

Title: PROPORTION OF ACUTE STRESS DISORDER AMONG ANIMAL BITE CASES ATTENDING AT PREVENTIVE CLINIC IN GOVT. MEDICAL COLLEGE AND GENERAL HOSPITAL, THIRUVANANTHAPURAM

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Keywords Animal bites, Acute Stress Disorder, Post Traumatic stress disorder, Intra dermal rabies vaccination

Abstract Animal bites victims suffer from both physical and psychological or emotional trauma. Emotional damages may persists even after the physical wounds have healed. Damages range from a fear of dogs to post traumatic stress disorder.

Original Article

Proportion of acute stress disorder among animal bite cases attending at preventive Clinic in Govt. Medical College and General Hospital, Thiruvananthapuram

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ABSTRACT

Introduction

Animal bites victims suffers from both physical and psychological or emotional trauma. Emotional damages may persist even after the physical wounds have healed. Damages range from a fear of dogs to post traumatic stress disorder (PTSD). People with acute stress disorder after dog bite if not identified and managed properly can lead to post traumatic stress disorder.

Objectives

1. To Study the Proportion of acute stress disorder among animal bite cases visiting preventive clinic of Medical College and General Hospital, Thiruvananthapuram during the month of November 2012.
2. To predict the chance of development of post traumatic stress disorder among animal bite cases

Methodology

A cross sectional study was carried out among 100 patients attending the ant rabies clinic of Govt. medical college & general hospital, Thiruvananthapuram during the month of November 2012 for intra dermal rabies vaccination. Data was collected from study participants between 3rd & 28th day after suffering the bite.. The study tool used was semi structured questionnaire and stress was measured using acute stress scale¹.

Results & Conclusion

- Among 100 animal bite victims 3% had acute stress disorder. No patients were predicted for the chance for development of post traumatic stress disorder due to animal bite. This highlights the importance of psychological evaluation and counseling of animal bite victims.

Key Words: Animal bites, Acute Stress Disorder, Post traumatic stress disorder, Intra dermal rabies vaccination

INTRODUCTION

It is estimated that about 20,000 persons die due to rabies every year in India¹. Globally it is 55,000². About 17 million animal bite cases occurring every year in the country³.95% of global rabies death are because of dog bites⁴.

Animal attacks are unforeseen and always frightening not only for children but also for adults. People who have suffered from animal bites have psychological trauma in addition to physical trauma. This psychological trauma affects both adults and children, though young dog bite victims are more likely to experience stress. Psychological trauma range between fear of animals to post traumatic stress disorder. Acute stress disorder is a brief period of recollections occurring shortly after an event. If this psychological disturbance persists

for one month it may leads to a condition called post traumatic stress disorder.

The symptoms of Posttraumatic stress disorder can have three main categories:

- Reliving the incident in repetitive flashback episodes that can occur during sleeping and waking hours. Nightmares of the dog attack can disturb sleep, leading to further stress.
- Avoidance presents as a lack of engagement and caring in day to day activities. Dog bite victims may be unable to remember details about the incident or will avoid places and people that remind them of the event.
- Arousal is a difficulty to concentrate. A person injured by a dog bite may be hyper vigilant and restless, especially in areas reminiscent of the location where the attack occurred.

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The numbers of people with acute stress disorder after animal bites are unknown. The likelihood of developing acute stress disorder is greater when traumatic events are severe. A single traumatic event suffices to cause a post traumatic stress disorder. Current animal bite management consists of post exposure prophylaxis which is directed to the physical injury. Psychological and emotional disturbance after animal bite are neglected most of the time. Research works are very few in this area. In this context, this study was planned to find out the proportion of animal bite victims with acute stress disorder in our preventive clinic and also to predict the chance of developing post traumatic stress disorder.

