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Impact of Chhath festival on health seeking behaviour of local population

Avinash Pandey*, Anjana Singh, Shivkant Singh, Amit Kumar, Heena Shahi, Aishwarya Kumari

Department of Medical Oncology, Indira Gandhi Institute of Medical Sciences, Patna, India

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*Correspondence: Dr. Avinash Pandey,

E-mail: dr.avinashp9@gmail.com

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ABSTRACT

Background: There is lack of information regarding health seeking behaviour of local population during Chhath puja. The aim is to evaluate health seeking behaviour of local population during Chhath festival. And the main objectives is to evaluate the extent of change of routine visits of people seeking healthcare during Chhath festival across major super speciality departments of government hospital.

Methods: Database of outpatient department visits across nine super specialities namely, cardiology, gastroenterology, gastrointestinal surgery, neurology, neurosurgery, nephrology, urology, paediatric surgery and oncology were obtained for year 2016, 2017 and 2018 from hospital records. Median and maximum number of outpatient visits per month of each of the nine specialities per year was compared with number of outpatient visits during Chhath festival month of corresponding year.

Results: In year 2018, there was 18% average absolute decline of outpatient visit during Chhath month compared to median number of outpatient visits per month that year. Similarly, the average absolute decline of OPD visits was 32% during Chhath month compared to the month when there was maximum number of outpatient visits in 2018. Cardiology, gastroenterology, neurology, nephrology and oncology had more than 20% absolute decline in 2018 compared to median. Trends was similar in year 2017 and 2016, with average decline in Chhath month compared to median and maximum outpatient visits in corresponding year as 3%, 14%, 10% and 26% respectively.

Conclusions: Health seeking behaviour of local population drops by one fifth during Chhath festival. Fall in outpatient visits is consistent, uniform and recurring every year.

Keywords: Chhath festival, Health seeking behaviour, Outpatient department

INTRODUCTION

Chhath puja is the most popular community festival celebrated in month of October to November every year, particularly in Bihar. It is the thanks giving celebration performed by devout Hindus through ritualistic worship, fast and offerings bestowed on Sun God at sunset and sunrise to express gratitude in lieu of fertility and prosperity granted by Him. Health seeking behaviour has been defined as any action undertaken by individuals who

perceive themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy.² There is a common perception among the populace that routine work and health takes a backseat for couple of days during the festivities of Chhath puja, which often gets scheduled a week after another major Indian festival Diwali. We present first ever study to report the impact of Chhath festival on health seeking behaviour of local population. We also measured the extent of above change during affected month, so as to help government adapt

their healthcare policies so as to conform to the 'sociocultural' phenomenon of Chhath festival.

METHODS

Our institute is the largest apex premier tertiary referral centre of Bihar which provides super-speciality treatment for local population as well as those from neighbouring states. Daily Outpatient department (OPD) visits of new and old patients are systematically recorded and compiled as per speciality clinic visits of patients on yearly basis. This information is made public annually by making it assessable online on website of Indira Gandhi Institute of Medical Sciences, Patna.3 We retrieved outpatient data from hospital record database across nine major super departments namely speciality cardiology, gastroenterology, gastrointestinal surgery, neurology, neurosurgery, nephrology, urology, paediatric surgery and oncology from January 2016 till December 2018.

Data was sorted in terms of number of newly registered as well as old patients visited across above nine major super specialities on monthly basis for each of the twelve months for three above consecutive years. From this data, median number of cases across all twelve months seen in OPDs of all nine super specialities was calculated for year 2018, 2017 and 2016 respectively. Similarly, highest (maximum) number of cases seen in any month in a given year were recorded for all of the above nine disciplines. The date and month of Chhath puja festival was retrieved from Hindu calendar for year 2018, 2017 and 2016

respectively along with number of patients visiting OPDs of nine super specialities during Chhath puja month for above years.

Descriptive statistics, frequency distribution, line diagram and charts were used to compare the data for all above specialities across three consecutive years. Change in terms of percentage of OPD visits during Chhath festival month was calculated with respect to median number of outpatient visits of concerned super speciality department in year 2018, 2017 and 2016. Average of all change in percentages across all nine disciplines was taken as absolute change in outpatient visits during Chhath festival month in above three consecutive years respectively. Statistics was done using SPSS software version 17.0 (IBM Corp. Released 2017. IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp).

