: Area wise distribution of subjects according to knowledge post test scores regarding first aid management of dog bite **N= 100**

Area of analysis	Knowledge Regarding First Aid Management Of Dog Bite.	*No. of subjects*	*Percentage*
PART B-(Knowledge Regarding First Aid Management Of Dog Bite)	Good	16	16 %
	Average	80	80 %
	Poor	4	4 %
	Total	100	100%

Table VII: - Describes that the 80 (80%) subjects having average knowledge regarding dog bite wound and its first aid & 16(16%) having good knowledge Whereas 4(4%) having poor knowledge dog bite wound and it's first aid

Section –II (PART-A)

Table VIII: Testing of hypothesis for evaluation of effectiveness of planned Teaching program on dog bite wound & its first aid, *N=100*

Pre Intervention X – ± S.D	*Post Intervention*	*Mean Difference*	*Paired 'T' Value*	*P Value*
14 ± 4	20 ± 4	6.23	12.524	< 0.0001

The data presented in Table- VIII- indicates that calculated paired 't' value (t=12.524). Hence, H1 is accepted. This indicates that the gain in knowledge score is statistically significant at p < o.o5 levels. Therefore, the planned teaching programme regarding first aid management of dog bite is effective in improving the knowledge of rural population.

Section –II (Part-B)

Table IX: Testing of hypothesis for evaluation of effectiveness of planned teaching program on first aid management of dog bite. **N=100**

Pre Intervention X – ± S.D	*Post Intervention*	*Mean Difference*	*Paired ' t ' Value*	*P Value*
3 ± 1	4 ± 1	1.080	6.505	< 0.0001

The data presented in Table- IX -indicates that calculated paired' value (t=6.505). Hence, H1 is accepted. This indicates that the gain in knowledge score is statistically significant at p < o.o5 levels. Therefore, the planned teaching programme regarding first aid management of dog bite is effective in improving the knowledge of rural population.

Section III: - Association between knowledge on dog bite wound and its first aid & socio-demographic variables**.**

Table X: Association between knowledge on dog bite wound and its first aid and selected demographic variables.
N = 100

Variables	Level of knowledge						Total	X^2	df	P value
	Good		Average		Poor					
	Freq	%	Freq	%	Freq	%				
Age in years								0.5439	2	0.7619
14-24	2	%	9	%	4	%	15			
25-34	3	%	15	%	2	%	20			
35-44	4	%	20	%	4	%	28			
45 & above	3	%	29	%	5	%	37			
SEX								0.8529	1	0.6528
Male	10	%	43	%	7	%	60			
Female	4	%	28	%	8	%	40			
Religion								0.0917	2	.9552
Hindu	9	%	51	%	12	%	100			
Muslim	1	-	6	-	-		-			
Christian	-	-	-	-	1		-			
Others	3	-	13	-	4		-			
EDUCATION								2.372	2	.3055
Illiterate	0	%	11	%	1	%	12			
Primary	3	%	18	%	2	%	23			
Secondary	5	%	21	%	0	%	26			
Graduate & Above	8		30	%	1		39			
OCCUPATION								10.621	2	0.0049
Skilled worker	2	%	21	%	1	%	24			
Self employed	3	%	9	%	0	%	12			
Farmer	7	%	29	%	2	%	38			
Housewife	1	%	11	%	1	%	13			
Unskilled Worker	2	%	3		0	%	5			
Others	0	%	8		0	%	8			
Monthly family Income								0.9363	2	0.6262
Less than 3000	9	%	45	%	3	%	57			
3001-6000	4	%	16	%	0	%	20			
6001-9000	1	%	9	%	1	%	11			
9001 & above	1	%	10	%	1	%	12			
Type of family								1.250	2	0.5353
Nuclear	4	%	19	%	0	%	23			
Joint	12	%	61	%	3	%	71			
Extended	-		-		1	%	1			

Above table reveals that there is association between occupation of the socio-demographic variables of subjects and level of knowledge regarding dog bite and it's first aid at $p < 0.05$ level of significance.