Objectives

1. To study the Proportion of acute stress disorder among animal bite cases attending at the preventive clinic of Medical College and General Hospital, Thiruvananthapuram
2. To predict the chance of development of post traumatic stress disorder

Methodology

This was a hospital based cross section study conducted at two major Intra dermal vaccination clinics in Thiruvananthapuram corporation i.e Preventive clinics under Govt. Medical College, Thiruvananthapuram and General Hospital, Thiruvananthapuram. Study was conducted during November 2012. All animal bite cases coming for Intra dermal rabies vaccination on or after 3rd day to 28th day were the study participants. We excluded the following patients: Those who are aged less than 17yrs & those more than 65yrs, who do not know Malayalam or English, those who have traumatic brain injury in the past, those using narcotic analgesic (except codeine), people with psychiatric problems and those who were unwilling to participate in the study.

A sample of 100 eligibles were included in this study. Among the 100 sample size, 50 samples were from Medical College and 50 from General Hospital. Data was collected using structured questionnaire and interview technique was used. Questionnaire consists of two parts; First part was used to collect general demographic features and animal bite history. Second part consists of stress

scale used to measure acute stress disorder.

In this study acute stress disorder was measured by using the acute stress scale developed by Richard A Bryant, Michelle L Moulds and Rachel M Guthrie, University of New South Wales⁵. It includes 19 questions consisting of 5 dissociative, 4 re-experiencing, 4 avoidance and 6 arousal symptoms. The Acute Stress Disorder Scale (ASDS) requires respondents to rate the extent to which each symptom is present in 5 point scale (1-not at all, 2-mildly, 3-medium, 4-quite a bit, 5-very much). The scoring is done in such a way that how the symptoms have been felt by the patient since the event can be assessed.

Acute Stress Disorder was present when cut off for dissociative cluster of more than or equal to 9 combined with cut off of more than or equal to 28 for the cumulative score on the re-experience, avoidance and arousal cluster. The cutoff of more than or equal to 56 is used as predictor of Post Traumatic Stress Disorder. Ethical clearance was obtained before conducting the study.

Data was entered and analyzed in SPSS software version 20. Quantitative variable was expressed as mean with standard deviation and qualitative variable as proportion.

Table - 1
General Features

Sociodemographic variable	Frequency	Percentage (%)
Age		
17 – 26	22	22
27 – 36	15	15
37 – 46	25	25
47 – 56	26	26
57 - 66	12	12
Gender		
Male	63	63
Female	37	37
Education		
Illiterate	7	7
Upto 7 th standard	13	13
8 th - SSLC	46	46
Pre-degree/Plus one or two	19	19
Degree	15	15
Occupation		
Home maker	23	23
Unskilled	9	9
Skilled	31	31
Others	14	14
Students	23	23

Table - 2
Characteristics of animal exposure

Characteristics (N=100)	Frequency	Percentage (%)
Animal		
Dog	64	64.0
Cat	28	28.0
Others	8	8.0
Status of animal		
Pet	54	54.0
Stray	46	46.0
Site of bite		
Head	4	4.0
Hand	34	34.0
Leg	55	55.0
Other parts	7	7.0

Among 100 patients studied, mean age was 40.83 (standard deviation 13.275). Minimum and maximum age in this study was 17 years and 65 years respectively. Regarding the gender, 63% of the study participants were male and 37% were female. Educational status, 7% of the study participants were illiterate, 13% were studied upto 7th standard, 46% were studied between 8th standard and SSLC and 15% were studied upto degree. 23% of participants were homemakers, 9% were unskilled workers, 31% were skilled labours and 14% were clerical, business and semiprofessionals.

Among the study population 64% were dog bite cases, 28% were cat bite cases & 8% by other animals like bandicoot, squirrel etc. 54% were attacked by pet animals and 46% were attacked by stray animals. Among the study population, majority (55%) had bite on leg, 34% had on hand, and 4% and 7% were on the head & other parts on the body respectively. Lower limb was the commonest affected site (66.7%) in a study conducted by TR Behera, DM Satapathy et al⁶.

