



PHYSICAL THERAPY KNOWLEDGE AMONG BPT STUDENTS DURING COVID-19

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Coronavirus disease, often known as COVID-19, is a severe acute respiratory syndrome. SARS coronavirus 2 is the cause of COVID-19 [Yuki, K., *et. al.*, 2020]. It is connected to the RNA viruses that can infect humans and birds and cause sickness. The nucleocapsid of the virus is shaped like a crown, and it is positive stranded RNA. A lipid bilayer serves as the covering and has helical symmetry [He, F., *et. al.*, 2020]. The genomic size of virus ranges between 26 and 32 kilo bases, and RNA viruses are one of the largest. The virus has spikes that resemble clubs and stick out from the surface creates a solar corona appearance in electron micrographs that is obtained from coronavirus name [Hassan, S. A., *et. al.*, 2020]. The virus usual diameter is 75-115 nm, although it can reach extremes sizes of 60-220 nm [Orenstein, J. M., *et. al.*, 2008]. As of October 5, 2020, there were more than 8.3 million cases worldwide and more than 140,000 fatalities. In absolute terms, India has seen more than 102,600 fatalities. On January 30, 2020, the WHO Emergency Committee declared a global health emergency [Chen, P., *et. al.*, 2020]. The Italian government has taken efforts to limit large crowds of people or public events on the entire nation in March 2020. Italy was the second-most negatively impacted nation overall at the end of March 2020 [Di Renzo, L., *et. al.*, 2020]. The initial patient of the COVID-19 was spotted in Thrissur, Alappuzha, and Kasaragod from Wuhan, three medical students arrived [Kuppalli, K., *et. al.*, 2021].

At the Huanan seafood market in December 2019, it seemed to be spreading from animals to people. This epidemic quickly travelled from China to another country, first affecting Wuhan city [Salari, N., *et. al.*, 2020]. The method employed in the suspected patient is an oropharyngeal or nasopharyngeal swab is used for testing by RT-PCR procedure [Zheng, K. I., *et. al.*, 2020].

The COVID-19 is divided into five categories based on the signs and symptoms of the underlying disease, and its incubation time ranges from 2 to 14 days [Zheng, K. I., *et. al.*, 2020]. Common COVID-19 symptoms include respiratory sickness, fever, and cough or the most typical COVID-19 symptoms are tiredness. Fever is now most common symptom was present in certain COVID-19 individuals, but not all of them. There is a fever less common

indications indicating the disease is spreading were also a warning sign. Less common symptoms such as myalgia, indigestion, and sore throat [Hagemann, J., *et. al.*, 2021]. On March 23, 2020 Kerala was put under lockdown. On March 25, 2020, the entire nation was shuttered including the schools, day care facilities, and outdoor amenities like playgrounds closures [McDowell, C. P., *et. al.*, 2020].

Everyone in a community is greatly impacted by psychological issues, and long-term loneliness can result in mental disturbances [Shevlin, M., *et. al.*, 2020]. Fear of the infection among the population may result in psychological dysfunction [Brooks, S. K., *et. al.*, 2020].

In fact, the pandemic caused a significant frequency of mental health conditions in the general population, including acute stress, post-traumatic stress disorder, anxiety, depression, irritability, sleeplessness, and impaired concentration [Brooks, S. K., *et. al.*, 2020; Gualano, M. R., *et. al.*, 2020]. Specifically, the COVID-19 epidemic had a profound effect on mental health [Xiong, J., *et. al.*, 2020; Salari, N., *et. al.*, 2020]. In Asia and Europe, anxiety and depression are more prevalent than usual due to the pandemic, with prevalence rates of 32.9 and 35.3 percent in Asia and 23.8 and 32.4 percent in Europe [Salari, N., *et. al.*, 2020]. Anxiety and depression are approximately twice as common in the student cohort as they are in the overall population [Savage, M. J., *et. al.*, 2020; Husky, M. M., *et. al.*, 2020; Kaparounaki, C. K., *et. al.*, 2020].

