Efficacy of Influenza Like Illness (ILI) Screening OPD for COVID-19 at a High-Volume Centre: Unlocking Routine OPD

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Abstract

Background: The Impact of COVID-19 pandemic over non-essential health services has been massive. We initiated Influenza Like Illness (ILI) screening for resumption of out-patient services at a tertiary care centre and this study attempted to gauge its efficacy in effectively pruning out COVID-19.

Methods: We included all the patients who had visited for an OPD appointment during the study period. Patient details and ILI symptoms were noted. Patients were then followed up telephonically after 2 weeks. The telephonic follow up was to ensure RT-PCR status and complaints of any newly developed ILI post OPD visit (within the last 14 days).

Results: Out of the 957 patients who were enrolled, 929 patients were successfully followed up telephonically after 14 days. Only 13 who were screened out as 'possible ILI', were either RT-PCR negative or did not follow up with a confirmatory test. The telephonic follow up to ensure RT-PCR status and complaints of any newly developed ILI post OPD visit (within the last 14 days) was noted in the rest of the patients. Only 1 participant out of 957 screened, tested positive for COVID-19.

Conclusion:

The period in which the study was held the national positivity rate was low (around 3%). Therefore, in a resource limited country such as India it is astute to restart the OPD services in the pre-existing setup using basic precautions and a verbal questionnaire during the slope of the pandemic.

Background

On 30 January 2020, India reported its first case of COVID-19 in Kerala (1). Soon, COVID-19 paralysed the healthcare system; the first lockdown was imposed on the evening of 24 March 2020 in India. This not only stunned the economic infrastructure but was critical to the healthcare system as well. As COVID-19 emerged, healthcare facilities began preparing for a surge of patients. To make space available for COVID-19 patients, preserve supplies of personal protective equipment (PPE), and comply with community mitigation guidelines, the routine procedures, including out-patient services were discontinued. However, maintenance of essential services to support the needs of the community is essential for any health system.

Resuming the OPD was a challenge under the looming shadow of the disease (2). We resumed the Outpatient Services on 25th June 2020 with introduction of an influenza like illness (ILI) screening OPD which was based on interview and thermal screening. The daily footfall of OPD patients at our hospital was around 12000 according to the Annual Report 2019-20 (3). The national positivity rate around the time this study was conducted was around 3% (4). Anticipating a high number of patients, the maximum number of patients were capped initially to around 60 per OPD/day. We attempted to utilize ILI screening for resumption of out-patient services at a tertiary care centre and simultaneously, this study attempted to gauge its efficacy in effectively pruning out COVID-19 at a high-volume centre.

Methods

This was a cross-sectional study conducted at All India Institute of Medical Sciences (AIIMS), New Delhi, India. We included all the patients who had come for an appointment for OPD visit between 30th of June 2020 to 21st July 2020 (Table 1). Patients who could not be contacted via telephone after two attempts on two separate days were excluded from the study. The interview was conducted using a semi-structured questionnaire that included complaints of fever, sore throat, headache or any ILI like symptom and any history of recent travel. It also included a history of similar complaints in anyone in the family.

Table 1

Total number of patients who were screened between 30.06.2020 and 21.07.2020 at the Influenza like illness screening OPD established at the New Rajkumari OPD at AIIMS, New Delhi.

Day	Number of Patients Screened on date	Number of Patients ILI suspected on date	Total screened till date	Total ILI	National positivity rate on the same day(in%)
1	18	0	18	0	3.4
2	9	0	27	0	3.3
3	14	2	41	2	3.3
4	23	0	64	2	3.5
5	15	0	79	2	3.6
6	46	0	125	2	3.8
7	22	0	147	2	3.6
8	30	2	177	4	3.2
9	15	0	192	4	3.2
10	21	0	213	4	3.4
11	17	0	230	4	3.5
12	35	0	265	4	3.4
12	48	0	313	4	3.5
13	53	1	366	5	3.4
14	87	0	453	5	3.2
15	223	0	676	5	3.2
16	92	2	768	7	3.5
17	264	6	1032	13	3.6
18	218	0	1250	13	3.5

As per the guidelines, the participants who screened positive for ILI were tested for COVID-19 and were sent for home isolation, till the results for COVID-19 were confirmed. Further, those who tested positive for COVID-19 were managed as per the protocol.

Ethical consent was obtained from the Institutional Ethics Committee (IECPG-464/23.09.2020). 957 patients were telephonically followed up after 14 days of their visit to the New Rajkumari OPD, AIIMS, New Delhi.

Results

We screened around 1250 patients between 31.06.2020 and 21.07.2020 the details of which with the national positivity rate are provided in Table 1.

Of the 1250 only 957 were included in the study due to incomplete information about the rest. The age wise (Table 2) and department wise (Figure 1) is also provided. Of these only 13 were screened out as possible ILI, based on their responses to the screening pro forma provided their symptoms were noted (Table 3). Figure 2 depicts the flow of patients through the screening OPD.

