



Knowledge And Attitude of Post-Covid Rehabilitation Among Undergraduate Physiotherapy Students.

Akshanda Dhumale^{1*}, T Poovishnu Devi²

Abstract

Background: To study the knowledge and attitude of post-covid rehabilitation among undergraduate physiotherapy students.

Methods: E-survey was done between the students of maharashtra. Online forms were sent across and 180 responses were recorded. A simple questionnaire was sent which had YES and NO questions to be answered. Total 10 questions were to be answered of which some were of attitude based and some of knowledge. Statistical analysis was done with the software instat. P value of answers in comparison with third year and final year was calculated.

Results: Out of 180, 138 final year students and 42 third year students answers were recorded. The results show that a good percentage of students are aware about the covid symptoms and have a positive attitude towards post covid rehabilitation. The survey concluded that 22% third year and 76 % final year students think post covid rehabilitation has a role to play in patients recovery. The p value was 0.0401 which is considered significant. 21% third years and 76% final years think that post covid rehabilitation can reduce post covid complications (p value= 0.0901). 21% third year and 76% final year students think physiotherapy is given for the patients in the ICU. This was considered significant with p value of 0.027. 23% third year and 73% final year think post covid rehabilitation improves functional status of life. The p value was considered not significant (1.0000).

Conclusion: This study concludes that the physiotherapy students are aware of the role of physiotherapy rehabilitation post covid and the the benefits for better quality of life.

KeyWords: knowledge, attitude, students, covid

DOI Number: 10.14704/nq.2022.20.11.NQ66004

NeuroQuantology2022; 20(11):36-40

Introduction

COVID-19 is the result of infection with severe acute respiratory syndrome coronavirus (SARS-CoV-2) that was first isolated and identified in China⁹. Evidence suggests that the organ most affected by COVID-19 is lungs with different pathophysiological events, including diffuse alveolar epithelium destruction, hyaline membrane formation, capillary damage and bleeding, alveolar septal fibrous proliferation, and pulmonary consolidation¹⁰. Patients often remain in a prone position for many hours, which can lead to post-ICU dysphagia, myopathy, muscle weakness, and neuropathy owing to critical illness, as well as reduced joint mobility, difficulty standing, pain in the neck and shoulders, and

impaired balance and gait, with consequent limitations in activities of daily living⁴. A systematic review on respiratory function in 380 patients with post-COVID-19 demonstrated that patients had altered respiratory function, and impaired diffusion capacity was observed in about 40% of patients at 1 to 3 months after discharge¹⁰. The longer a patient remains in the ICU, the greater the risk of long-term cognitive, physical and emotional complications⁴. Patients with SARS-CoV-2 infection may present symptoms ranging from mild to severe with a large portion of the population being asymptomatic carriers. The most common reported symptoms include fever (83%), cough (82%) and

Corresponding author: AkshandaDhumale

Address: ¹Student, Krishna college of Physiotherapy, ²Head of department, Associate Professor, Department of cardiopulmonary sciences, Krishna college of physiotherapy, Krishna institute of Medical sciences "Deemed to be University" Karad, Maharashtra, India



and shortness of breath (31%)⁸. Of these post-COVID-19 symptoms, fatigue (53.1%) and dyspnea (43.4%) were the most widely reported. The prevalence of these symptoms, also known as "Long COVID,"³. Early mobilization helps in improving muscle strength, promoting better mobility when the patient is discharged from the hospital and better quality of life outside of the hospital⁴. Findings showed a significant improvement in respiratory function, quality of life, and anxiety in a group of older patients who participated in the following respiratory rehabilitation program: respiratory muscle training, coughing exercises, diaphragmatic training, stretching exercises, and home exercises comprising two sessions per week for 6 weeks, once a day for 10 minutes⁴. Inspiratory muscle training has proved clinically meaningful improvements in dyspnea and quality of life in patients recovering from covid¹³. Resistance training can also be given, it increases the muscle mass and strength and thus improves the ability to perform functional activities. Resistance training along with aerobic training helps to maintain the physical performances¹¹.

Materials and Methodology

This was an e-survey done among the students of Maharashtra. The duration of the study was 6 months and sample size was 200 among which 180 responses were recorded. Inclusion: Third year and final year students of physiotherapy from Maharashtra. All genders were included in the study. Students who were willing to be a part of the survey were also included. Exclusion: First year, second year, interns and post graduates were excluded from the study. Physiotherapy practitioners were excluded from the study. Students outside Maharashtra were also excluded from the study.

