

Changes in Clinical Practice in Physiotherapy as Repercussions of COVID-19 Pandemic

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ABSTRACT

Background: World Health Organization declared COVID-19 a pandemic. This led to change in the health care facilities and steps were taken to make the system safe. Physiotherapy profession faced many challenges to provide clinical care to patients and making their setup safe. This study aimed to view how this pandemic had changed physiotherapy clinical practices in Ahmedabad.

Method: An observational study was conducted among 52 physiotherapists who owned or worked in private clinics. They were asked to fill a self-developed questionnaire containing 20 questions on the clinical setup, Tele-rehabilitation, Therapist and patient related question. Statistical analysis was done using Microsoft Excel2013.

Results: After COVID-19 there is a decrease in the number of patients visiting clinics for treatment. The patients were apprehensive about clinical visit. There was decrease in income. There is increase in number of cases of Tele-rehabilitation with increase in the cost of video conference software. There is increase in cost of protective equipment and sanitization of clinics, used to protect patients and therapist. There was fear among the therapist of being infected from virus and both patients and therapist suffered from anxiety, depression, stress.

Conclusion: After COVID-19 pandemic physiotherapy clinical practice experienced many challenges. There is decrease in number of patients and average time spent on each patient. There is increase in use of tele-rehabilitation, cost for protective equipment and software technology. Therapist spent long time working in PPE kit and had fear of getting infected thus experiencing anxiety, stress, pain, and fatigue.

Keywords: Clinical practice, physiotherapy, covid-19 pandemic

INTRODUCTION

On March 11th, the World Health Organization (WHO) declared COVID-19 which is caused by severe acute respiratory syndrome coronavirus-2 (SARS-COV-2) as a pandemic ^[1]. In this scenario most countries all over the world faced lockdown of the most severe form and were deprived from the basic health care services for a long period of time. India is one of the most severely affected by the COVID-19 pandemic. It is the second worst country affected due to the virus after the USA. Till date, more than 10 million people and counting are infected with coronavirus ^[2].

The healthcare facilities all over the world have faced serious consequences due to this pandemic. There is a fear in the community of being infected by the virus following visit to hospital or any health care service institution. This has affected the medical, paramedical and dentistry fields for maintaining their business and work in the recent times when they faced challenge to make an environment that is free from contamination and safe for their patients. The physical therapy profession has been severely affected by the crisis as well. In this global crisis, physical therapy all over the world is being challenged to maintain its

professional clinical activities in primary and secondary care in private clinics and public health system [1]. Part of the challenge is to continue to provide necessary clinical care in a safe manner, for physical therapists, patients, and the community, by following the general recommendations of the WHO. The challenge faced by therapists all over the world is to run their clinical setup with proper equipment and to respect the guidelines provided by WHO to preserve "quality of life". The risk of getting infected from the virus has discouraged the community to look after their need for acute care [3]. Social distancing and the interruption of physical therapy activities can have a tremendous negative impact on the health of thousands of patients [1]. Due to COVID-19, many changes are seen in Physical therapy practices and clinical setup. This leads to many new challenges which need to overcome and has affected the profession overall creating difficulties for patients and therapist.

Physical therapist interventions remain fundamental for the health of our communities and should not be avoided as a general rule. Therapeutic strategies may be adapted to reduce physical contact to a minimum while providing therapeutic benefit and new digital strategies may become more widespread, but caution should be taken to ensure the quality of the intervention provided. All necessary precautions should be taken to reduce the likelihood of infection for both practitioner and patient.

This has also give rise to Tele-medicine or Tele-rehabilitation, to provide service in safe and secure manner with the help of technology available in this time. Digital practice is a term used to describe health care services, support, and information provided remotely via digital communication and devices. The purpose of digital physical therapy practice is to facilitate effective delivery of physical therapy services by improving access to care

and information and managing health care resources [4].

Studies about how COVID 19 has affected the private practice of physiotherapists are few especially in India. The aim of this study, is to find out problems that are being faced in current clinical setup and how it affects the profession. The study also aims to compare the changes with the situation before Pandemic and how it affects the profession.

METHOD

An observational study was conducted in the city of Ahmedabad, where 52 physiotherapists of private clinics participated in the survey. The inclusion criteria were, holding degree of physiotherapy and having minimum 1 year of clinical practice experience before January 2019. All the participants were above 22 years of age. Both male and female therapist took part in the survey and the candidate either worked or had their own private clinics. Physiotherapists working in any clinic which is funded and run under name of government or educational institution, NGO's were excluded. Also, any physiotherapist working as a part time or full time professor, staff or teaching faculty in any educational institution were excluded.

