ORIGINAL RESEARCH ARTICLE

Impact of COVID-19 pandemic on animal bite cases reporting to Anti-Rabies Clinic of a tertiary care hospital in Jammu: Comparing pre-pandemic and pandemic era

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ABSTRACT

Background: COVID-19 pandemic and resultant responses by respective governments including stringent lockdowns had cascading effects on all spheres of life including healthcare and health services. India imposed a very restrictive lockdown in March 2020 to curtail the spread of pandemic.

Objectives: To assess the impact of pandemic on footfall of animal bite cases in Anti-Rabies Clinic (ARC) in a tertiary care hospital in Jammu region of J&K UT.

Method and Materials: The data recorded in ARC of GMC Jammu for year 2019 (pre-pandemic year) was compared with the data for year 2020 (pandemic year) to assess the impact of pandemic on footfall in ARC.

Results: The total outpatients in pre-pandemic year (2019) was 10,952 while this number dropped to 6204 in the pandemic year (2020). The resultant drop was 43.3% in the year. The drop in footfall in pandemic year was more marked after the month of March when stringent lockdown was announced.

Conclusion: Results have revealed a significant drop in OPD services in the pandemic year vis a vis pre-pandemic year. Among the probable reasons for this include strict lockdown, lack of staff due to COVID-19 infection, fear and stigma; and limited access to health services. To ensure smooth functioning of routine health services in future waves, careful planning of services and optimal communication with patients/ communities need to be envisaged.

Keywords: Impact, COVID-19, Anti Rabies Clinic, footfall, tertiary care hospital

INTRODUCTION

The current outbreak of novel coronavirus SARS-COV-2 (Coronavirus disease 2019), that originated from Hubei-Province of People's Republic of China, and had a rapid course of spread to other countries has plagued almost all parts of globe. WHO Emergency Committee declared COVID-19 outbreak as a Global Health Emergency on 30th January 2020 based on growing detection rates of cases at different locations.1,2 The government of India declared a nationwide lockdown from 25 March 2020 as a preventive measure against the COVID-19 pandemic in India when the numbers of recorded cases were only 519, with nine reported deaths.3

COVID-19 pandemic has affected all countries equally, not only in terms of health, but social, economic and political order of nations as well, but to our dismay there is no specific treatment for this deadly viral disease, thus the only respite to curb the pandemic remains 'Prevention of it's spread' through different preventive measures like; hand hygiene, social distancing, use of face masks, isolation & quarantine.4 It was due to the efforts of the scientific community that vaccines against COVID-19 were developed towards the end of 2020. India began administration of COVID-19 vaccine on 16 January 2021, with priority given to healthcare workers and the frontline workers. This was followed by voluntary vaccination of those above 50 years of age and the under-50 population groups with co-morbidities. Currently, India has achieved coverage of over 90% population with first dose and 65% with second dose.

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Essential health services have been disrupted across the globe due to pandemic, this has caused set back to all but mainly to developing countries, that suffer from high burden of preventable diseases. Rabies is one such preventable disease which has been prioritised for elimination. WHO Goal is to achieve 'ZERO BY 30' that is zero human deaths from dog-mediated rabies by 2030.5 Post exposure prophylaxis which is the cornerstone in prevention of human rabies has been affected by the COVID-19 pandemic due to limited access to vaccines as a result of financial constrains in nations particularly Africa, Asia; closure of treatment centres, difficulty in travelling to urban centres, avoiding hospitals due to fear of COVID-19 thus visiting to small health clinics, quacks and traditional healers. COVID-19 pandemic has badly affected the health seeking behaviour of people in 90% of countries as rabies awareness programmes in schools, health centres could not be organised.6

While going through the review of literature, it was found that a few authors have conducted studies on impact of pandemic on outpatient and elective surgeries in various institutions but no literature exists about the impact of this pandemic on the footfall of animal bite cases in Anti-Rabies Clinic. So, the authors aimed to assess the impact of pandemic on the footfall of animal bite cases to anti-rabies clinic in a tertiary care hospital in Jammu city, UT of J&K.

METHOD AND MATERIALS

The present retrospective study was conducted in Anti-Rabies Clinic (ARC) of Government Medical College (GMC) Jammu, run by PG Department of Community Medicine. To assess the impact of pandemic on footfall of patients in ARC, the authors reviewed the records of the patients visiting the ARC in year 2019 and 2020, with 2019 being the pre-pandemic year and 2020 as the pandemic year. The secondary data was available in the ARC where an animal bite record register is maintained. This register contains information about socio-demographic characteristics of the patients, site and category of bite and type of animal causing the bite. Due permission was sought from Institutional Ethical Committee (IEC) of GMC Jammu for the conduct of this study.

Data collected from the available records was duly coded, entered into Microsoft Excel sheets, tabulated and analysed. The categorical data was expressed in proportions. All data analysed were anonymized.