Procedure

A cross sectional online survey was sent to physiotherapy students through google forms. Students who are studying third year and final year (Undergraduates) were included in the study. Physiotherapy students who are not willing to spare time for filling survey questionnaires, who do not have an account in social networking sites such as whatsapp and Instagram and who do not have smartphone were excluded from the web-based open E- survey. A series of questionnaire were created based on similar study on knowledge, attitude and physiotherapy roles in prevention and care of covid-19 by Ojo et al. (central African journal of public health 2020). The first section included series of demographic questions; later the understanding and knowledge about covid -19 was asked. Progressing ahead questions about physiotherapy techniques were asked. A total of 10 questions were asked excluding the demographic data. The questionnaire was approved with the consent of all department heads.

Statistical analysis

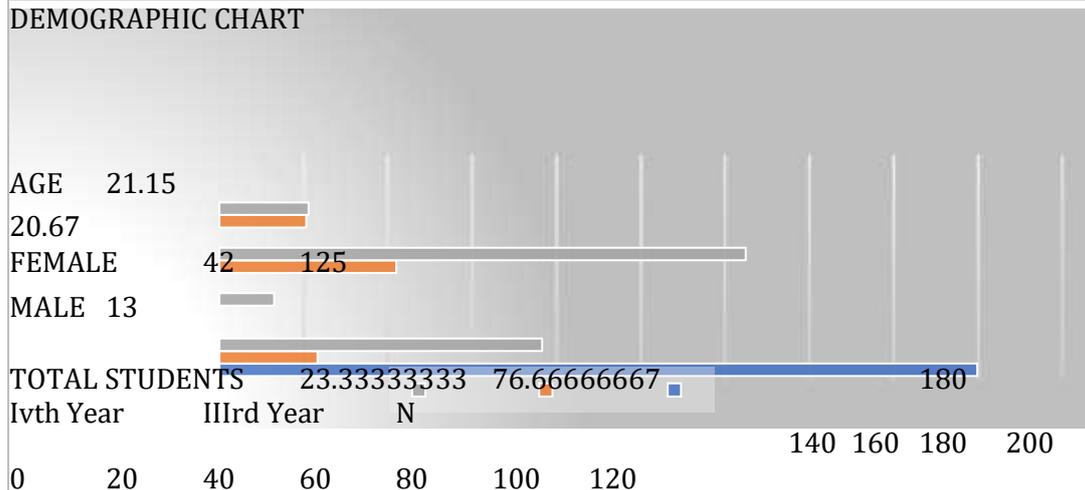
Statistical analysis of the recorded data was done by using the software InStat. P value of each answer were calculated. MS Excel was used for drawing various graphs with given frequencies and chi square test was used to compare results of 3rd year and 4th year students. Table no.1 shows the demographic values of the

Table 1

	N	IIIrd Year	Ivth Year
Total students	180	42	138
FEMALE	167	42	125
MALE	13	0	13
AGE	In years	20.67	21.15



Table 2: The first question asked was not in the YES OR no format. It was as follows

