

**Title:** EFFECT OF COUNSELLING ON PATIENTS ADHERENCE TO ARV SCHEDULE FOLLOWING ANIMAL BITE EXPOSURE

**Author:** Dr. Syed Irfan Ali<sup>1</sup>, Dr. Jarina Begum<sup>2</sup>, Dr. Sangeeta Das<sup>3</sup>, Dr. R.M. Tripathy<sup>4</sup>

1. Post Graduate Student.
2. Post Graduate Student.
3. Senior Resident
4. Professor and HOD  
Department of Community Medicine, MKCG Medical College and Hospital, Berhampur, Odisha.

**Keywords** Partial dropout, complete dropout, counselling

**Abstract** Rabies is a fatal zoonotic disease without any documented cure. Effective prophylaxis does exist, however the shortest schedule takes about 1 month to complete. In such circumstances it is not uncommon for an apparently healthy patient to discontinue his vaccinations thus placing himself in a grave risk of developing the disease. The present study highlights the importance of counselling on decreasing dropout rates and improving the adherence to ARV schedule.

## Original Article

**EFFECT OF COUNSELLING ON PATIENTS ADHERENCE TO ARV SCHEDULE FOLLOWING ANIMAL BITE EXPOSURE.**

Dr. Syed Irfan Ali \* Dr. Jarina Begum \*\* Dr.Sangeeta Das \*\*\*  
Dr. R. M. Tripathy\*\*\*\*

**Abstract**

**Introduction :** Rabies, is a fatal zoonotic disease without any documented cure. Effective prophylaxis does exist, however the shortest schedule takes about 1 month to complete. In such circumstances it is not uncommon for an apparently healthy patient to discontinue his vaccinations thus placing himself in a grave risk of developing the disease. The present study highlights the importance of counselling on decreasing dropout rates and improving the adherence to ARV schedule.

**Objectives :** 1. To find out the Knowledge attitude and belief of animal bite victims towards the disease and management.  
2. To find out the dropout rates in different groups with and without counselling.  
3. To give evidence based recommendation on the study finding.

**Materials and methods-**

**Place of study :** ARV clinic of M.K.C.G. Medical College and Hospital, Berhampur.

**Duration of Study :** Feb 2012 to May 2012

**Study Instrument :** Check list to understand the patients KAP regarding Animal bite Prophylaxis, followed by counselling based on the gaps identified in the check list along with other important information.

**Study subject :** All new cases coming to the ARV clinic during the months of February and March, 2012.

**Type of study :** Comparative follow up study.

**Observation :** Out of the 1407 cases treated with IDRV there were 161 drop outs. Majority of the drop outs were observed in case of Group 1. However partial drop outs were more in both the groups.

**Conclusion :** Counselling has made a significant impact on pts attitude and behaviour there by reducing drop outs. Thus it should be included as a part of management process along with some IEC materials to improve the compliance of patients.

**Key words :** Partial drop out, complete dropout, Counselling.

**Introduction**

Rabies though 100% fatal is also a 100% preventable disease. Effective and complete post-exposure prophylaxis can prevent the occurrence of Rabies in an exposed individual<sup>[1]</sup> However, the incidence of rabies in India is far higher than rest of the world. This can be attributed to patient's ignorance about the seriousness of the disease, and his failure to comply with the complete post exposure prophylaxis regime.

The IDRV post exposure prophylaxis regimen requires 4 visits over a period of 1 month. After the first dose on Day-0 the compliance of patient to next 3 doses

were found to be low. Abandonment of subsequent doses after the first medication on Day 0 can result in eventual development of rabies<sup>[2]</sup> The high drop-out rate can be attributed to the complex scheduling of subsequent doses where the patient does not remain in contact with the Health care setup. To ascertain his cooperation to this complex and lengthy schedule it is important to educate and counsel the patient properly during the first visit itself when he is most receptive.

The present study highlights the importance of such counselling intended to bring about a change in the attitude and behaviour of animal bite cases in terms of adhering to the schedule of IDRV regimen.