It also affected how people behaved in terms of their health, as well as how they lost their jobs or ran into financial difficulties as a result of COVID-19 [Shevlin, M., *et. al.*, 2020]. During the lockdown, residents experienced difficulties with the mind, body, politics, society, and economy, such as sadness and anxiety, mental illness, sleep issues, obsessive-compulsive, interpersonal awareness, rage, and paranoid thoughts [McDowell, C. P., *et. al.*, 2020]. The government may increase isolation as a result of this epidemic, which might cause stress or the inclination to overeating [Kumari, A., *et. al.*, 2020]. As well as being housebound or dealing with disruptions to everyday activities throughout the period of isolation. The habit of sleeping or the quality of your sleep may vary as a result of changes in your daily activity schedule. The findings of this pandemic's research indicate that people's dietary habits and daily activities altered [Kumari, A., *et. al.*, 2020]. When the government works to open our economies, the pandemic has unsettled the financials economic and stress levels, making recovery more difficult than it was before COVID-19 [McDowell, C. P., *et. al.*, 2020].

The psychological distress levels are linked to students' worries over their academic pursuits, both in terms of delays in obtaining their degrees [Cao, W., *et. al.*, 2020] and a feeling of isolation and loneliness as a result of being physically apart from their friends and partners in respect to the consequences of COVID-19 and its containment measures [Smith, B. J., *et. al.*, 2020; Odriozola-González, P., *et. al.*, 2020]. COVID-19 has undoubtedly had a significant influence on students, teachers, and educational organisations throughout the world, just like many other areas of daily life [Mailizar, A., *et. al.*, 2020]. Due to the epidemic, campuses at schools, colleges, and institutions throughout the world were forced to close so that students could adopt social distancing practices [Toquero, C. M., *et. al.*, 2020]. It took time for the traditional educational environment to transition to remote and virtual learning. This quick transformation is associated to a number of difficulties and problems

[Crawford, J., *et. al.*, 2020]. Students that learn best through touch cannot benefit from virtual education. A significant component of traditional classroom socialising that is absent from online learning. Since students never interact in person with one another and only communicate digitally, there is a limited real-time exchange of ideas, information, and knowledge is lacking from the realm of digital learning [Britt, R., *et. al.*, 2006]. The biggest benefits of online learning were the ease of access to educational resources and the freedom to select the time and location for study. While remote access is particularly crucial during the COVID-19 epidemic, it can help lower the cost of housing and travelling in other contexts [Stain, S. C., *et. al.*, 2005; Amesse, L. S., *et. al.*, 2008]. Online learning facilitates timely delivery of standardised resources to students, and if updated, necessary. [Zehry, K., *et. al.*, 2011] Students may get content via two alternative strategies: instructor-led and self-directed learning. E-Learning that is self-directed enables the student to control his independent action [Peine, A., *et. al.*, 2016].

Effective communication skills, theoretical and conceptual knowledge, and clinical abilities including manual and instrumental skills are all required for physical therapist professional education programmes [Gardner, P., *et. al.*, 2016]. Physical therapy programmes, for instance, faced new obstacles as a result of the shift to remote learning. Since physical therapy is a hands-on profession skill [Plummer, L., *et. al.*, 2021], student acquisition of patient assessment and treatment skill necessitates a significant amount of face-to-face training [Gaida, J., *et. al.*, 2016; Volansky, K. J., *et. al.*, 2019]. Like many health sciences courses, the education of physical therapists also includes an internship in the clinical setting. The idea of guided practise in the medical field falls under one of the defining characteristics of physical therapy education. Classroom learning does not start to make sense until the physical therapy student applies their knowledge and skills in the healthcare setting and the student interacts with the practise community in the clinical setting [Plack, M. M., *et. al.*, 2008]. The pandemic, however, compelled physical therapy students to leave their classrooms and clinical sites as a result of healthcare facilities restrictions on non-essential staff [Plummer, L., *et. al.*, 2021]. Face-to-face learning was associated with the capacity for prompt peer and tutor feedback as well as the availability of peers for practise. Practical helped to consolidate theory knowledge and were challenging to learn from videos. Students found it challenging to translate written and oral instructional videos into practical skill. It is quite difficult to watch a video and perform a skill [Ng, L., *et. al.*, 2021]. Online materials can be used as support material, but they should not be the main source of learning when developing practical skills [Rossetini, G., *et. al.*, 2021]. Assimilation of the values, attitudes, and abilities that make up professional practise would be necessary for students to learn in clinical settings. They would also need to learn how to navigate complex and ambiguous learning situations in hierarchical clinical settings, where they would encounter situations like: Patients impairment, manual skill development, not entirely applicable via eLearning [Jarski, R. W., *et. al.*, 1990; Higgs, J., *et. al.*, 2002; Molloy, E., *et. al.*, 2005].