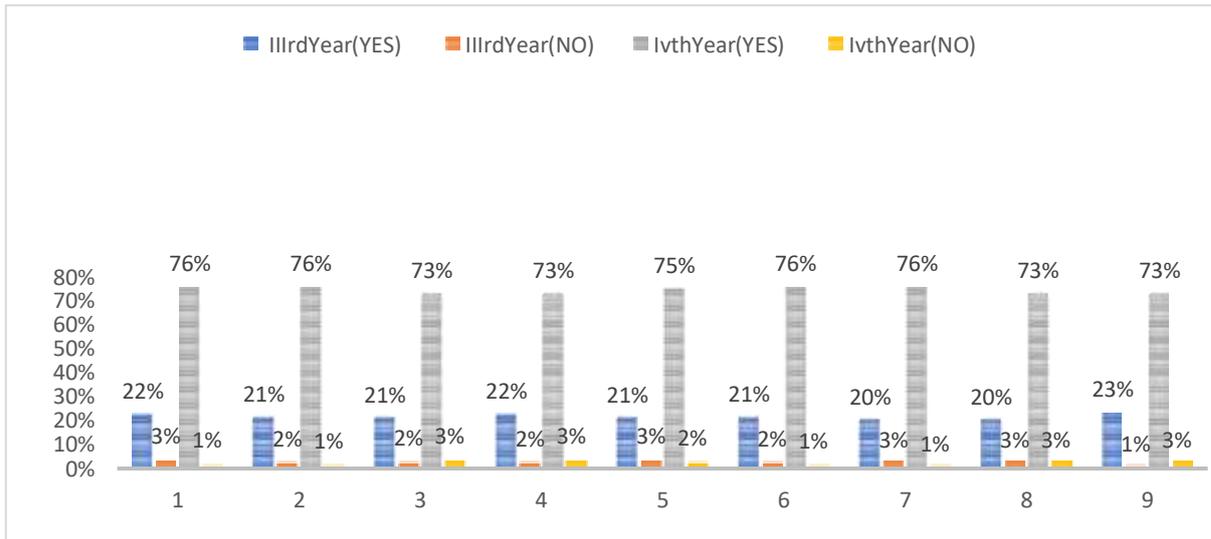


Questions	IIIrd Year		IVth Year		P vaue
	yes	no	yes	no	
1 Post covid rehabilitation has a role to play in patients recovery:	22%	3%	76%	1%	0.0401
2 Physiotherspy is given to patients in the ICU:	21%	2%	76%	1%	0.0272
3 Positioning helps in increasing oxygen saturation:	19%	4%	73%	3%	0.0133
4 Early mobilisation in covid is essential for quick recovery:	22%	2%	73%	3%	0.4375
5 Gedeatric age group are most prone to post covid complications:	21%	3%	75%	2%	0.0179
6 Post covid rehabilitation can educe post covid complications:	21%	2%	76%	1%	0.0109
7 Post covid rehabilitation improves quality of life:	20%	3%	76%	1%	0.0023
8 Bronchial hygeiene is improved by post covid rehabilitation:	20%	3%	73%	3%	0.0346
9 Post covid rehabilitation improves functional status of a person:	23%	1%	73%	3%	1.0000

Symtoms of covid 19 are: 1) dyspnea 2) cough 3) the above as answer whereas 6 % final years and 7 fatigue 4) All of the above % third years gave cough as an answer 73 % of final years and 19 % third years gave all of



Statistics With Reference To Table No. 2



Interpretation

Table 2 shows percentage and p value of the survey done for understanding the knowledge and attitude of the students in the third and final year. Out of 180, 138 final year students and 42 third year students answers were recorded. The survey concluded that 22% third year and 76% final year students think post covid rehabilitation has a role to play in patients recovery. The p value was considered significant(0.0401). 21% third year and 76% final year students think physiotherapy is given for the patients in the ICU. This is considered significant with a p value of 0.0272. 19% third year and 73% final year students think positioning helps in increasing the oxygen saturation. This was also considered to be significant p value(0.0133). 22% third year and 73% final year students think early mobilisation is essential in covid recovery. This was not considered to be a significant p value(0.4375). 21% third year and 75% final year students think that geriatric age group are most prone to post covid complications. The p value was considered significant(0.0179). 21% third year and 76% final years think that post covid rehabilitation can reduce post covid complications. This was considered to be significant p value(0.0109). 20% third years and 76% final year students think post covid rehabilitation improves quality of life. This is considered to be very significant p value(0.0023). 20% third years and 73% final year think that bronchial hygiene is improved by post covid rehabilitation. This is considered to be significant(0.0346). 23% third year and 73% final year students think post covid rehabilitation

improves functional status of life. the p value was considered not significant(1.0000)

Discussion

This study analyzed the knowledge and attitude of the third year and final year students on post covid rehabilitation. A positive response was noted by the E- survey. Different aspects of post covid rehabilitation were included in the questionnaire. Its very important to know the post covid rehabilitation techniques and this study aims on the knowledge the upcoming physiotherapists have on the topic. Questions relating to physiotherapy in the ICU, physiotherapy in geriatric age group, bronchial hygiene and quality of life were asked. Post covid rehabilitation has been proved to be very beneficial for the the patients who have been discharged from the hospital. Discharged patients often face the problems poor fitness, having breathing difficulties after exertion and muscle wasting⁴. The beneficial effects of inspiratory muscle training may be elicited through reductions in the neural respiratory drive and improvements in breathing patterns, which equalise previous imbalances between respiratory muscle loading and capacity¹³. Exercises have a positive impact on the lung capacity and the range of motion of the joints. It is important for people who can't travel, to exercise 5-7 days a week to reduce or avoid the psycho-physical complications promoting telerehabilitation. For critically ill patients after discharge rehabilitation include aerobic exercise, balance training, resistance and respiratory exercise².



Mbada CE et.al studied the percentage of physiotherapy students that were aware of the physiotherapy roles in the prevention and management of covid 19. 72.52 % people knew about importance of early mobilization in the study. In our study also 95 % people were aware about early mobilization. In their study 74.48% thought that bronchial hygiene is a part of covid rehabilitation. In the current study 93% students thought bronchial hygiene is improved by exercises. Positive responses were recorded from their study and our study as well. Several factors are responsible for shaping good attitude, awareness and knowledge about post covid rehabilitation. This study analyzed the knowledge and attitude of the student physiotherapist about the role of their own field and profession.

