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Case Report

A COMPARATIVE RETROSPECTIVE STUDY TO EVALUATE THE IMPACT OF COVID 19 ON CANCER OPD IN CHHATTISGARH INSTITUTE OF MEDICAL SCIENCES, BILASPUR, CHHATTISGARH

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ABSTRACT

Background: The COVID-19 disease, also known as the corona virus disease, is an ongoing global pandemic of corona virus 2019 (COVID-19) caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). The virus was first identified in December 2019 in Wuhan, China. The World Health Organization declared a Public Health Emergency of International Concern regarding COVID-19 on 30 January 2020, and later declared a pandemic on 11 March 2020. As of 28 May 2021, more than 168 million cases have been confirmed, with more than 3.51 million confirmed deaths attributed to COVID-19, making it one of the deadliest pandemics in history. The first case in Chhattisgarh state was found in capital Raipur on 19th March 2020. Most people who fall sick with COVID-19 will experience mild to moderate symptoms and recover without special treatment. The virus that causes COVID-19 is mainly transmitted through droplets generated when an infected person coughs, sneezes, or exhales. These droplets are too heavy to hang in the air, and quickly fall on floors or surfaces. People can be infected by breathing in the virus if they are within close proximity of someone who has COVID-19, or by touching a contaminated surface and then your eyes, nose or mouth. Covid-19 infection also causes problems for the management and follows up of cancer patients their regular investigation and chemotherapy is also interrupted mostly due to nationwide lockdown.**Objective:** To evaluate the impact of Covid-19 on cancer patients OPD in Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh during Covid-19 pandemic **Method**: This retrospective comparative clinical study is conducted in the department of Radiotherapy, Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh. The 1 year OPD from 20 March 2019 to 20 March 2020 is compared with the data from Covid-19 era from 20 March 2020 to 20 March 2021. Frequency tables, comparative charts are used to evaluate and measure the data from the study to describe the impact of Covid-19 on cancer patients' treatment **Result**: The total OPD registered in Pre Covid-19 yr was 1868 i.e. from 20 March 2019 to 20 March 2020,916 out of 1868 cancer patients (49%) were belonged to 18-45 yr age group followed by 47% in >45 year group and only 3.9% of admitted patients were below 18 yrs of age. Whereas in Covid-19 yr i.e. from 20 March 2020 to 20 March 2021 total OPD registered was 850, 64.9% patients were in 18-45 yrs age group followed by 30.5% in >45 yr age group and only 4.4% patients were below 18 yrs. 1025 out of 1868(54.87%) cancer patients were females in Pre Covid-19 yr whereas male OPD patients were 54.87%, During Covid-19 pandemic year males were predominant in OPD i.e. 58.23% whereas female OPD population was 41.76%. In Pre Covid-19 yr, 1232 out of 1868 (65.95%) patients of lower SES came to cancer OPD, 32.17% patients were of middle SES and only 1.8% was belonged to upper class. Whereas in Covid-19 pandemic year lower class patients reported was 58% and upper class were 8%. In Pre Covid-19 yr Head & Neck cancer patients were registered predominantly in OPD i.e.412 out of 1868 (22%) followed by Breast cancer 18.2%,Gynecological cancers 20.7%, lung cancers 4%. In Covid-19 pandemic year the total cancer OPD registered was 850, head & neck cancers were predominant (18.2%), hematological cancers (Lymphoma/leukemia) were seen in 4.9%, cancer cervix 17.1%, breast cancer 18.2%, colorectal cancer 8.2% and other cancers constituted 9.1%.**Conclusion**: We observed in our study that In Pre Covid-19 yr i.e. from 20 March 2019 to 20 March 2020,majority of the cancer OPD patients registered were middle aged females and belonged to lower SES, head & neck cancers were predominant followed by breast and gynecological cancers, in covid-19 pandemic year there was increase in male patients by 13.23% and upper SES patients compared to pre covid-19 year, a surge in OPD of 11% is seen in head & neck malignancies and fall of 4.9% OPD of hematological cancer is noted in covid-19 pandemic year.

INTRODUCTION

COVID-19 is the disease caused by a new corona virus called SARS-CoV-2.WHO first learned of this new virus on 31 December 2019, following a report of a cluster of cases of 'viral pneumonia' in Wuhan, People's Republic of China.[1][2] The most common symptoms of COVID-19 are fever, dry cough, fatigue other symptoms that are less common and may affect some patients include loss of taste or smell, nasal congestion, sore throat, headache, muscle or joint pain, different types of skin rash, nausea or vomiting, diarrhoea, chills or dizziness.[3][4] Stay safe by taking some simple precautions, such as physical distancing, wearing a mask, especially when distancing cannot be maintained, keeping