ARC receives patients from all districts of Jammu province, though majority belong to Jammu district. The ARS adheres to guidelines (protocol) recommended by WHO for Post-Exposure Prophylaxis (PEP) which include initial toilet of wound, anti-rabies vaccine for class II and III exposures and use of immunoglobulins in class III exposures.

RESULTS

Table 1: Age distribution of animal bite cases for the year 2019

Age (in years)	No. of patients (n)	Percentage (%)
⩽5	788	7.19
>5 to ⩽15	1769	16.15
>15 to ⩽30	3087	28.19
>30 to ⩽45	2536	23.15
>45 to ⩽60	1808	16.51
>60	964	8.80
Grand Total	10,952	100.00

Table 2: Age distribution of animal bite cases in 2020

Age (in years)	No. of patients (n)	Percentage (%)
⩽5	296	4.77
>5 to ⩽15	935	15.07
>15 to ⩽30	1974	31.82
>30 to ⩽45	1478	23.82
>45 to ⩽60	1083	17.46
>60	438	7.06
Grand Total	6,204	100.00

A total of 10,952 and 6,204 animal bite cases presented in the ARC of GMC Jammu during the years 2019 and 2020, respectively. The highest number of patients were in the age group of 15 to 30 years followed by those in 30 to 45 years age group during both the years. Children less than 5 years were the least in number during both the years as can be seen in Tables 1 and 2.

Table 3: Distribution of animal bite cases according to gender

Year	Gender	No. of patients (n)	Percentage (%)
2019	Males	8123	74.17
	Females	2829	25.83
2020	Males	4795	77.29
	Females	1409	22.71

Table 3 shows that number of male patients were more than female patients during both the years.

Table 4: Distribution of cases according to the category of animal bite for the year 2019

Month	Category II patients	Category III patients	Total
January	201	745	946
February	138	626	764
March	135	774	909
April	159	719	878
May	128	666	794
June	175	861	1,036
July	260	819	1,079
August	126	427	553
September	231	995	1,226
October	178	673	851
November	252	749	1,001
December	280	635	915
Total	**2,263**	**8,689**	**10,952**

During the year 2019, 2,263 (20.66%) cases of category II and 8,689(79.34%) cases of category III animal bite were seen. The highest number of cases were recorded in the month of September i.e. 1,226 cases (Table 4 and Fig. 1).

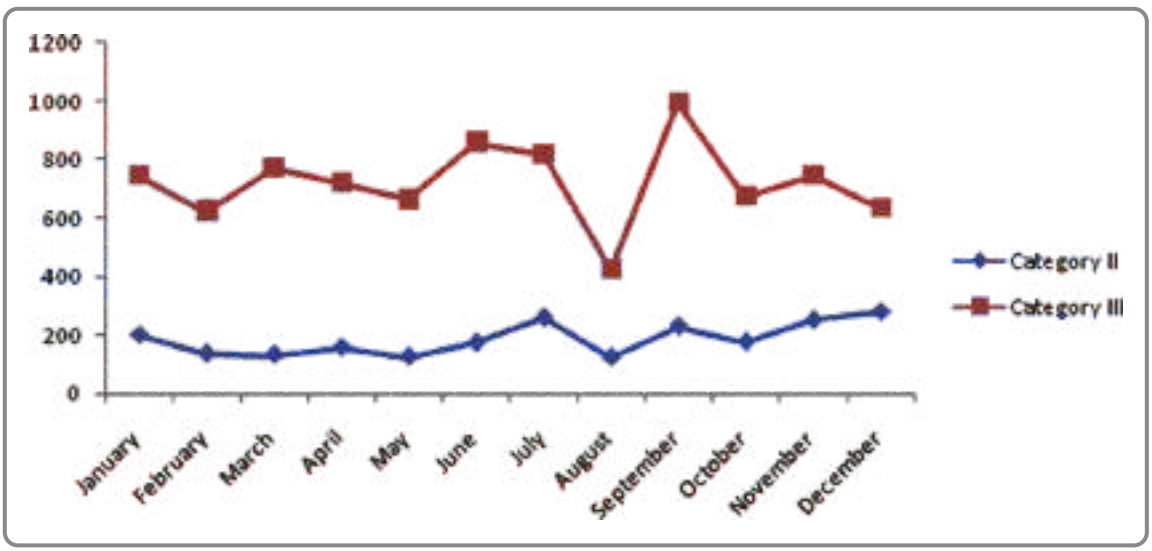

Figure 1: Monthly trend of animal bite cases in 2019

Table 5: Distribution of cases according to the category of animal bite for the year 2020

Month	Category II patients	Category III patients	Total
January	313	608	921
February	269	672	941
March	211	541	752
April	69	273	342
May	93	295	388
June	88	362	450
July	84	344	428
August	79	320	399
September	34	274	308
October	68	301	369
November	73	330	403
December	108	395	503
Total	**1489**	**4715**	**6204**

During 2020, 1489 (24%) category II and 4715 (76%) category III animal bite cases were seen. The highest number of cases presented in the month of February i.e. 941 followed by a decline in animal bite cases through the rest of the year (Table 5 and Fig. 2).