Conclusion

This study concludes that the physiotherapy students are aware of the role of physiotherapy rehabilitation post covid and the importance for better quality of life.

References

- Mbada CE, Onigbinde OA, Binuyo OT, Ademoyegun AB, Fatoye CT, Idowu OA, Ojoawo AO, Oke KI, Okafor UA, Ojukwu CP, Odole A. ASSESSMENT OF NIGERIAN PHYSIOTHERAPY STUDENTS' KNOWLEDGE, ATTITUDES AND AWARENESS OF PHYSIOTHERAPY ROLES IN THE PREVENTION AND MANAGEMENT OF COVID-19: A NATIONWIDE ONLINE SURVEY. *Journal of Physical Education & Health*. 2020 Nov 25;9(15):18-27.
- Agostini F, Mangone M, Pierangela RU, Paolucci T, Santilli V, Bernetti A. Rehabilitation settings during and after covid-19: an overview of recommendations. *Journal of rehabilitation medicine*. 2021;53(1).
- Iqbal A, Iqbal K, Ali SA, Azim D, Farid E, Baig MD, Arif TB, Raza M. The COVID-19 sequelae: a cross-sectional evaluation of post-recovery symptoms and the need for rehabilitation of COVID-19 survivors. *Cureus*. 2021 Feb 2;13(2).
- Demeco A, Marotta N, Barletta M, Pino I, Marinaro C, Petraroli A, Moggio L, Ammendolia A. Rehabilitation of patients post-COVID-19 infection: a literature review. *Journal of International Medical Research*. 2020 Aug;48(8):0300060520948382.
- Fernández-de-Las-Peñas C, Navarro-Santana M, Plaza-Manzano G, Palacios-Ceña D, Arendt-Nielsen L. Time course prevalence of post-COVID pain symptoms of musculoskeletal origin in patients who had survived severe acute respiratory syndrome coronavirus 2 infection: a systematic review and meta-analysis. *Pain*. 2022 Jul 1;163(7):1220-31.
- Alshahrani A, Gautam AP, Asiri F, Ahmad I, Alshahrani MS, Reddy RS, Alharbi MD, Alkhatami K, Alzahrani H, Alshehri YS, Alqhtani R. Knowledge, Attitude, and Practice among Physical Therapists toward COVID-19 in the Kingdom of Saudi Arabia—A Cross-Sectional Study. *InHealthcare* 2022 Jan 5 (Vol. 10, No. 1, p. 105). MDPI.
- Udina C, Ars J, Morandi A, Vilaró J, Cáceres C, Inzitari M. Rehabilitation in adult post-COVID-19 patients in post-acute care with therapeutic exercise. *The Journal of frailty & aging*. 2021 Jul;10(3):297-300.
- Marco Ciotti, Massimo Ciccozzi, Alessandro Terrinoni, Wen-Can Jiang, Cheng-Bin Wang & Sergio Bernardini (2020) The COVID-19 pandemic, *Critical Reviews in Clinical Laboratory Sciences*, 57:6, 365-388, DOI: 10.1080/10408363.2020.1783198
- Polastri M, Nava S, Clini E, Vitacca M, Gosselink R. COVID-19 and pulmonary rehabilitation: preparing for phase three. *European Respiratory Journal*. 2020 Jun 1;55(6).
- Chen H, Shi H, Liu X, Sun T, Wu J, Liu Z. Effect of pulmonary rehabilitation for patients with Post-COVID-19: a systematic review and meta-analysis. *Frontiers in Medicine*. 2022;9.
- Ahmadi Hekmatikar AH, Ferreira Júnior JB, Shahrbanian S, Suzuki K. Functional and Psychological changes after exercise training in post-COVID-19 patients discharged from the hospital: A PRISMA-Compliant Systematic Review. *International Journal of Environmental Research and Public Health*. 2022 Feb 17;19(4):2290.
- Victoria A. Goodwin, Louise Allan, Alison Bethel, Alison Cowley, Jane L. Cross, Jo Day, Avril Drummond, Abi J. Hall, Martin Howard, Naomi Morley, Jo Thompson Coon, Sarah E. Lamb, Rehabilitation to enable recovery from COVID-19: a rapid Systemic review.
- Melitta A McNarry, Ronan M G Berg, James Shelley, Joanne Hudson, Zoe L, Jamie Duckers, Keir Lewis, Gwyneth A Davies, Kelly A Mackintosh Saynor Inspiratory Muscle Training Enhances Recovery Post COVID-19: A Randomised Controlled Trial

