Research Article

A Descriptive Study on the Treatment Seeking Behaviour of Patients with Chronic Diseases During Covid-19 Pandemic in a Tertiary Care Institute of North-eastern Region of India

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ABSTRACT

India has a double disease burden of chronic infectious and non-communicable diseases (NCDs) like diabetes, cardiovascular diseases, cancers, chronic renal diseases, etc. The Covid-19 pandemic is putting a huge pressure and a profound impact on healthcare systems worldwide. According to WHO rapid survey, 122 countries reported that NCD services are disrupted. To assess treatment seeking behavior of patients with chronic diseases during Covid-19 pandemic a cross-sectional study was conducted among 174 patients with chronic diseases by telephonic interview at NEIGRIHMS, a tertiary care institute in the capital city of the north-eastern state of Meghalaya, Shillong. Of the total patients, 33.3% did not come for regular health visits to the hospital. Characteristics like age (≥60 years), low income (≤15000 Rupee per month), education (illiteracy) and place of stay (outside local district) were significantly associated with irregular health visits of the patients. Education on preventive measures of Covid-19 and improving chronic illness care services by the primary level health institutions including availability of essential drugs may reduce the loss to follow up among patients. Telemedicine services in the primary level health care centers can be used for availability of follow-up services during emergency situations.

Keywords: Covid-19, non communicable diseases, pandemic, hypertension, cardiovascular diseases, diabetes.

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INTRODUCTION

The Covid-19 pandemic is having a significant impact on healthcare systems around the world.[1] Researches done on different groups of people shows that patients with chronic diseases are at a higher risk of threat as this viral disease is best prevented by a strong immune system[2-5]; people with chronic diseases like chronic respiratory and kidney diseases, non-communicable diseases (NCDs) like diabetes mellitus(DM) or cardiovascular disease(CVD) and elderly age group had higher risks of getting infected, which result generally in worse outcomes.[6,7] Prior to this pandemic, India was facing already a double disease burden of infectious diseases like tuberculosis, HIV/AIDS and non-communicable diseases like diabetes, cardiovascular diseases, cancers, etc.[8] Those patients who could not afford regular follow-up visits to the clinics and those taking regular and affordable medications from clinics before this pandemic are facing severe problems due to difficulty in accessibility of health services.[9]

In order to curb the spread of the pandemic, governments all over the globe imposed lockdowns, restrict people's movement and diverted the health personnel's to the frontline of the COVID-19 infection. These administrative decisions affected the regular follow-up visits, consultations, accessibility and availability of medicines.[10] The another reason found to be responsible for avoiding health institutions for consultations were fear of public getting infected by the disease during the visits.[11] According to a rapid survey conducted by World Health Organization, almost 122 countries reported of NCD services getting disrupted. The survey found that main causes of NCD service disruption were decrease in cancellation of elective appointments, closure of population-level screening programmes, government administrative decisions of lockdowns, curfews which lead to decreased public mobilization and also decreased availability of medical staff due to their duties getting diverted towards Covid-19 pandemic relief.[12,13] Keeping this in background, this study aims to assess the treatment seeking behaviour of patients with chronic diseases during covid-19 pandemic in North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences(NEIGRIHMS), Shillong, Meghalaya.

SUBJECTS AND METHODS

This cross-sectional study was conducted among the patients suffering from chronic diseases like non-communicable diseases (Diabetes , hypertension), chronic kidney diseases(CKD), neurological disorders (stroke, epilepsy, etc.) to assess their treatment seeking behaviour during covid-19 pandemic and were getting treatment from North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), a tertiary care institute situated in Shillong, the capital city of a north-eastern state, East Khasi Hills (EKH) district of Meghalaya from August 2020 to May 2021. Ethical clearance was obtained from Institution Ethics Committee, NEIGRIHMS. The participants were assured of their anonymity and identifiers like names were masked and informed consent were obtained from the respondents. Data were accessible only to the investigators. Among the patients, those who were above 18 years of age and suffering from chronic diseases for at least one year and were taking follow up treatment in department of Medicine, Haemodialysis unit and Telemedicine in NEIGRIHMS and those who agreed to participate in the study were included. First a list of patients suffering from chronic diseases was collected from the Department of General Medicine/Telemedicine/ Haemodialysis unit. Consecutive sampling was done to achieve the sample size. The patients from the list were contacted sequence wise via telephone till the sample size was achieved.

Taking effect of Covid-19 pandemic on treatment of patients with chronic diseases as 30%[12] and precision of 7%, the minimum sample size (N) was calculated to be 171.

N = 4PQ/ L2 where, P= 30%

Q= 100-P

L= Precision= 7% at 95% confidence interval

= 4*30*70/ 49

= 171

(Where “P” is Prevalence)

The patients were contacted via telephone and an interview was taken if the patient fulfilled the inclusion criteria. The interview was conducted using a pre-designed pre-tested questionnaire which contained background information consisting of age, sex, marital status, occupation, place of residence and their treatment seeking behaviours during covid-19 pandemic.