\*Post Graduate 1st year, Dept. of Community Medicine., M.K.C.G. Medical College and Hospital, Berhampur, Odisha

\*\*Post Graduate 2<sup>nd</sup> year, Dept. of Community Medicine, M.K.C.G. Medical College and Hospital, Berhampur, Odisha

\*\*\*Senior Resident, Dept. of Community Medicine, M.K.C.G. Medical College and Hospital, Berhampur, Odisha

\*\*\*\*Professor and HOD in the Dept. of Community Medicine, M.K.C.G. Medical College and Hospital, Berhampur, Odisha

**Objectives :**

1. To find out the Knowledge attitude and beliefs of animal bite victims towards the disease and its management.
2. To compare the dropout rates among the groups with and without counselling.
3. To give evidence based recommendation on the study finding.

**Materials and methods :**

**Place of study-** ARV clinic of M.K.C.G. Medical College and Hospital, Berhampur.

**Duration of Study-** February 2012 to May 2012

**Study Instrument-** Check list to understand the patients KAP regarding Animal bite Prophylaxis, followed by counselling based on the gaps identified in the check list along with other important information.

**Study subject-**All new cases coming to the ARV clinic in the months of February and March, 2012.

**Type of study-** Comparative follow up study.

**Inclusion criteria-**

All the new patients coming to ARV clinic of M.K.C.G. Medical College and Hospital, Berhampur.

**Exclusion criteria-**

- Those who did not give consent.
- All the re-exposed patients and those who came for follow up visits, on their own.

**Methodology:**

The study subjects were divided into 2 groups who were followed up for two months from the day they received their first IDRV dose.

- Group 1(All the new pt. coming on Monday, Tuesday and Wednesday of the week) were given the usual care and counselling as practiced by the institution.
- Group 2 (All the new pts coming on Thursday, Friday and Saturday of the week) who were assessed regarding the knowledge and attitude towards the disease and prophylaxis on their first visit by check list and properly counselled based on the gaps identified. They were further given a help line number for any queries.

The main study outcome measures were change in behaviour to increase adherence and decreasing dropout rates (Partial dropouts who have come on a later date to complete the course of vaccination & Complete dropout those who have totally not turned up for complete vaccination)and comparison between 2 groups.

**Statistical Analysis** - Data analysed by SPSS 21 in the department of community medicine using percentage, proportion and chi square tests.

**Results & Discussion**

The knowledge of Rabies inevitably being a fatal disease tends to bring out a positive attitude of adhering to ARV schedule in the patient. In the present study it was revealed that only 58% knew that Rabies is an

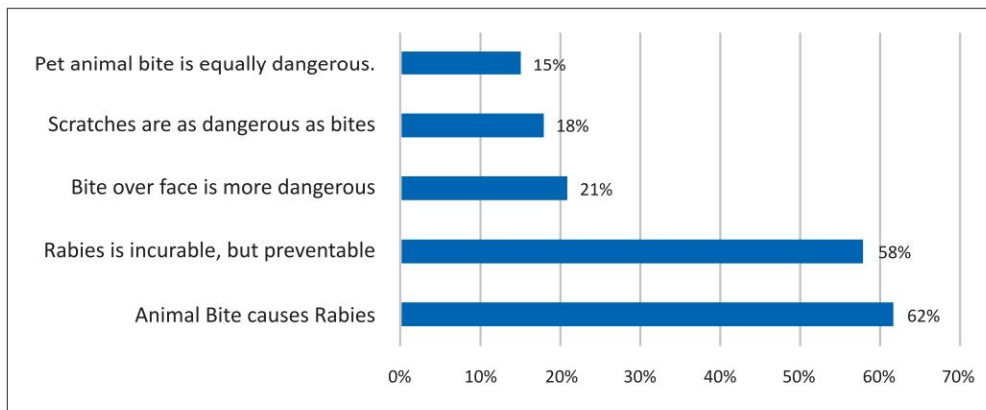


Fig-1: Knowledge regarding the disease (n=683)

incurable but 100% preventable disease. While 62% patients knew that rabies could be caused by animal bites, only few (18%, 21% and 15%) had the knowledge that scratches are as dangerous as bites, and bites over face is more dangerous than extremities, and pet animals are as dangerous as stray animal bites respectively.