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rooms well ventilated, avoiding crowds and close contact, regularly cleaning your hands, and coughing into a bent elbow or tissue.[5][6] As of 28 May 2021, more than 170 million cases have been confirmed, with more than 3.51 million confirmed deaths attributed to COVID-19, making it one of the deadliest pandemics in history.[7] The first case in Chhattisgarh state was found in capital Raipur on 19th March 2020.[8] The first case in Bilaspur was found on 23rd March 2020.The emergence of the novel virus SARS-CoV-2 has caused morbidity, mortality and societal disruption on a global scale. In the absence of pharmaceutical interventions, many countries have resorted to population-wide lockdowns to slow the spread of the virus and to allow their health systems to cope. [9] These lockdowns have had an important effect on SARS-CoV-2 transmission. [10] The main concern is that health services have been partially or completely disrupted in many countries and states. Overall 42% for cancer management is disrupted by covid-19 the key reasons behind it is the Reassignment of health staff from their primary service to support COVID-19.[11] The postponement of public screening programmes (for example for breast and cervical cancer) was also widespread, reported by more than 50% of countries. But the most common reasons for discontinuing or reducing services were cancellations of planned treatments, a decrease in public transport available and a lack of staff because health workers had been reassigned to support COVID19 services. In one in five countries (20%) reporting disruptions, one of the main reasons for discontinuing services was a shortage of medicines, diagnostics and other technologies. Unsurprisingly, there appears to be a correlation between levels of disruption to services for treating cancers and the evolution of the COVID-19 outbreak in a country. Services become increasingly disrupted as a country moves from sporadic cases to community transmission of the corona virus. Alternative strategies for continuing care being implemented like telemedicine to replace in-person consultations.

Objective

To evaluate the impact of Covid-19 on cancer patients OPD in Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh during Covid-19 pandemic.

MATERIAL AND METHOD

Method: This retrospective comparative clinical study is conducted in the department of Radiotherapy, Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh. The 1 year pre Covid-19 OPD from 20 March 2019 to 20 March 2020 is compared with the data from Covid-19 era from 20 March 2020 to 20 March 2021. Frequency tables, comparative charts are used to evaluate and measure the data from the study to describe the impact of Covid-19 on cancer patients' OPD.

Patient Inclusion Criteria

1. All histopathological proven cases of cancer.
2. ECOG performance score of 0 or 5.
3. All Patients who are registered in cancer department as OPD

Patient Exclusion Criteria

1. Patient who are histopathological negative for malignancy.

Major Variables

a. Age
b. Gender
c. Socioeconomic status
d. OPD data pre Covid-19 year
e. OPD data Covid-19 year

RESULTS

This retroprospective observational clinical study involved the cancer patients' OPD data of pre Covid-19 year from 20 March 2019 to 20 March 2020 and data of first year of Covid-19 year from 20 March 2020 to 20 March 2021. This study is conducted in department of Radiation Oncology, CIMS hospital, Bilaspur Chhattisgarh. All patients' OPD data of both years were thoroughly evaluated and studied. The results are as follows:

Age

In Pre Covid-19 yr i.e. from 20 March 2019 to 20 March 2020, 916 out of 1868 cancer patients (49%) were belonged to 18-45 years age group followed by 47% in >45 year group and only 3.9% of OPD patients were below 18 yrs of age. Whereas in Covid-19 yr i.e. from 20 March 2020 to 20 March 2021, 64.9% patients were in 18-45 year age group followed by 30.5% in >45 years age group and only 4.4% patients were below 18 yrs. This data shows that during covid-19 pandemic the patients of 18-45 year age group were increased by 16% while OPD of >45year age group was decreased by 16.5%.

Table 1 Age wise distribution of OPD patients

Age Range(yr)	< 18	18-45	>45	Total
Pre Covid-19 yr	73(3.9%)	916(49%)	879(47%)	1868
Covid-19 yr	38(4.4%)	552(64.9%)	260(30.5%)	850

Gender

1025 out of 1868 (54.87%) cancer patients were females in Pre Covid-19 yr whereas male OPD patients were 45%, only 1 transgender patient was reported. During Covid-19 pandemic year males were predominant in OPD i.e. 558.23% whereas female OPD population was 41.76%, no patients of transgender community was reported. This data revealed that male cancer patients' OPD was increased in covid-19 pandemic than females.

Table 2 Gender wise Distribution of OPD patients

Gender	Male	Female	Transgender	Total
Pre Covid-19 yr	842(45%)	1025(54.87%)	1(0.007)	1868
Covid-19 yr	495(58.23%)	355(41.76%)	0	850

Socio-economic status

In Pre Covid-19 yr, 1232 out of 1868 (65.95%) patients of lower socioeconomic strata came to cancer OPD, on the other hand 32.17% patients were of middle class economy status and only 1.8% was belonged to upper class. Whereas in Covid-19 pandemic year lower class patients reported was 58% and upper class were 8%. This data clearly stated that during the pandemic year the patients of upper socioeconomic strata were increased while lower class patient were decreased by 7.95%.