The questionnaire was self-developed with 20 questions. The questions were divided into 4 parts. Questions related to clinical setup, question regarding Tele-rehabilitation, therapist related question and patients related question. They were multiple choices, close ended questions. A pilot study was conducted among five physiotherapists who had minimum 5 years of clinical experience in private clinics. Suggestions made by them which had significance in the clinical practice after COVID-19 pandemic were implemented in the questioner. The eligible participants were explained about the study and the consent of participation was taken at the beginning of the survey. The survey forms were available as paper based forms and

were given hand to hand. The participants were asked to fill the survey form, which was later collected.

Statistical analysis: The data obtained was presented in graphs using Microsoft Excel [version 2013].

RESULTS

52 participants completed the survey. There were 43 females and 9 males. Mean age in years of the participants was 26.91 ± 4.51 year. Mean clinical experience in years of the participants was 3.887 ± 4.21 year.

Clinical setup related

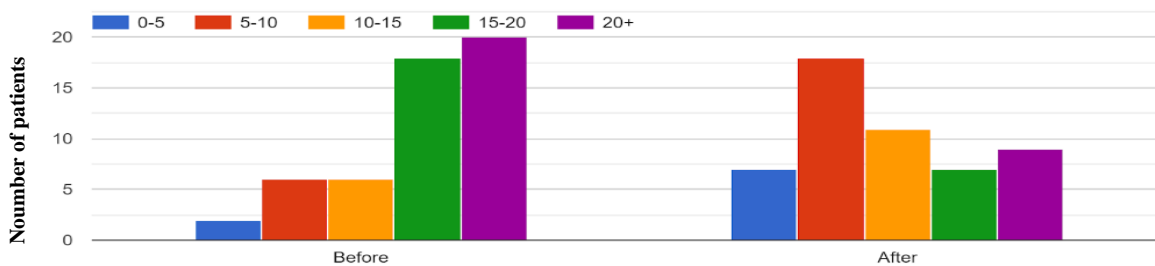


Figure 1: Average number of patients before and after COVID-19

Average number of patients before and after COVID-19 is shown in figure 1.

Average time spent for treatment by a therapist on a single patient after COVID-19 is shown in table 1.

Table 1: Average time spent for treatment by a therapist on a single patient

Time spent on a single patient	Number of therapists
0-30mins	5 - [9.6%]
30min - 1 hr	36 - [69.2%]
1hr - 1:30 hrs	8 - [15.4%]
1:30hrs - 2hr	3 - [5.8%]

61.5% of therapist reported change in the time period for physiotherapy treatment after COVID-19 pandemic. 58% participants suggested that there has been a decrease in average time and 42% has increase in average time spent on a single patient in a day. The change in time spent with each patient is shown in Figure 2.

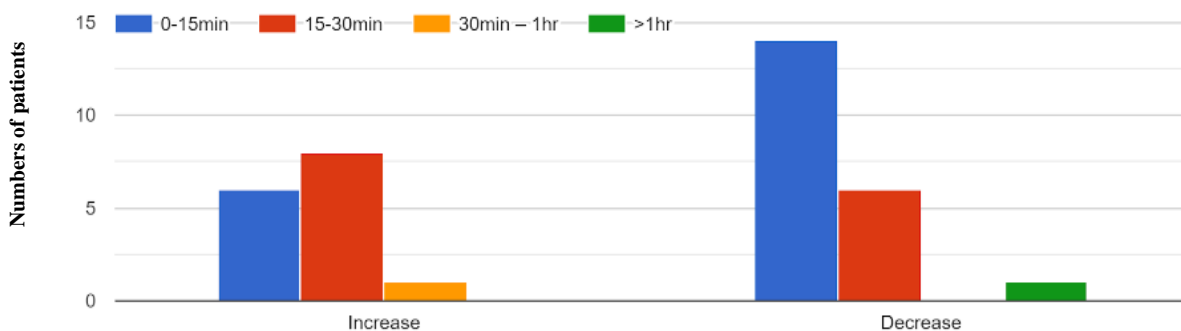


Figure 2: Change in time spent with each patient

The change in healthcare policies adopted by clinics due to COVID 19 is shown in figure 3.

