ORIGINAL RESEARCH ARTICLE

MISCONCEPTIONS ABOUT WOUND MANAGEMENT TECHNIQUES DUE TO ANIMAL BITE AMONG TRAINEE STUDENTS OF A PRIVATE NURSING CARE INSTITUTE IN HARYANA

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Abstract

Rabies is a zoonotic viral disease of mammals that is transmitted from animals to humans, although there have been exceptional reported cases of direct human-to-human transmission and indirect transmission via infected transplants.1, 2, 3 The number of human deaths globally due to dog-mediated rabies is estimated to be 59 000 annually, with an associated loss of 3.7 million DALYs.4 The majority of deaths are estimated to have occurred in Asian (59.6%) and African (36.4%) region. In India, an estimated 20,000 human rabies deaths occur annually which constitutes 36% of the rabies deaths in the world.5 Majority of human rabies victims are from rural areas, and belong to lower socio economic status as 2/3rd of Indian population live in the rural areas and hence at risk for dog bites and rabies.6, 7 Life-saving post exposure prophylaxis (PEP) may be highly expensive for individuals,, equivalent to 3.87% of gross national income for a person in Asia (31 days' wages for the average Asian) and to 5.80% for a person in Africa (51 days' wages for an average African).8

Study published in this rural area reported various cultural practices related to wound management techniques are prevalent among animal exposed cases attending antirabies clinic of rural tertiary care institute.9 Many false beliefs and more faith in the indigenous medicines that are of unproven efficacy and not washing wounds properly because of the fear that it would get infected still existing in the community.10, 11 These misconceptions are the negative dispositions often result in stigmatization of people and hinders in accessing health care services. The impacts of these misconceptions due to unawareness usually result in concealment of status, fear and shame which in turn leads to potential threat to preventive efforts.12

Hence our prime challenge being health personnel's as source of information for the community could not be ignored. We must address these misconceptions about the disease in the community as a whole but before that it is necessary to know the perceptions of future health care providers and find out any misconceptions about wound management techniques in animal bite cases. In this back ground, the present study was undertaken among trainee students of a private nursing care institute of Haryana.

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Objective

To find out misconceptions about wound management techniques due to animal bite

Methodology

Study setting: Gajraj RR Hospitals Gohana Sonepat Haryana. Study design: Cross-sectional, descriptive

Study population and sample size: All the undergoing trainee students of Multipurpose Health Worker (MPHW) and General Nursing and Midwifery (GNM) of Gajraj Nursing Institute Mata Bhagwani Devi Memmorial Trust Gohana.

Study tool: data was collected during preparation for observation of World Rabies Day 2017 using semi-structured pretested schedule.

Study variables: Socio-demographic profile, perceptions related to wound management techniques due to animal bite.

Exclusion criteria: Those who had been exposed to animal bite earlier and not given their written informed consent.

Data entry: and entered in Microsoft excel version 2010. It was supervised by the researcher to ensure the correctness of data.

Statistical analysis: Statistical analysis done using SPSS version 22.0. Descriptive statistics were expressed as mean with standard deviation for continuous variables and frequency with percentage and proportions for categorical variables.

Ethical issue: Written permission was taken from the Director of the institute for conducting the study and written informed consent was taken from each of the participants.

Results

In this present study a total of 160 trainee students enrolled which were undergoing training of Multipurpose Health Worker (MPHW) and General Nursing and Midwifery (GNM) from a private nursing institute situated in rural area. Majority of them were females (91%) and mean age of study participants was 20.6 + 2.7 years. Majority of trainee students 115 (72%) belonged to the same rural area and one fifth of study participants were married. Fourteen (14) study participants were excluded from the study as they had been already exposed to animal bite. The present study revealed that none of the trainee student was aware of theme of World rabies day 2017 but majority of the participants knew that rabies can occur due to bite of rabid animal. Table-1: Profile of study participants (n=160)

Attribute		N (%)
Sex	Male	15 (9)
	Female	145 (91)
Caste	General	63 (39)
	OBC	14 (9)
	SC/ST	82 (52)
Locality	Rural	115 (72)
	Urban	45 (28)
Marital status	Married	32 (20)
	Unmarried	128 (80)

Figure in parenthesis indicate percentages

Table-2: Misconceptions perceived related to wound management technique due to animal bite (n=146)

Attribute	N (%)
Source of exposure for rabies to occur	
Dog bite	126 (86)
Other animals also (Monkey bite/Cat bite etc)	20 (14)
Type of animal exposure for rabies to occur	
By stray animals/wild animals (not rabid)	18 (12)
Only rabid animals (stray/wild animals)	128 (88)
Time interval to be taken for reporting to health facility after animal exposure	
Within 10 days	35 (24)
Immediately	93 (64)
Don't know	18 (12)
Wound should be washed with soap and water immediately after animal exposure	
Yes	104 (71)
No	42 (29)
Application on wound after animal bite	
Nothing to be applied	108 (74)
Red chilli/Oil/Ash/Turmeric etc	38 (26)
Bandage to be necessarily applied on wound due to animal bite	
Yes	35 (24)
No	96 (66)
Don't know	15 (10)
Suturing of wound to be done in case of wound due to animal bite	
Yes	29 (20)
No	78 (53)
Don't know	39 (27)