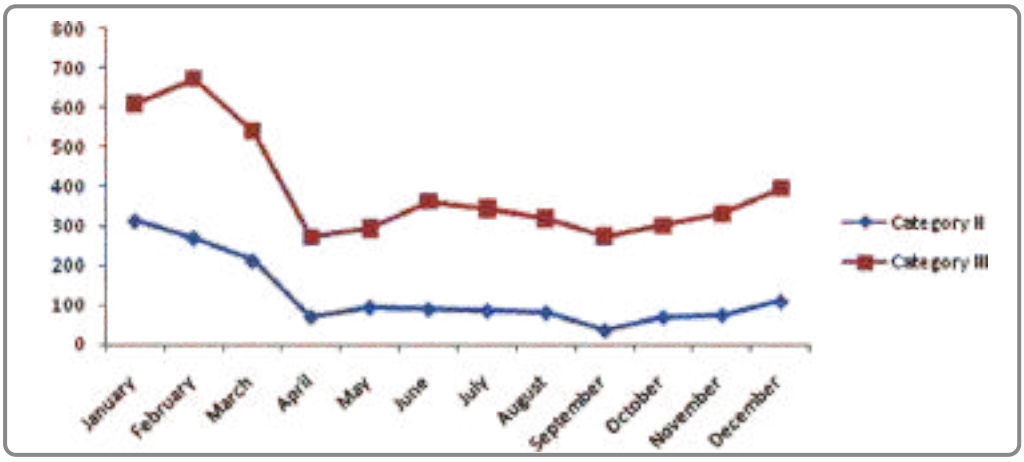

Figure 3: Month-wise comparison of frequency of animal bite cases in 2019 and 2020

Figure 3 compares the month-wise trend of animal bite cases presenting in anti-rabies clinic during the pre-pandemic and pandemic phase. The number of cases presenting to the hospital declined drastically after the month of March 2020 as COVID cases started increasing along with imposition of lockdown in India. A 43.3% drop in cases in 2020 was seen as compared to 2019.

DISCUSSION

This study aimed to assess the impact of COVID-19 pandemic and consequent lockdown which was imposed as a mitigation and control measure, on the reported animal bite cases in the anti-rabies clinic of GMC Jammu. The data for two years i.e. pre-pandemic (2019) and pandemic (2020) phase was compared. The data revealed that majority of the animal bite cases during both the years were males. During 2019, 74.17% of the cases were males while 25.83% were females. In 2020, 77.29% cases were males and 22.71% were females. Similar findings were reported by Saleem SM et al7, Hsiao et al8, Olarinmoye et al9 and Qi et al10. This finding can be explained by the fact that men are more likely to go outdoors for work, grocery purchase, etc., especially during the lockdown period leaving female counterparts at home. Also, men have more aggressive and risk-taking behaviour which may lead to human-animal conflicts resulting in more animal bite cases among men.

The present study reveals that the most common age group affected is 15 to 30 years of age followed by 30 to 45 years, while children aged ⩽5 years are seen to be least affected. Similar findings have been reported by Sreenivas NS et al11, Shah V et al12 and Patel AB et al13. This could be explained by the fact that people in the age group of 15 to 45 years constitute the most productive age group and often need to go outdoors for work.

On comparing the category II and III cases, it was found that number of category III cases were consistently more than category II cases in both 2019 and 2020 (Tables 4 and 5). These results are in agreement with those reported by Qi et al10 and Saleem SM et al7. This may be because majority of the people with category II bites receive anti-rabies vaccination from nearby health care facility, whether public or private. On the other hand, cases with category III wounds have to visit our anti-rabies clinic for administration of immunoglobulins. The pandemic year (2020) showed a decline in the number of animal bite cases to the tune of 43% compared to the pre-pandemic phase as can be seen in Figure 3. Pillay Y et al14 in their study reported a limited access to public health services in all provinces of South Africa between March 2020 and December 2020. The most severely affected services were antenatal visits before 20 weeks, access to contraceptives and HIV and TB testing. In a study conducted by Wong JSH et al15 in Hong Kong, a decline of 41.2% and 29.4% was seen in Orthopaedic surgeries and outpatient visits, respectively. In a review article by Tessema GA et al16, the authors recorded decreased flow of patients and missing of scheduled appointments as among the most common impacts of COVID-19 pandemic. Raman R et al17 reported that the impact of COVID-19 pandemic and lockdown on health and healthcare was negative. Singh K et al18 revealed that majority of the respondents in their study faced difficulty in accessing healthcare due to which the respondents experienced psychosocial distress. However, in contrast to these findings, Desta AA et al19 reported no significant changes in outpatient visits and admissions.

During lockdown, people preferred to stay inside their homes and moved out only in cases of emergency. Due to these restrictions, the number of animal bite cases might have decreased. In addition, people avoided coming to hospitals due to the fear of contracting COVID-19 infection, thereby, resulting in decrease in patient reporting. Decreased availability of public transport could be another possible reason.

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