Similarly study conducted by R Rumana et al showed that 75% percent of subjects were aware of rabies and 99.1% knew that it could be caused by a dog bite. 77.5% knew that Rabies is a killer disease and 70.1% of respondents knew about the availability of ARV.<sup>[3]</sup>

Only about a third (32%) of the patients were aware of the availability of Pre & Post exposure prophylaxis free of cost at the GOVT hospitals. Serious gaps were

**Table : II**  
**Attitude and Beliefs of Patient towards**  
**the management of Rabies (n = 683)**

1. Wound washing is required	87%
2. Tetanus toxoid is given	66%
4. Complete course in terms of 4 visits in 1 month	13.4%
5. Site of injection is ID/IM	19%
7. Availability of IG and Vaccine free of cost at Govt Hospitals	32%
10. Observation of animal needed	78%
11. Dietary restriction required	96%
12. Abstinence from smoking and alcohol compulsory	38%
13. Seasonal effect on disease and M/M	44%
14. Animal bite in children more dangerous	98%
15. Animal bite cases in females as dangerous as males	36%
16. ARV after pet animal bite required	39%
17. Local application of home made things halts the progression	22%

observed regarding their knowledge about prophylaxis of Rabies, with only one-fifth (19%) being aware of the availability of ID regimen of anti-rabies prophylaxis, and only 13.4% of them knew about the complete course of prophylactic regimen. The knowledge of the patient about wound management was good with 87% of them knowing the importance of wound toileting, two-third of the them knowing the importance of taking a TT prophylaxis and three fourth of the cases knowing about animal observation after animal bite. However 96% have a wrong belief of restricted diet during the treatment whereas 38% felt the need for abstinence from alcohol. Similarly 44% have a belief that rain worsens

the wound and nullifies the effect of treatment and 22% believed that local application of home made things like turmeric, bitter guard juice or leaf etc. would halt the progress of wound. Only 39% have an idea of getting ARV after pet animal bite while others thought it was unnecessary. A higher level of concern was observed among the attendants when the bite victim was a child, however similar concerns were found lacking in case the victim was female often leading to delay in seeking care.

In their study Indu et al revealed that 92.7% have done wound toilet and while 7.3% did not.<sup>[4]</sup> In another study it was shown that 23% having knowledge about its transmission by scratches and licks. Only 40% of the participants were aware of the fatality of the disease. 66% of the participants responded that they washed the wound with water.<sup>[5]</sup>

In another study Wasay M et al found that the majority of the participants were not aware of the fatality of the diseases and the importance of vaccination and post-exposure prophylaxis of animal bite.<sup>[6]</sup>

In a study by T R Behera, D M Satapathy and T Sahu it was observed that that 80% had washed their wounds, prior to seeking treatment and 67% of cases were immunized with tetanus toxoid prior to attending A.R.C. However the leaves of the bitter gourd were applied on the wound in 4.5% of cases, turmeric & oil in 25% of cases. Nearly 47% had sought the treatment of quacks, witch doctors and traditional healers. 87% knew the disease was fatal and so had sought treatment.<sup>[7]</sup>

Study by M. Prakash, Col V.K. Bhatti b, G. Venkatesh revealed that only 24% of people with animal bite were interested in visiting a doctor even though 55.5% were aware about the role of vaccine in preventing rabies.<sup>[5]</sup>

In the study by US Singh, SK Choudhary it was revealed that 31.1% would like to apply first aid measure and 36.4% will visit to doctor while the rest would either do nothing or adopt some religious practices to prevent the development of rabies. 86.6% of individuals were aware about anti-rabies vaccine and 24.4% knew that pet dogs need vaccine against rabies.<sup>[8]</sup>

After assessing the knowledge and attitude of all the animal bite cases a brief counselling session was done

with Group-2 patients based on the gaps found in their KAP regarding animal bites and its management. After which both groups were followed up until the

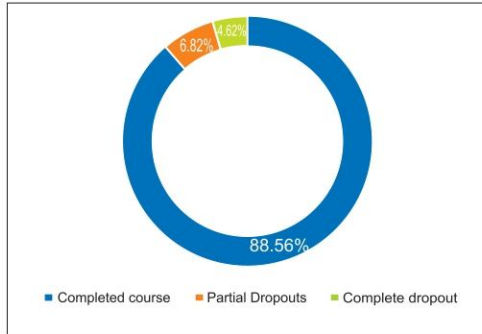


Fig II: Practice/Behaviour of the patients

Table : III  
Reasons for drop out

Reasons for drop out	Group 1	Group 2
1. Personal work	40%	98%
2. Transport problem	15%	2%
4. Fear of so many injections	26.8%	0%
5. Un satisfied with hospital services	3.2%	0%
6. Side effect of IG	2.4%	0%
7. Not aware of the schedule	12.6%	0%

completion of prophylaxis and the results were analysed. Out of 1407 number of patients total drop outs were 161(11.44%).