METHODOLOGY

STUDY DESIGN: A survey study

SAMPLE SIZE: A random collection of 398 BPT students was taken from Haryana state.

SELECTION CRITERIA

Inclusion Criteria

First, second, third and final year BPT students of Haryana.

Exclusion Criteria

BPT students outside the state of Haryana.

Physiotherapy students doing internship.

PROTOCOL

In this study 398 BPT students were included according to the inclusion and exclusion criteria with consent, from all the subjects to fill the questionnaire. Data collection was done within 3 months. The questionnaire was distributed, via Google Forms to BPT students of Haryana state on WhatsApp. The questionnaire could only be filled out by each student for once. All respondents were fully aware of the study's goals and gave their consent to participate willingly. 398 students in all took part in the study. Thus, the data was collected.

PROCEDURE:

The universities and colleges of physiotherapy were contacted for data collecting. The necessary student consent was obtained. The questionnaire was distributed, via Google Forms to BPT students of Haryana state on WhatsApp. The questionnaire was accessed online from 4th April to 17th June. The questionnaire could only be filled out by each student for once. In the first part of the survey, students were asked to enter their demographic details (age, gender, year of study). In the 2nd part students were asked about their attitude regarding digital education. In the 3rd part, students were required to compare the capacity to grasp learning objectives between face-to-face and online learning (knowledge and clinical skills); students were questioned on their preferred method of teaching. 398 adult participants participated in this survey study, which was done in Haryana. Thus, the data was collected.

Data Analysis

Demographic data is presented in frequency and percentage. Further data was classified according to year in BPT along with frequency and percentages. A chi-squared test, also written as χ^2 test was used to check association between variables with p-value. Pearson's chi-squared test is used to determine whether there is a statistically significant difference between the expected frequencies and the observed frequencies in one or more categories of a contingency table. Chi-square test statistic is

$$\chi^2 = \sum_{i=1}^n \frac{(O_i - E_i)^2}{E_i}$$

Where O_i and E_i are the observed and expected values, respectively. Percentage (p) is calculated as

$$p = \frac{x}{n} \times 100$$

Where x: given quantity

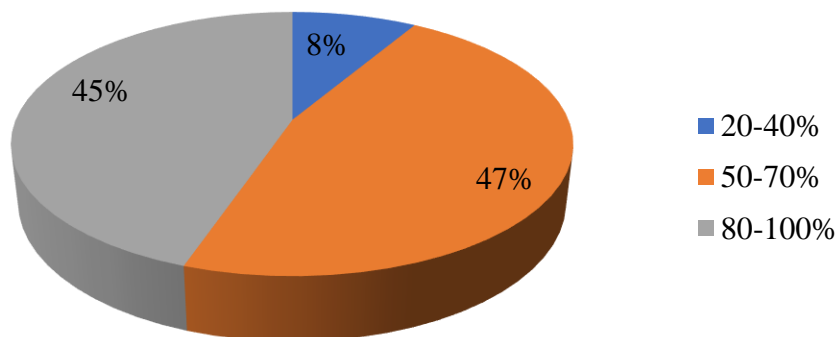
n=total Sample

p=percentage of quantity compared to total

Table No. 1.1 showing how much confident BPT students feel in treating patients immediately after graduation.