The outcome variable was treatment seeking behaviour of patients with chronic diseases during covid-19 pandemic.

Operational definitions

Treatment seeking behaviour was assessed by questions of whether the patients were coming to physician for follow up visits and whether they taking their medications regularly during covid-19 pandemic.

Data were entered in IBM SPSS version 21 for Windows (IBM Inc. Armonk, New York, USA) and were summarized by using descriptive statistics.

RESULTS

Out of a total of 250 contacted patients, data could be collected from 174 patients because of reasons like network connectivity problem, language problem, death of patients, etc.

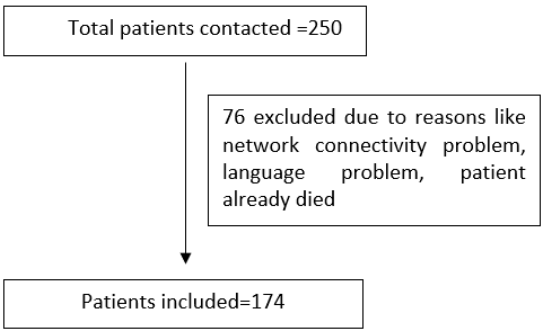

Table 1: Socio-demographic characteristics of the participants. (N=174)

Socio-demographic profile	n (%)
1. Age (years)	
<60	134 (77)
≥60	40 (23)
2. Gender	
Male	57 (32.8)
Female	117 (67.2)
3. Educational status	
Illiterate or primary	25 (14.4)
Class 7-12	84 (48.3)
Beyond Class 12	65 (37.4)
4. Occupation	
Housewife	75 (43.1)
Unemployed	33 (19)
Employed	66 (37.9)
5. Residence missing data=9	
Urban	139 (84.2)
Rural	26 (15.8)
6. District missing data=27	
East Khasi Hills	83 (56.5)
Outside East Khasi Hills	64 (43.5)
7. Average monthly income (Rs) missing data=107	
≤15000	36 (53.7)
15001-20000	16 (23.9)
>20000	15 (22.4)
8. Patients suffering from diseases	
Diabetes	23 (13.2)
Hypertension	43 (24.7)
CKD	28 (16.1)
Neurological disorders	100 (57.5)
Others[α]	26 (14.9)

[α] include thyroid disorders, GERD, sarcoidosis, etc.

Table 1 shows the general profile of the participants. Majority of the participants were less than 60 years of age (77%), females (67.2%), belonged from urban areas (84.2%), East Khasi Hills (56.5%) and suffering from neurological disorders (57.5%).

Table 2: Responses on treatment seeking behaviour during covid-19 epidemic

1. Are you coming to your physician for follow up visits during covid-19 epidemic?	
Yes	116 (66.7)
No	58 (33.3)
2. Reasons for not coming*	
a. Fear of contracting the disease from the hospital	25 (36.2)
b. Because of lockdowns	27 (39.1)
c. Financial problems	11 (15.9)
d. Have been using digital appointments	6 (8.7)
3. Are you taking your medications regularly?	
Yes	122 (70.1)
No	52 (29.9)
4. Reasons for not taking medications regularly (missing data=3)	
a. Difficult to get medicines because of the lockdown	40 (81.6)
b. Don't want to go out because of the pandemic	7(14.2)
c. Financial problem	2(4.08)
5. Did you have contact with hospital about consequences of Covid crisis for your treatment or follow-up	
Yes	102 (58.6)
No	17 (9.8)
I don't know	55 (31.6)
6. What are the consequences of the covid pandemic on treatment or follow up?	
One or more appointments changed into digital appointment (telemedicine, messaging, telephonic, etc)	115 (66.09)
Treatment got delayed	25 (14.36)
Treatment got adjusted	4 (2.29)
Appointments got rescheduled	4 (2.29)
Had to take more precautions during visits to the physician	9 (5.17)
Difficulty in getting medicines	7 (4.02)
Financial difficulties	4 (2.29)
No problems	6 (3.44)

* Multiple answers allowed

Table 2 shows responses on consequences of covid 19 pandemic on follow up visits (number of missed visits, delayed visits, cancelled visits). A large chunk of the participants (33.3%) did not come for follow-up visits to the hospital. The reasons behind were because of the lockdowns (39.1%) followed by fear of contracting Covid-19 from the hospitals (36.2%). The consequences of pandemic on treatment or follow up were one or more appointments changed into digital appointment (66%) which was followed by treatment getting delayed (14%), adjusted accordingly, etc.