The reasons for dropouts were attributed to either personal work, transport problem, unawareness to the schedule or fear of injections and its side effects.

In their study, Jesha et al found about a quarter (23.3%) of the patients did not adhere to the schedule. In most of such cases the animal was found to be healthy beyond the 10 days of observation period. Other reasons for dropping out of PEP regimen included-ignorance, being out of station, personal reasons, inability to remember and other illness at the time of next dose<sup>[9]</sup> similar observations were found by Satapathy et al where the dropout rate was 39.6%.<sup>[10]</sup>

Similarly in a study by Dr. Rachana. A.R it was revealed that compliance to intradermal rabies vaccine was 76.7%. Most common reason for dropout was loss of wages, followed by negligence to complete the full

course and hospital timing interferes with school time.<sup>[11]</sup>

A study by Mahendra BJ et al it was observed that 61.5% of the animal bite victims dropped out. Most

Table : IV  
Counselling Vs Patients adherence to Prophylactic course:

	drop out	Complete course	Total
Group 1	134 (9.520%)	590 (41.94%)	724(51.46%)
Group 2	27 (1.92%)	656 (46.62%)	683 (48.54%)
Total	161(11.44%)	1246 (88.56%)	1407 (100%)

common reason given for dropout was being out of station (32.1%), or non-affordability (18.6%) and not being able to recall the next date for vaccination (15%).<sup>[12]</sup>

The dropout was found to be more in Group-I (9.52%)who had received only usual medical care and advice, as compared to Group-II (1.92%) who had a proper counselling session. The results were further analysed to know the significance of our intervention i.e. counselling and it was found to be extremely significant. Thereby suggesting a significant association between counselling and patients complete prophylaxis.

A study by Leslie R Martin, Summer L Williams, Kelly B Haskard, and M Robin Di Matteo revealed that physician-patient partnerships are essential when choosing amongst various therapeutic options to maximize adherence. Mutual collaboration fosters greater patient satisfaction, reduces the risks of non-adherence, and improves patients' healthcare outcomes.<sup>[13]</sup>

Table : V  
Counselling Vs Dropouts

	Partial drop out	Complete drop out	Total drop out
Group 1	71 (44.1%)	63 (39.13%)	133 (83.23%)
Group 2	25 (15.53%)	2 (1.24%)	27 (16.77%)
Total	96 (59.63%)	65 (40.37%)	161 (100%)

According to study done by Vinay M et al it was concluded that telephone reminders increase compliance to intradermal vaccination against rabies. The increase in compliance to both the third and the fourth dose after introduction of telephone reminder was statistically significant.<sup>[14]</sup>

The two-tailed P value equals 0.0001. The association between counselling and drop-out rate

is considered to be extremely statistically significant.

The partial dropouts constituted 59.63% of total drop outs. Majority in group 2 (98%) were partial drop outs. Whereas in group 1 almost equal rate of partial and complete dropouts were observed. This could be attributed to the counselling sessions in group 2 which enabled them to complete the prophylaxis. A significant association was also found between lack of counselling and drop-out rate.

In their study Mohua Biswas et al it was observed that partial drop out was 77.5% of the total drop out.<sup>[15]</sup>

### Conclusion

The study highlights the importance of finding out and bridging the KAP gaps of the patient on the first day of his visit to ARV center itself. Proper counselling based on these identified gaps serves as an effective tool for improving the compliance of the patient in completing the ARV post exposure schedule. Such counselling was found to have made a significant impact on patients attitude and behaviour there by reducing drop outs and increasing the compliance. Thus it should be included as a part of management process along with some IEC materials to improve the compliance of patients.