Table 2

The table depicts the patient demographic of the Patients screened at the ILI screening OPD

Total number of patients screened	1250
Total no. of patients for whom details could be collected	957
Total no of patients whom we were able to follow up telephonically (at day 14)	929
No. of patients who were screened as positive for ILI	13
No. of screened out patients who tested positive for COVID	0
Average Age (in years)	39.34
0-25 years (n)	216
26-40 years (n)	267
41-65 years (n)	298
Above 65 years (n)	176
Gender	397F:560M

Table 3

Table describing the symptomatology and details of the patients screened as ILI positive

Patient code	Fever	Cough	Sore Throat	Rhinorrhoea /Rhinitis	Myalgia	Headache	GI Symptoms	symptoms at 14 days	RT-PCR done	RT-PCR result
ILI1	+	+	+	-	-	-	-	+	-	Not tested
ILI2	+	+	-	-	+	-	-	-	-	Not tested
ILI3	-	+	-	+	+	-	-	-	-	Not tested
ILI4	-	+	-	-	-	-	-	-	-	Not tested
ILI5	-	-	+	+	+	-	-	-	-	Not tested
ILI6	-	-	-	-	-	-	-	-	+	Negative
ILI7	-	-	-	-	-	-	-	-	+	Negative
ILI8	+	+	-	-	+	-	-	-	-	Not tested
ILI9	+	-	-	+	-	+	-	+	+	Negative
ILI1-	+	-	-	-	-	-	-	-	-	Not tested
ILI11	+	+	-	-	-	-	-	-	-	Not tested
ILI12	-	+	+	+	+	+	-	-	-	Not tested
ILI13	+	+	-	-	+	-	-	-	-	Not tested

The telephonic follow up to ensure RT-PCR status and complaints of any newly developed ILI post OPD visit (within the last 14 days) was noted (Table 4). The follow up was completed for 929 patients.

Table 4
Table describing the details of the telephonic follow-up at day 14

	n
Patients for whom telephonic follow up attempted at day 14	957
Patients for whom telephonic follow up was completed at day 14	929
Influenza like illness symptoms developed between OPD visit and day 14	15
RT-PCR done within last 14 days	41
RT-PCR positive within last 14 days	1

Discussion

This study aimed to unravel the effectiveness of having a screening OPD for Influenza like illness screening during a pandemic situation before the patient reached the concerned department (2). The stress levels during the pandemic were high amongst the healthcare workers and a ILI Screening OPD also plays a role in allaying such fears (5). We attempted to mitigate these fears and also safeguard the health of the incoming patients by establishing a thermal screening and simple interview based ILI screening OPD (6, 7).

Out of the 1250 patients screened, 13 patients were screened out, details of their ILI symptoms noted and the necessary prescription regarding possible COVID-19 disease was provided. Of these only 3 had done the RT-PCR test as prescribed at day 14 of follow up, none of which were positive. Fever and cough were the commonest of the symptoms experienced by the patients who were screened as probable ILI. The social stigma associated was the major deterrent in them not following up with testing (8). This points us towards the importance of public awareness in such situations.

This pandemic has shown an unpredictable pattern as far the peaks and troughs are concerned, since the predicted models were inaccurate and the forecasts had failed, especially so, during the initial stages (9). The pandemic has had a debilitating effect on health status of patients with chronic illnesses who found it difficult to access healthcare services amidst the pandemic (10). Both the mortality and morbidity of chronic non-COVID disease increased during the initial lockdown (11). Thus, it is only prudent to continue the OPD services and add screening layers depending on the current position of the pandemic.

The problem of the lack of healthcare services during the pandemic has had its impact over many chronic diseases, be it ophthalmological, orthopaedic, dental services most of which have suggested a screening system for patients and better protective gear for healthcare providers (11–13)

This exercise which we conducted at the premier Institute of India was to ensure the safety of the medical healthcare workers and the patients, though the results were not encouraging in terms of the positivity rate, but it was a great learning experience for us. At the time that this exercise was conducted we were not at the peak and at the trough the positivity rate was low (2).

The fact that only one participant out of 957 screened, tested positive for COVID-19 further strengthened the evidence that it was prudent to resume the out-patient services. Our logistics helped in controlling the apprehensions of both the healthcare worker and consumer during this pandemic.

Conclusion

So, we can conclude that in a resource limited country such as India it is astute to restart the OPD services in the pre-existing setup using basic precautions and a verbal questionnaire during the slope of the pandemic. Although, this is an outstretched conclusion of the present study, we are only learning as the nature of the pandemic changes, and we upgrade our defences in doing so.

Abbreviations

1. COVID-19 - coronavirus disease of 2019.
2. ILI- Influenza like illness
3. OPD-Outpatient department
4. RT-PCR- reverse transcription Polymerase Chain reaction
5. PPE- Personal Protective Equipment

Declarations

Authors Contributions

RS, AK, RK, NW helped in design of the work; BM, KF helped in the acquisition, analysis, BM, KF, AK, RK,NW Contributed in interpretation of data; BM, AK,RS,RK,NW drafted the work and substantively revised it

All authors have approved the submitted version. and have agreed both to be personally accountable for the author's own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature.

Ethics approval and consent to participate

Institute ethics committee at AIIMS, New Delhi (IECPG-464/23.09.2020)

Consent for publicationNA

Availability of data and materials

The datasets during and/or analysed during the current study available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests

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Figures

Fig 1: Pie chart depicting the share of OPD patients (total n=957) according to the departments visited at the New Rajkumari OPD at AIIMS, New Delhi.

Figure 1

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Fig 2: Flow chart depicting the movement of patients through the screening OPD

Figure 2

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