Figure in parenthesis indicate percentages

Table-3: Association of locality of study participants with misconceptions perceived related to wound management technique

Locality of study participants	Misconception related to wound management technique after animal exposure (n=146)		
	Wound should be washed with soap and water immediately		
	Found	Not found	Total
Rural	33 (30.8)	74 (69.2)	107 (100)
Urban	09 (23.1)	30 (76.9)	39 (100)
Total	42 (28.8)	104 (71.2)	146 (100)
df=1, p-value > 0.05			
	Application on wound after animal bite (n=146)		
Rural	34 (31.8)	73 (68.2)	107 (100)
Urban	4 (10.3)	35 (89.7)	39 (100)
Total	38 (26)	108 (74)	146 (100)
df=1, p-value < 0.05			

	Bandage to be necessarily applied on wound (n=131)*		
Rural	28 (28.3)	71 (71.7)	99 (100)
Urban	7 (21.9)	25 (78.1)	32 (100)
Total	35 (26.7)	96 (73.3)	131(100)
(*n=131 as 15 trainee students do't know about it) df=1, p-value > 0.05			
	Immediate suturing of wound to be done (n=107)		
Rural	21 (23.6)	68 (76.4)	89 (100)
Urban	8 (44.4)	10 (55.6)	18 (100)
Total	29 (27.1)	78 (72.9)	107 (100)
(*n=107 (as 15 trainee students do't know about it) df=1, p-value > 0.05			

Figure in parenthesis indicate percentages

Discussion

This study described the socio-demographic profile and misconceptions found related to wound management techniques among undergoing trainee students of Multipurpose Health Worker (MPHW) and General Nursing and Midwifery (GNM) from a private nursing institute situated in a rural area. It was observed that 126 (86%) respondents described source of animal exposure for rabies to occur was dog. Similar findings were observed in various studies where respondents believed that dog was the most common animal responsible for transmission of disease.13, 14, 15, 16 In the present study 128 (88%) trainee students found only rabid animal exposure transmit the disease. These observations were in coherence with various other studies where respondents described that transmission of disease occurred by rabid animal exposure.17, 10 It was found that 104 (71%) trainee students had opined that wound should be washed with soap and water immediately after animal exposure while rest others 42 (29%) didn't know about this aspect. In the present study 108 (74%) study participants think that nothing to be applied on wound after animal bite while rest others had a opinion that topical applicants in the form of red chilli, ash, oil and others (multiple applicants) on wound site. Different studies from India also reported belief on use of traditional remedies such as the application of chilli paste etc are prevalent for wound treatment similar to our study.18, 19, 20, 21 However a few studies found that wound should be washed with soap and water among 45 to 50% of the participants and use of topical applicants limited to very few study subjects. 22, 23 The differences with respect to the use of local applications as wound management techniques for first aid after animal bite may be due to the different cultural background, education level and perceptions of the study participants. Although, WHO recommendations include immediate wound washing and advised nothing to be applied topically on wound.24 Still more than 1/3rd of respondents perceived that topical applicants to be applied on wound after animal bite as per their belief system/ cultural practices. The present study identified that 35 (24%) respondents perceived that bandage to be applied necessarily on wound while 29 (20%) were in favour of suturing of wound to be done. Singh A *et al* conducted a study in year 2018 entitled "Knowledge about first aid, wound management and vaccination for the cases of dog bite: a cross-sectional study" among students of management and technology. The authors observed that 37% of study participants opined dressing of wound is necessary while 40% were in favour of immediate suturing of wound. 25 The difference might be due to the fact that our study was conducted among trainee students related to health care. But perceived knowledge gap among study participants still prevails.

Present study observed the association of locality of study participants with misconception perceived related to wound management techniques. The association of place of living with wound management techniques (wound should be washed with soap and water immediately, bandage to be necessarily applied on wound, immediate suturing of wound to be done) was not found to be statistically significant (p value > 0.05). It might be due to the fact that community practices related to wound management techniques of rural and urban area could be similar. However, association of place of living with application on wound after animal bite was found to be statistically significant (p value < 0.05).

It might be due to the fact described in earlier study9 conducted in this region that practices of application on wound were prevalent in this region and here in this study it shows the impact of community practices even on students of nursing related to health care. Knowledge gap perceived regarding immediate suturing of wound and bandage to be applied necessarily on wound prevails among study participants.

Conclusion and recommendations

Misconception perceived regarding wound management techniques due to animal bite are still prevalent among trainee students related to health care. Knowledge gap regarding bandage to be necessarily applied and immediate suturing of wound due to animal bite prevails. Hence there is a need to reinforce that emphasis should be given on capacity building through modular teaching and it should be included in their training curriculum so that they could address these misconceptions in the community for prevention and control of rabies.

Strength of study

Misconceptions studied among trainee students of private nursing institute situated in that rural area where community still practicing topical applicants related to wound management as an observation in our previous study conducted among animal bite cases attending tertiary care institute.

Limitation of the study

Smaller sample size and single private institute was included in the study; a larger sample size and institutes from different regions could have provided more precise information.

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Conflict of interest

Nil declared

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