RESULTS

More than a million outpatient visits were recorded in three consecutive years. Total number of visits in year 2018, 2017 and 2016 were 407744, 349089 and 282760 respectively. Among them 131130 (32%), 116585 (33%) and 91282 (32%) were newly registered patients in year 2018, 2017 and 2016 respectively. Oncology had the highest number of cases registered in 2018, followed by gastroenterology, neurology and cardiology, while paediatric surgery and neurosurgery were among the least (Table 1).

Table 1: Median number of outpatient visits and maximum number of outpatient visits per month in year 2018, 2017 and 2016.

Sl. no	Department	Year 2018		Year 2017						
		Median	Max ^{\$}	Total*	Median	Max ^{\$}	Total*	Median	Max ^{\$}	Total*
1	Cardiology	5322	5887	61747 (21202)	4394	5075	52257 (18590)	3563	4064	42838 (13802)
2	Gastroenterology	6199	6984	71473 (30740)	5280	6230	62397 (28012)	4002	5174	50394 (22200)
3	Gastro intestinal surgery	1487	2304	18469 (5099)	1326	1547	16150 (4276)	1080	1323	13067 (3524)
4	Neurology	5897	6744	68041 (30774)	5416	6025	62398 (28732)	4157	5381	50275 (22476)
5	Neurosurgery	665	828	7839 (2919)	608	679	7072 (2443)	405	490	4701 (1655)
6	Nephrology	3355	3780	39169 (11661)	2984	3343	35569 (10738)	2587	3090	31727 (8723)
7	Urology	4271	5416	51368 (13544)	4024	4578	47638 (13081)	3354	4317	41081 (10512)
8	Paediatric surgery	754	897	9004 (2355)	701	762	8212 (2292)	592	729	7009 (2144)
9	Oncology	6657	7755	80634 (12836)	4653	5957	57396 (8421)	3600	4092	41668 (6247)

Max=maximum, *Total=number of outpatient visits per super specialty in a year, number in brackets denote total number of new cases registered per year per super speciality.

Table 2: Percentage change of outpatient visits in various super specialities during Chaath month compared to median and maximum outpatient visits of respective super specialty in year 2018, 2017 and 2016.

Sl. no	Department	Year 2018	Percentage change during Chhath 2018 with respect to		Year 2017	Percentage change during Chhath 2017 with respect to		Year 2016	Percentage change during Chhath 2016 with respect to	
		Chaath month	Med	Max	Chaath month	Med	Max	Chaath month	Med	Max
1	Cardiology	4276	-20	-27	3899	-11	-23	3040	-15	-25
2	Gastroenterology	4787	-23	-32	5202	-2	-17	3576	-11	-31
3	Gastro intestinal surgery	1260	-15	-45	1285	-3	-17	1080	0	-18
4	Neurology	4607	-22	-32	4926	-9	-18	3566	-14	-34
5	Neurosurgery	558	-16	-33	623	+2	-8	375	-7	-24
6	Nephrology	2632	-22	-30	2767	-7	-17	2222	-14	-28
7	Urology	3639	-15	-33	3917	-3	-15	2919	-13	-32
8	Paediatric surgery	646	-14	-28	669	-5	-12	499	-16	-32
9	Oncology	5319	-20	-32	5318	+14	-11	3713	+3	-9

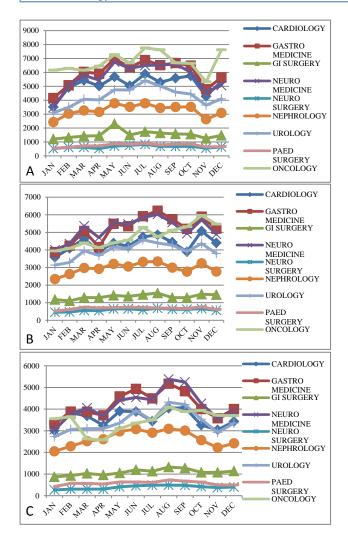


Figure 1 (A, B and C): Showing trend of total outpatient visits from January to December in year 2018, 2017 and 2016 respectively (Red arrow denotes drop in registration corresponds with Chhath festival).

In year 2018, all the four major departments registering highest OPD visits during that year had more than 20% decline in foot fall of OPD patients in Chhath puja month compared to median number of OPD visits that year of respective disciplines. When compared to maximum number of OPD visits in any month in year 2018, the fall was in range of 27-45% across all nine specialities. Comparing year 2018 to year 2017 and 2016, average decline in Chhath month compared to median and maximum outpatient visits was 3% and 14 %, and 10% and 26% in year 2017 and 2016 respectively (Table 2).