Table 3 Socio-economic status wise distribution of patients

SES	Lower Class	Middle Class	Upper Class	Total
Pre Covid-19 yr	1232(65.95%)	601(32.17%)	35(1.8%)	1868
Covid-19 yr	493(58%)	289(34%)	68(8%)	850

Total OPD data from 20 march 2019 to 20 march 2020

In Pre Covid-19 yr i.e. from 20 March 2019 to 20 March 2020 the total OPD registered in radiotherapy department, CIMS was 1868, these patients received oral chemotherapy(oral hormonal, metronomic),symptomatic oral treatment, pain management(oral,), other conservative management in different forms. Head & Neck cancer patients were registered and predominantly i.e.412 out of 1868 (22%) which is consisted of different sub sites including buccal mucosa, alveolus, tongue, gingivobuccal sulcus, thyroid, soft palate, hard palate, pharynx, base of tongue, nasopharynx, oropharynx. Breast cancer patients were 18.2%. Gynaecological cancers (cancer cervix & cancer ovary) constituted the 20.7% of total cases followed by haematological malignancies 8% and lung cancers 4%.

Table 4 Total OPD data from 20 March 2019 to 20 March 2020

Head & Neck ca.	Breast can.	Cervix can.	Lung can.	Colorectal can.	Ovary can.	Lymphoma/leukemia	others	Total
412	340	316	81	134	72	148	365	1868
22%	18.2%	16.9%	4%	7.1%	3.8%	8%	19.57%	100%

Table 5 Total OPD data from 20 March 2020 to 20 March 2021

Head & Neck ca.	Breast can.	Cervix can.	Lung can.	Colorectal can.	Ovary can.	Lymphoma/leukemia	others	Total
280	155	146	55	70	24	42	78	850
33%	18.2%	17.1%	6.4%	8.2%	2.8%	4.9%	9.1%	100%

Total OPD data from 20 march 2020 to 20 march 2021

In Covid-19 pandemic year the total cancer OPD registered was 850, head & neck cancers were predominant (33%), breast cancers were seen in 18.2% patients followed by cancer cervix 17.1%, colorectal cancer 8.2% and other cancers constituted 9.1%.

DISCUSSION

The corona virus pandemic has disrupted the all forms of other health care services including communicable and non communicable diseases. In Chhattisgarh state the first case was found in AIIMS, Raipur on 19th March 2020. The first case in Bilaspur was found on 23rd March 2020.The country has experienced the first nationwide lockdown from 24 March 2020 for 21 days limiting the movement of entire population as a preventive measure against the Covid-19 pandemic.[12] the lockdown continued in different phases till 31 May 2020.During this time the movement of entire population was limited which resulted in postponement and delaying of many health care services including oncological care which includes chemotherapy, radiotherapy, targeted therapy, IV symptomatic managements and many more. Consequently the deterioration of health status of cancer patients. Many patients reached the hospital for oncological care during the period and benefited, Overall 42% for cancer management is disrupted by covid-19 the key reasons behind it is the reassignment of health staff from their primary service to support COVID-19. [11] As the time passes the city Bilaspur chhattisgarh was also burdened with infected covid-19 positive patients, thus Medical College Hospital was transformed to Covid-19 isolation Centre later on Covid-19 Dedicated centre, entire staff from medical college and hospital was rearranged for the covid-19 care services which included the cancer care staff also which further aided the disruption of oncological care services in our centre. Meanwhile Cancer OPD and ward was functioning well despite the reduced manpower and skilled staff.850 OPD was registered during covid-19 era in radiotherapy department, CIMS, Bilaspur, Chhattisgarh from 20 March 2020 to 20 March 2021 out of which head & neck cancers were predominant (33%), hematological cancers (Lymphoma/ leukemia) were seen in 4.9% patients, cancer cervix 17.1%, breast cancer 18.2%, colorectal cancer 8.2% and other cancers constituted 9.1%. this data was compared to the data from previous year i.e. from 20 March 2019 to 20 March 2020. We observed in our study that In Pre Covid-19 yr i.e. from 20 March 2019 to 20 March 2020, majority of the cancer OPD patients registered were middle aged females and belonged to lower SES, head & neck cancers were predominant followed by breast and gynecological cancers, in covid-19 pandemic year there was increase in male patients by 13.23% and upper SES patients compared to pre covid-19 year, a surge in OPD of 11% is seen in head & neck malignancies and fall of 4.9% OPD of hematological cancer is noted in covid-19 pandemic year. The increase in OPD of upper class cancer patients suggested that they were unable to travel to other tertiary cancer care centre due to nationwide lockdown and in fear of covid-19 infection.

CONCLUSION

We observed in our study that In Pre Covid-19 yr i.e. from 20 March 2019 to 20 March 2020,majority of the cancer OPD patients registered were middle aged females and belonged to lower SES, head & neck cancers were predominant followed by breast and gynecological cancers, in covid-19 pandemic year there was increase in male patients by 13.23% and upper SES patients compared to pre covid-19 year, a surge in OPD of 11% is seen in head & neck malignancies and fall of 4.9% OPD of hematological cancer is noted in covid-19 pandemic year.

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