Table 3: Association of follow-up visits to the physician with socio-demographic characteristics of the participants

Socio-demographic characteristics	Are you coming to your physician for follow up visits? n(%)		p-value
	Yes (n=116)	No (n=58)	
1. Age (years)			0.000
<60	101 (75.4)	33 (24.6)	
≥60	15 (37.5)	25 (62.5)	
2. Income (in Rs)			
≤15000	15 (41.7)	21(58.3)	0.027
15001-20000	13 (81.3)	3 (18.8)	
>20000	9 (60)	6 (40.0)	
3. Education			
Illiterate/primary	9 (36)	16 (64)	0.002
Class 7-12	62 (73.8)	22 (26.2)	
>Class 12	45 (69.2)	20 (30.8)	
4. District from where patients coming to NEIGRIHMS			
East Khasi Hills (EKH)	56 (67.5)	27 (32.5)	0.037
Outside EKH	33 (51.6)	31 (48.4)	

Table 3 shows association of follow-up visits to the physician with socio-demographic characteristics of the participants. Characteristics like age (≥60 years), low income (≤ Rs 15000), education (illiteracy) and place of stay (places outside East Khasi Hills) were significantly associated with patients not coming for follow up visits.

DISCUSSION

There is a dearth of literature available for the treatment seeking behaviour of patients with chronic diseases during the coronavirus pandemic especially in the north eastern part of India. The implementation of the first nation-wide lockdown on 24th March 2020 had a negative impact on health care provision of the citizens as reported by Raman et al.[14]

Along with the local participants from East Khasi Hills district, the participants in this study also comprised of people from outside the district of East Khasi Hills and also outside the state of Meghalaya who come to NEIGRIHMS for their regular follow up. They include patients with diabetes, hypertension, chronic kidney diseases, neurological diseases, etc. Majority of the patients belonged to the urban areas. This can be attributed to the

fact that the lockdown has made travel difficult especially to people in the rural part of the region.

Even though the lockdown was enforced as an important mitigation strategy by the government, it was found to be the most common reason of patients for not coming for their regular follow up. Approximately 67% of the population did not come for regular follow-up visits and majority (39.1%) cited this as a reason for missing their follow up visits. The fear of Covid-19 among the public also had an effect on the patients in NEIGRIHMS as 36.2% of them did not come for their regular visits because of this fear. In an article published by Wong et al[15] it was stated that emergency department load was down nearly 50% in the United States as there were available evidences that patients with medical ailments were hesitant to attend medical emergency department because of fear of contracting Covid-19 infection, leading to increased morbidity and mortality.

The consequences of the covid pandemic in the treatment or follow up was attributed to one or more appointments changed into digital appointment (66.09%). Digital appointment included telephonic consultation, messaging and the use of telemedicine. Approximately (14%) of the patients asserted that their appointments were delayed which had an impact on their treatment. While chronic conditions such as high blood pressure or diabetes can be managed through lifestyle changes and continuation of prescribed medications, but irregular appointments for chronic conditions like chronic kidney disease, cancer or heart disease may have serious consequences on the health of the patient. The concerned disease can itself increase the risk of complications and mortality irrespective of Covid-19.[16] Moreover, in this study, approximately 30% of the patients did not take their medications regularly for reasons like difficulty to get medicines because of the lockdown (81.6%) and didn't want to go out because of the pandemic (14.2%).

Patients who were more than 60 years old were not coming to their follow up visits. This could be explained by the fact that there were quite a lot of evidences which showed that older age groups have a higher rate of fatality, regardless of the geographic region.[17] Hence, the patients in the older age group were less inclined to come to the hospital. Patients residing outside East Khasi Hills were also not coming to their follow up visits. This can be attributed to the national lockdown which was enforced at the time and hence making travel difficult for these patients. Illiteracy and low income were the other two factors consistent with irregular follow up visits. This may be due to ignorance prevailing among the lower economic group regarding the importance of follow up visits for non-communicable diseases.

In this study, approximately 66% of the patients converted one or few appointments into digital appointment like telemedicine, messaging, telephonic, etc. Telemedicine is usually defined as a combination of both technologies and devices able to distantly increase information about a patients' health status, so to aid in deciding if there is a need or urgency to intervene.[18] Current emergency status due to the pandemic has clearly showed the significance of Telemedicine, which could further lead ways to opening more of telemedicine screening programs in routine clinical practice.[19]

CONCLUSION

In this study, regular follow-up of patients with chronic health conditions were affected by the Covid-19 pandemic and the impact was more among patients of elderly age group, low socio-economic status, those with fear of Covid-19 and because of lockdown problems. Education on preventive measures of Covid-19, increasing awareness among the patients with chronic diseases about importance of regular follow-up visits to the physician, improving chronic illness care services by the primary level health institutions including availability of essential drugs may reduce the loss to follow up among patients. Telemedicine services in the primary level health care centres can be another option for availability of follow-up services during emergency situations when face to face consultations become difficult.

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