Section III

Table No. XI: Association between socio-demographic variables and management of first aid.N = 100

Variables	Level of knowledge						Total	X^2	df	P value
	Good		Average		Poor					
	Freq	%	Freq	%	Freq	%				
Age in years								1.089	2	0.5801
14-24	1	%	13	%	1	%	15			
24-34	3	%	14	%	3	%	20			
35-44	8	%	18	%	2	%	28			
45 & above	4	%	30	%	3	%	37			
Sex								3.552	2	0.1689
Male	7	%	49	%	4	%	60			
Female	9	%	26	%	5	%	40			
Religion								0.4831	2	0.7854
Hindu	12	%	53	%	7	%	72			
Muslim	1	-	6	-	1		8			
Christian	-	-	15	-	-		15			
Others	2	-	-	-	2		4			
Education								7.008	2	0.0301
Illiterate	0	%	10	%	2	%	12			
Primary	1	%	18	%	4	%	23			
Secondary	9	%	14	%	3	%	26			
Graduate	1		15	%	-		16			
Post graduate	1		19				20			
Occupation								2.171	2	0.3378
Skilled worker	9	%	15	%	0	%	24			
Self employed	2	%	10	%	0		12			
Farmer	3		30	%	5		38			
Housewife	0		11	%	2		13			
Unskilled Worker	1		4				5			
Others	1		6		1		8			
Monthly family Income								1.863	2	0.3939
Less than 3000	6	%	43	%	8	%	57			
3001-6000	4	%	15	%	1	%	20			
6001-9000	1	%	10	%	-		11			
9001 & above	4		7	%	1		12			
Type of family								0.0439	2	0.9783
Nuclear	4	%	17	%	2	%	23			
Joint	12	%	58	%	6		76			
Extended	-		-		1		1			

Above table reveals that there is association between education & the socio-demographic variables of subjects and level of knowledge regarding dog bite and it's first aid at p = 0.05 level of significance.

4. Discussion

Rabies is one of the oldest recognized diseases affecting humans and one of the most important Zoonotic diseases in India. The majority (71%) of subjects in this study knew that virus is the cause of dog bite. Conversely a study conducted by Khokhar. A in 2003 reported that subjects aware of the facts that the victim could die. People living in rural areas have such a life style, which demands early starts to day's work in the morning and early start to day's work in the morning & retirement to their homes in the evening. This means occupation reflects the majority of the subjects use traditional healers for immediate wound care. **Nimale et al** from Aurangabad agrees that before coming to the dispensary as many as 62% had applied chilly paste on the wound and 59% had washed the wound with soap & water. Local treatment of the wound right after a bite is an important step in the management of a case and this fact was highly lacking in the subjects. Efforts should be made to educate the community about the hazards of dog bite and its consequences and management of wound at home with soap and water. To achieve the set objectives of the study, 1oo adult rural population were studied to get the projected results.

5. Conclusion

The necessity of applying appropriate immediate wound care & consulting the nearest medical help as soon as possible. Occupational factor had strong influence on the knowledge on dog bite wound and its first aid as subjects are not having time to gain in knowledge regarding dog bite and it's first aid. The educational factor also had an influence over the proper first aid Management of dog bite wound as because of less knowledge regarding proper treatment. The study revealed that plan teaching was effective as the level of knowledge of the subjects had increased. The study concluded that there is a strong need to create awareness amongst the subjects regarding dog bite wound & prompt appropriate wound care through IEC activities.

6. Future Scope

Nursing Education
A nurse educator needs to assess the existing level of knowledge & impart more insights into subjects that are importance to the group. Re-enforcement of known ideas & impartation of new ones allows the learner to correlate all the areas included in the educational programme, making use of advance technology like LCD projector & power point presentation not only improves the performance of teacher but also helps the learner to capture every detail due to colorful pictures. Hence, it is an opportunity for the nurse educator to develop effective training modules in training the subjects in first aid.

Nursing Administration
Nurses are in the pivotal role of the health care delivery system and have many responsibilities to their shoulders, such as planning, organizing, supervision and health education. Staff development through continuing education can be planned on rabies prevention, treatment, care and support with an emphasis on the role of the nurse in each of these areas.

Nursing Service
Community health nurses are the link between community and the health care system. She is a direct care provider, a change agent in the community, and is also a health team member works in close association with subjects and plays an important role in implementation of first aid management. Therefore, nurses need to update their knowledge about first aid management which will be beneficial for both nurse and community.

Nursing Research:
Based on the findings, the professional and student nurses can conduct further studies on knowledge, attitude and practices (KAP) or cause, spread and prevention (CSP) towards rabies disease.

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