60% were category II cases, 30% were category I & 10% were category III cases. 76% of the study participants were washed immediately with soap & water and 24% were not. 68% of study participants were sought immediate hospital care, 38% were not. 89% were given 1st aid and anti rabies vaccination, 6% were given 1st aid, anti rabies vaccination and immunoglobulin.

50% of the study participants said that they were frightened by the animal attack and 50% were not.

Table - 3
Animal bite management

Animal bite management(N=100)	Frequency	Percentage (%)
Category		
Category I	30	30.0
Category II	60	60.0
Category III	10	10.0
Immediate measure taken		
Washed with soap & water	76	76.0
Not washed	24	24.0
Immediate hospital visit		
Yes	68	68.0
No	32	32.0
Treatment received from hospital		
First aid	5	5.0
First aid & ARV	89	89.0
First aid, ARV & Immunoglobuline	6	6.0

39.68% of male participants were frightened by the animal attack. But majority (67.56%) female participants were frightened by the event.

This was measured by dissociate cluster score. Dissociate symptom was present if the score is more than 9. Among the study population, 9% have dissociative cluster score more than or equal to 9 & 91% have less than 9.

Among the study subjects, 6% have cumulative score more than or equal to 28.

3% patients had acute stress disorder. These 3 participants had acute stress disorder score for dissociative symptoms which was more than 9 and cumulative score on re-experiencing, avoidance & arousal symptoms was more than 28.

Table 4.1
Whether Animal exposure frightened?

Frightened	Frequency	Percentage
Yes	50	50.0
No	50	50.0
Total	100	100.0

Table 4.2
Gender wise distribution

Gender	Yes	No	Total
Male	25 (39.68%)	38 (60.32%)	63
Female	25 (67.56%)	12 (32.44%)	37
Total	50	50	100.0

Table 6
Dissociate symptoms among study participants

Dissociative cluster score	Frequency	Percent
More than or equal to 9	9	9.0
Less than 9	91	91.0
Total	100	100.0

Table 7
Re-experience, avoidance & arousal symptoms among study participants

Cumulative score on re-experience, avoidance, & arousal symptoms	Frequency	Percent
More than or equal to 28	6	6.0
Less than 28	94	94.0
Total	100	100.0

Table 8
Acute Stress disorder among study Participants

Acute Stress disorder	Frequency	Percent
Present	3	3.0
Absent	97	97.0
Total	100	100.0

Post traumatic stress disorder

There is no risk for post traumatic disorder among the animal bite cases because nobody had acute stress disorder score cutoff more than 56.

Discussion:

This study was conducted among adult people coming to preventive clinic OP and out of 100 study participants, 3% had acute stress disorder. This may be much more in children. Peter. V et al observed that half of dog bite victims in children had symptoms of post traumatic stress disorder⁷. 9% of the study participants had dissociate symptoms and 6% had re-experience, avoidance and arousal symptoms. Chance of developing post traumatic stress disorder could not be revealed from this study. It might be due to the short duration of follow-up and small sample size.

The cause of acute stress disorder is multi factorial. Psychological, physical, genetic and social factors maybe the main contributing factors. However, the ability of the individual to withstand the stress may be an important crucial factor. This study envisages the incorporation of psychological care component to the existing animal bite management. Psychological care may have following domains, Psychological evaluation and psychotherapeutic intervention. Psychological evaluation include (1) Detailed history about emotional disturbance experienced by the patient after animal attack must be collected (2) Present and past history of mental health problems (3) Family history of mental health problems. All these information must be collected on day 0. This baseline information will help in further planning of intervention and identifying the high risk individual so that they can be provided with Psycho therapeutic intervention i.e those who develop psychological problems must be managed with antipsychotic medications and behavioral therapies. Those who are at high risk of developing stress disorder should be monitored for symptoms at regular intervals.

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