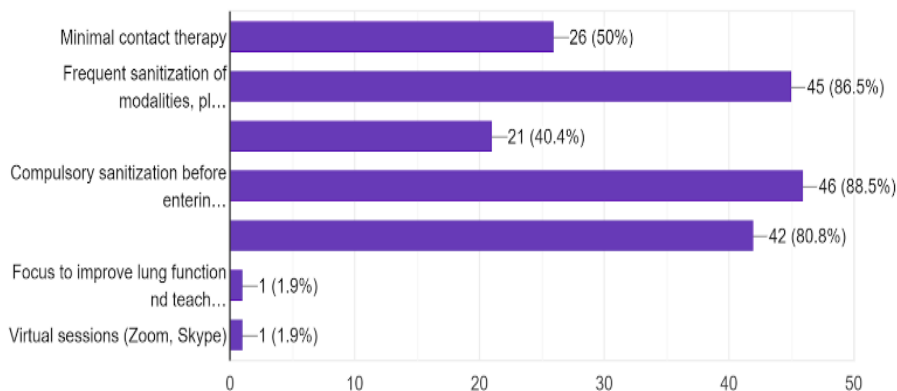


Figure 3: Change in healthcare policies adopted by clinics due to COVID 19

Figure 4 shows the challenges faced by practitioners in maintaining guidelines of social distancing.

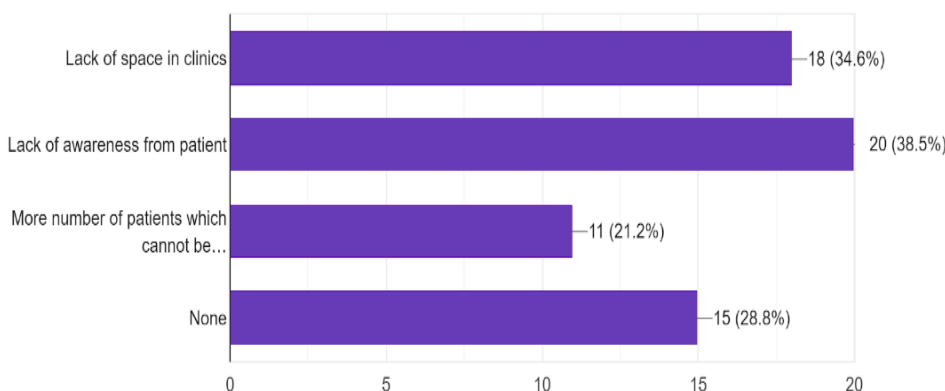


Figure 4: The challenges faced by practitioners in maintaining guidelines of social distancing.

Table 2 shows the financial effect of COVID-19, shows there is decrease in income is 84.6%.

Table 2: Financial effect COVID-19

Change in Income	Number of therapist
No change	5 - [9.6%]
Decrease in income	44 - [84.6%]
Increase in cost of equipment's	2 - [8.3%]
Increase in income	1 - [1.9%]

Tele-Rehabilitation

Table 3: Mode of Tele-rehabilitation used

Mode of Tele-rehabilitation used	Number of therapist
What's, app video calling	37 - [71.2%]
Zoom meeting	32 - [61.5%]
Google meet	13 - [25%]
Private video conference software	4 - [7.7%]
None	5 - [9.6%]

About 94% of total participants knew about tele-rehabilitation. Mode of Tele-rehabilitation used is shown in table 3.

Cost for video conference software before and after COVID-19.

Before COVID-19 pandemic 90% participants had cost between 0-2000. After COVID-19, 63% of participants has cost between 0-2000 and 37% participants reported increase in cost from 2000 to 6000.

Therapist related

38 - [73.1%] therapist had a change in the preference of patients who need treatment on a daily basis after COVID-19. 14 - [26.9%] did not have a change in the

preference of patients who need treatment on the daily basis.

equipment was changed during the day is shown in table 4.

The amount of time spent wearing PPE kit and number of times protective

Table 4: Amount of time spent wearing PPE kit and Number of times protective equipment changes during the day

Amount of time spent wearing PPE kit	No of therapists	Number of times protective equipment changes	No of therapists
0-30 min	16 - [30.8%]	0-1	11 - [21.2%]
30min - 1hr	8 - [15.4%]	1-2	19 - [36.5%]
1hr - 1:30 hr.	4 - [7.7%]	2-3	10 - [19.2%]
1:30 hrs. - 2 hrs.	4 - [7.7%]	3-4	7 - [13.5%]
More than 2 hrs.	20 - [38.5%]	4-5	3 - [5.8%]
		>5	2 - [3.9%]

Number of therapist's who had fear of getting infected from COVID-19 by patient contact in recent clinical practice is shown in table 5.