### Acknowledgment:

The authors sincerely thank the Department and M.K.C.G. Medical College authorities in granting us permission & encouragement to conduct this study. The authors express their deep sense of gratitude to staff of ARC and faculty members of Department of Community Medicine, M.K.C.G. Medical College Berhampur for their constant help and encouragement.

**Ethical clearance-** Ethical clearance was obtained from the Institutional Ethical Committee before the study.

**Source of Funding-** Self

**Conflict of Interest-** Nil

### References

1. www.who.int/rabies/en/2.WebMD, National Guidelines on Rabies Prophylaxis, emedicinehealth.com, MDTravelHealth.com, Wikipedia
2. R Rumana, AA Sayeed, A Basher, Z Islam, MR Rahman and MA Faiz, Perceptions and treatment seeking behaviour for dog bites in rural Bangladesh, Southeast Asian J Trop Med Public Health, Vol 44 No. 2 March 2013
3. Dr. Indu.D, Dr. Asha.K.P, Dr.Mini.S.S, Dr. Anuja.U, Krishna S, Mridul Girish, Nazrin N, Profile Study of Patients attending preventive clinic for animal bites at Government Medical College Thiruvananthapuram APCRI Journal, Volume XIV I Issue I 1 July 20125.M. Prakash, Col V.K. Bhatti, G. Venkatesh, Rabies menace and control e An insight into knowledge, attitude and practices medical journal armed forces India 69 (2013) 57 e60
4. Wasay M, Malik A, Fahim A, Yousuf A, Chawla R, Daniel H, Rafay M, Azam I, Razzak J. **Knowledge and attitudes about tetanus and rabies: a population-based survey from Karachi, Pakistan.** J Pak Med Assoc. 2012 Apr; 62(4):378-82.
5. Dr T Behera, Dr D M Satapathy, Dr T Sahu, A study on attitude of cases towards animal bite treatment, APCRI Journal rabies.org.in/rabies-journal/rabies-09-1/OrgArticle2.htm
6. US Singh, SK Choudhary, Knowledge, Attitude, Behaviour and Practice Study on Dog-Bites and Its Management in the Context of Prevention of Rabies in a Rural Community of Gujarat Indian Journal of Community Medicine Year: 2005 | Volume: 30 | Issue: 3 | Page: 81-83
7. Jeshu MM, Jo Martin, Bina T, Lucy Raphael, Lailabi, Jayadev. Compliance to IDRV at antirabies clinic in tertiary care hospital in North Kerala. Journal of APCRI 2011; 12(2):21-24.
8. Satapathy DM, Reddy SSS, Pratap AK, BeheraTR, Malini DS, Tripathy RM et al. Drop-out cases in IDRV: A cause of concern. Journal of APCRI 2010; 12(1):40-41.
9. Dr. Rachana. A. R. Assessing the safety and immunogenicity of intradermal rabies vaccination at municipal corporation hospital, Bangalore, Karnataka, 2013. www.rguhs.ac.in/cdc/onlinecdc/uploads/01\_M005\_27129.doc
10. Mahendra BJ, Harish BR, Vinay M. A Study of factors influencing compliance to IDRV at antirabies clinic of Mandya institute of medical sciences, Mandya. Journal of APCRI 2009; 11(1):18-20.
11. Leslie R Martin, Summer L Williams, Kelly B Haskard, and M Robin DiMatteo. The challenge of patient adherence. Ther Clin Risk Manag. Sep 2005; 1(3): 189-199. Published online Sep 2005.
12. Vinay M, Mahendra BJ. Compliance to intra dermal rabies vaccination schedule (Updated Thai Red Cross) at the anti-rabies clinic, Mandya Institute of Medical Sciences Hospital, Mandya, Karnataka State. APCRI Journal 2011 Jul; 12(1):35-7.
13. Dr. Mohua Biswas, Dr Krishna Kar, Dr. Durga Madhab Satpathy, Dr. Prajna Paramita Giri. A study on drop out among animal bite cases (provoked Vs unprovoked) attending the ARV clinic of SCB Medical College, Cuttack. APCRI Journal Volume XV, Issue II, January 2014.

**Please Visit**

**The APCRI web site at [www.apcriindia.org](http://www.apcriindia.org)  
for all information about APCRI**