		Year				Total	Chi-Square	p-value
		BPT 1st year	BPT 2nd year	BPT 3rd year	BPT 4th year			
How much confident do you feel in treating patients immediately after graduation?	20-40%	7	9	6	9	31	5.848	.440
		6.5%	9.3%	9.1%	9.9%	8.6%		
	50-70%	43	46	32	48	169		
		39.8%	47.4%	48.5%	52.7%	46.7%		
	80-100%	58	42	28	34	162		
		53.7%	43.3%	42.4%	37.4%	44.8%		
Total		108	97	66	91	362		
		100.0%	100.0%	100.0%	100.0%	100.0%		

How much confident do you feel in treating patients immediately after graduation?



Graph 5.27: Pie chart showing how much confident BPT students feel in treating patients immediately after graduation.

Interpretation: Table 5.27 shows how much confident BPT students feel in treating patients immediately after graduation. 169 (46.7%) students feels 50-70% of confidence in treating patients immediately after graduation. 44.8% students feels 80-100% of confidence in treating patients immediately after graduation. 8.6% students feels 20-40% of confidence in treating patients immediately after graduation. BPT students feels 50-70% of confidence

are BPT 4th year (52.7%) followed by BPT 3rd year (48.5%) then BPT 2nd year (47.4%) and BPT 1st year (39.8%).

The pie chart shows how much confident BPT students feel in treating patients immediately after graduation.

Discussion

Many studies have been done sought to discover more about how college students perceived online learning during the COVID-19 epidemic. The purpose of present research was to determine the Physical therapy knowledge among BPT students during COVID-19. Adnan M. *et al*, 2020; conducted a study that investigates how students feel about mandatory distance learning and digital university courses in the context of the coronavirus (COVID-19). From their study, they concluded that the great majority is for classroom interaction. Students lack internet connection owing to technical and financial difficulties, online learning could not provide the intended outcomes. Other difficulties raised by college students were the instructor's lack of face-to-face engagement, response times, and the lack of typical students voted against the idea of successfully finishing whole courses using online learning. In a study comparing the efficacy of traditional and online learning, students said that in-person interactions with instructors were necessary for successful learning, which are absent from distance learning.

Saurabh M. K. *et al*, 2021; conducted a study to evaluate students' perceptions of online education throughout the COVID-19 period. Undergraduate medical students participated in this descriptive cross-sectional questionnaire survey. They concluded that distractions could occur while studying online at home, network accessibility issues, connectivity issues, a lack of audio and video synchronisation, and auditory disruption.

This study confirms the current study's findings that more than half of students say they prefer learning in a traditional classroom setting because it encourages better teacher-student interactions, stimulates understanding, offers a distraction-free environment, allows for an appropriate pace of learning, and promotes interactivity and independence from technology.

Highly significant difference was observed in attending online classes among BPT students. Significant difference was observed among BPT students in putting hand up and ask a question on a screen than it to do in a lecture. Highly significant difference was observed in paying full attention during online classes among BPT students. Significant difference of confidence among BPT students while treating patients during clinical training was seen.

Students encountered several difficulties, including limited access to online resources, improper connection and communication with classmates and teachers, and inadequate technology. The majority of students find it difficult to learn online because they lack access to fast or stable internet connections. Additional difficulties experienced by students, such as a lack of campus interaction and problems with group study were also identified by the research. Participants in this survey also stated that traditional classroom instruction was more efficient than online or distant learning. The majority of students answered that entire course cannot be completed online. According to this survey, 58% of students said they were competent to use a laptop or computer for online classes. 74% of students voted against the idea of successfully finishing whole courses using online learning. 90 percent

of students said that in-person interactions with instructors were necessary for successful learning, which are absent from online learning. Students feel anxious, stressed and worried during eLearning. Most students do not pay full attention during online class. Students find face-to-face learning irreplaceable.

Most students get only 20-40% of knowledge from eLearning. Most students only learn 20-40% from online classes and apply it to patients practically. Most students feel 50-70% of confidence while treating patients during clinical training, treating private patients and treating patients immediately after graduation.

The findings of this study also suggested that educational institutions needed to update their curricula and provide relevant online lecture content.

CONCLUSION

Most students get only 20-40% of knowledge from eLearning. Most students only learn 20-40% from online classes and apply it to patients practically. Most students feel 50-70% of confidence while treating patients during clinical training, treating private patients and treating patients immediately after graduation.

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