The extent of fall in OPD visits during Chhath puja month was generally consistent and recurring across all nine super specialities in all three consecutive years. Except for oncology in year 2017 and 2016 which showed higher trend compared to median during Chhath festival month, all other eight disciplines had shown decline in footfalls in Chhath month. However, later even oncology showed 20% decline in OPD visits during the month of November 2018, which was the Chhath festival month (Figure 1).

DISCUSSION

Health seeking behaviour has been defined as any action undertaken by individuals who perceive themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy.² This behaviour itself is dependent on several population, disease and health care centre based variables.⁴ It has been shown in multiple studies that poor socioeconomic status, illiteracy, rural location and female gender are strong determinants of delayed presentation to health care facilities.⁵⁻⁷ Similarly, chronic illness with infrequent and mild clinical presentation often gets delayed for people to present compared to acute illness.⁸ Specially among rural population, social prejudices and male patriarchy compounded by scarce availability of trained healthcare personnel make them avoid seeking healthcare totally.^{9,10}

Apart from above defined, known and studied variables, the extent of impact on health seeking behaviour during major Indian festivals remains unexplored.

India being a religious country with rich cultural heritage, opinion and decisions to seek medical help also gets biased especially around festivals with peak in devotional fervour. Chhath festival is the major Hindu festival especially in Bihar, positioned a week after Diwali, which invokes strong devotional tempers across masses. People often shun their routine professional and daily chores for weeks, travel miles and prefer to assimilate together across family and community ties to celebrate the gratitude of Sun God, who is believed to dispense prosperity and fertility among his devotees. 1,11-13 As per the best of knowledge of authors, no study has ever explored impact of such mammoth religious festival on health seeking behaviour of local population. We analysed data of last 3 consecutive years of individual outpatient department (OPD) visits of nine major super speciality clinics working in apex tertiary centre of Bihar, Indira Gandhi Institute of Medical Sciences, Patna and explored the extend of change in health seeking behaviour of local population during Chhath festival month compared to median and maximum number of patients visiting OPD per year.

In our study, we were able to record more than a million OPD visits of new and old patients combined across nine super speciality disciplines over three year period. We found eighteen percent absolute decline in OPD visits during Chaath puja festival month in year 2018, compared to median number of OPD patients visit per month that year. It was surprising to note that all five busiest clinics namely cardiology, gastroenterology, neurology, nephrology and oncology recorded more than 20% absolute decline in patient numbers during the festival of year 2018. In absence of any biological plausible phenomenon causing lower disease incidence during aforesaid month, the cause of this precipitous fall in patient numbers could only be attributed to wilful compromise of health care needs by people second to strong religious pursuits during festival month. In order to ascertain whether this decline in OPD visits is recurrent every year during Chaath festival month, we found that this pattern is repeated over last three years during October- November in concordance with dates of Chaath puja, though the extent of fall varied.

It is prudent to ponder regarding the negative impact of such a decline of patient number by one fifth during festival month every year. Not only the sub-acute and chronic illness get delayed to present, but also the acute illness which otherwise merit prompt diagnosis may get hampered, leading to rise in morbidity and mortality. Lower foot falls during festival across major disciplines including cardiology, nephrology, neurology and gastroenterology would mean more number of patients suffering from acute myocardial infarction, acute kidney injury, seizures and haematemesis would not present

timely enough to receiving lifesaving interventions. Delay in starting treatment or mid treatment breaks in oncology would lead to upstaging of disease and compromised outcomes. Due to limited clinical data availability, we could not ascertain the exact number of patients suffering from acute or chronic illness every month and the clinical impact of poor turnout during festival month. As being retrospective in nature, this study was limited to find whether the patients who did not come during festival month compensated their visit by coming in subsequent months for availing treatment.

CONCLUSION

This is the first study ever to establish and measure the decline in health seeking behaviour among local population during famous Chhath puja festival month. Further studies are merited to gauge the impact of such phenomenon on economic and health indices. Government agencies and stake holders should formulate policies and create awareness among masses in order to ascertain that at least people with acute illness should seek prompt health advice despite staunch proclivity for religious pursuits during major festivals.

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Institutional Ethics Committee

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