Table 5: Number of therapist's who had fear of getting infected from COVID-19

Fear of being infected	Number of therapist
Always	14 - [26.9%]
Somewhat more	19 - [36.5%]
Somewhat less	11 - [21.1%]
Negligible	4 - [7.7%]
Never	4 - [7.7%]

The mental and physical effects of the COVID-19 in physical therapy practice experienced by practitioners are shown in figure 5.

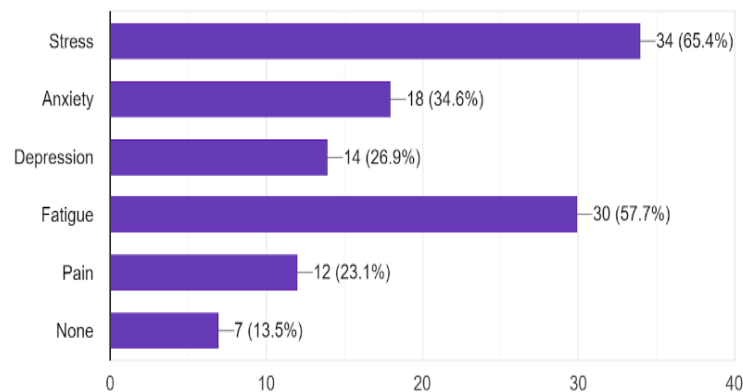


Figure 5: Mental and physical effects of the COVID-19 in physical therapy practice experienced by practitioners

Patients Related

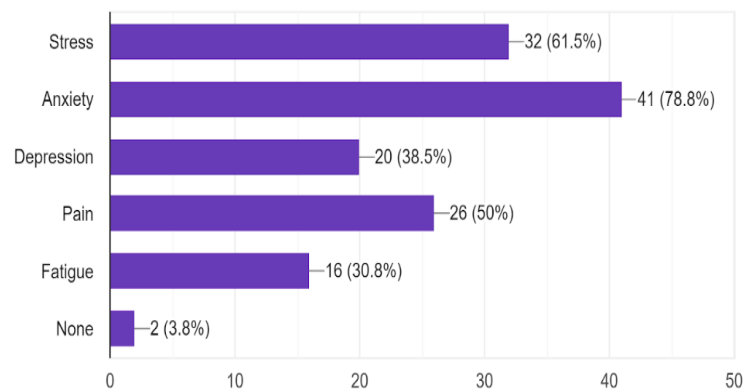


Figure 6: Mental and physical effects of the COVID-19 in physical therapy practice experienced by practitioners

Response of patient towards clinical practice after COVID-19. 65.4% of the participants reported that patients are apprehensive towards clinical visits and 34.6% are found to be neutral.

Mental and Physical effects of COVID-19 experience by patients seen in clinical practices are shown in the figure.

DISCUSSION

In the survey it was found that there is decrease in the average number of patients that visits the clinics after COVID-19 pandemic as compared to the time before. The use of digital health service or Tele-rehabilitation has seemed to surge after COVID-19 pandemic and there is increase in number of cases of tele-rehabilitation as compared before pandemic. There was increase in the cost of video conference software use for tele-rehabilitation and also face few challenge in maintaining quality of rehabilitation in tele-rehabilitation. Due to COVID-19 the physiotherapist have faced many new challenges to maintain quality of healthcare service with maintaining safety. There was an increase in cost of running clinics in the form of protective equipment that are used to provide safety from corona virus, The therapist spend long time wearing PPE kit and also subject to fear of being infected from virus as well as affecting mental and physical health such as stress, anxiety, depression, pain and fatigue after COVID-19 pandemic due to working in this environment. The patients were found to be apprehensive towards clinical treatment and also seemed to experience mental and physical effects such as stress, anxiety, depression, pain and fatigue after COVID-19 pandemic.

In the present study the participants recorded decrease in average number of patients treated in the clinics per day. [85%] of the therapist also recorded decrease in income. This was also seen in study by Alpalhao [3]. The average time spent for the treatment of a single patient was 30 minutes to 1 hour. After COVID-19 pandemic there was change in the time period of the

treatment in the clinical practice, there were both increase and decrease in the time period but maximum participants reported decreased time period of the treatment up to 30 minutes. Similar results were seen in study by Bizzoca [5]. They also recorded a decrease in treatment time of patients in dentistry.

The present study concluded that because COVID-19 was a highly infectious disease many changes were adopted by the clinics for maintaining hygiene and health of both physiotherapist and the patients. The changes in the healthcare policies adopted were, minimal contact therapy [50%], frequent sanitization of the equipment [86.5%], compulsory sanitization before entering into the clinics [88.5%], body temperature below safety level [81%] and more focus towards home programs [40%]. The study in past suggested that, SARS-CoV-2 is highly contagious, and wide distribution of vaccine to the general public or effective treatment is still not available. So, the best solution for controlling the pandemic will be the simultaneous application of preventive method [6]. This was seen to be done in present study.

Amid COVID-19 pandemic the “social distancing” guidelines given by WHO, are important to prevent spread of infection. In the present study, the challenges faced by the clinics for maintaining guidelines of social distancing were, lack of space in the clinics [35%], lack of awareness from the patients [39%] and more number of patients which cannot be managed [21%]. Person-to-person spread of SARS-CoV-2 is supposed to occur mainly via respiratory droplets, when a patient coughs, sneezes, or even talks or sings. Droplets typically cannot traverse more than six feet (almost two meters) and remain in the air for a limited time [6]. This needs distance to be maintained between patients and less number of patients being treated at a time as seen in present study.

In the present study, 94% of participants were aware of term tele-rehabilitation. As compared to the situation

before COVID-19 there was significant increase in the number tele-rehabilitation cases each day. From a rise of 0-5 cases before COVID-19 to 5-20 cases each day after COVID-19 was seen. The most common platform used for tele-rehabilitation was, what's App video calling [71%], zoom meeting [61.5%], Google meet [25%] and private video conference software [8%]. Thus this increase in cases of tele-rehabilitation has led to increase in cost of video conference software use for tele-rehabilitation. A previous study by Lee Alain C, concluded that. In light of COVID-19, it is clear that digital practice is a transformation in physical therapist practice, in which communication-based services (e-visits, virtual check-ins) beyond telehealth, tele-rehabilitation, and telemedicine are added to increase remote access to care while preserving scarce resources, including personal protective equipment [7] which is also seen in present study.

In the present study the limitations seen for practicing Tele-Rehabilitation is, lack of technical knowledge with patients [50%], lack of good internet connection [63.5%], lack of good video quality [50%], lack of physical testing [65%], Motivation of patients [29%]. Similar limitations was also seen in previous study [1]. In addition the challenges of maintaining quality of rehabilitation in Tele-Rehabilitation are Hands on therapy cannot be given [58%], due to less contact quality of treatment is compromised [48%], less time given to each patient [11.5%].

In the present study, there was increase in the cost for the patient protection or clinical hygiene after COVID-19 pandemic for PPE kit, gloves, face mask, sanitization, plinths cover. The maximum numbers of practitioner [69%] were reported to be wearing PPE kit for 30 minutes to more than 2 hours. Most of them [79%] change their protective equipment 2 or more times in a day in their practice or duty hours. Similar results were suggested in the study by Chersich et al [8].

The practitioners in the present study reported stress [65%], anxiety [35%], depression [27%], pain [23%] and fatigue [58%] in their clinical work after COVID-19 pandemic. This has also been seen in previous study by Braquehais et al [9]. Same sign of distress were reported in the patients and therapist in the clinical practice after COVID-19 pandemic. In the survey 63.5% participants had fear of being infected from the COVID-19 during their clinical practices. 65.4% of the patients reported to be apprehensive towards the clinical treatment due to danger of spread of infection to them. Similar fear of getting and spreading infection were seen in study by Lotfi [6].

This study to know the impact of COVID-19 on the healthcare facilities was necessary particular in a field like physiotherapy here close and long contact is very much required to provide adequate treatment to the patients of all age. This pandemic has brought major changes and challenges to the field and put the healthcare system into the test of its ability to manage the infection while maintaining the quality of treatment.

Limitation of the study was, a self-developed questioner was used with no objective scales used. Further study can be done using, Covid Anxiety Scale (CAS), fear of COVID-19 scales.

CONCLUSION

The pandemic has brought many changes in the physiotherapy clinical practice. There are decreases in clinical visits of the patients but a significant surge in the case of Tele-rehabilitation suggesting entering into new era of Tele-visit. The cost of infection control in the forms of sanitization or protective equipment has increased. The therapists spend much time working in PPE kit and need to change it several times a day. There has been fear in patients towards clinical visits.

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