

Level of Involvement in Post- Covid Rehabilitation among Physiotherapists in South Western, Nigeria

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ABSTRACT

Background: COVID-19 is a global public health pandemic. Its victims present with a variety of signs and symptoms, often requiring a multidisciplinary approach to management. Few studies have explored the involvement of physiotherapy in managing COVID-19 in Nigeria.

Objective: This study assessed the involvement in post COVID rehabilitation among physiotherapists in south west, Nigeria. It also assessed the association of level of experience in respiratory physiotherapy with level of involvement in cardiopulmonary physiotherapy

Methods: A total of 108 licensed physiotherapists residing in southwestern Nigeria participated in this cross-sectional study (Male: 57%; Female: 43%). An existing questionnaire was adapted into an online Google Form and distributed to licensed physiotherapists across hospitals in southwestern Nigeria. The questionnaire assessed the level of involvement and utilization of physiotherapists during the COVID-19 era. The data was extracted and analyzed using descriptive and inferential statistics, with the level of significance set at $p \leq 0.05$.

Results: The majority of respondents were male (57%) and within the age range of 20–40 years (67%). A significant proportion (38%) held a master's degree or equivalent. In terms of experience, 34% had over 20 years of practice. Notably, 69% of respondents had not received any referrals for post-COVID patients.

Conclusion: The findings indicate that physiotherapists in southwestern Nigeria had limited involvement in post-COVID rehabilitation. Additionally, the level of involvement in cardiopulmonary physiotherapy was significantly associated with the level of experience in cardiopulmonary physiotherapy skills.

Keywords: COVID-19, level of involvement, physiotherapists

INTRODUCTION

The coronavirus disease (COVID-19) has been identified as the cause of an outbreak of respiratory illness in Wuhan, Hubei Province, China beginning in December 2019. As of 31 January 2020, this epidemic had spread to 19 countries with 11,791 confirmed cases, including 213 deaths. The World Health Organization has declared it a Public Health Emergency of International Concern [1]. On 11 March 2020, the World Health Organization

(WHO) declared the outbreak as a pandemic [2].

The global epidemiological data has shown the African Region as the 6th most affected region among the World Health Organization regions behind the Region of Americas, Europe, South East Asia, Eastern Mediterranean, and Western Pacific. Like other African countries, Nigeria has had its share of the pandemic's impact. It has been shown that Nigeria placed as the 5th most-affected African country and the 77th most-affected country in the world; accounting for 0.12% of the global COVID-19 pandemic within the same period [3]. Global coronavirus disease 2019 (COVID-19) epidemic has presented a major threat to public health worldwide [4].

Coronaviruses are enveloped, positive single-stranded large RNA viruses that infect not only humans, but also a wide range of animals. It is highly infectious and spread by human-to-human transmission via droplets or direct contact [5]. COVID-19 is a highly infectious respiratory disease that leads to respiratory, physical, and psychological dysfunction in patients [6]. Most patients with COVID-19 make a full recovery after acute infection with SARSCoV-2, but a significant proportion still report ongoing health problems. Coronavirus disease 2019, is an infectious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The virus primarily affects the respiratory system but can also impact other organs [1].

The WHO has established a clinical case definition of post-COVID-19 syndrome, “it occurs in individuals with a history of probable or confirmed SARS-CoV-2 infection, usually 3 months from the onset of COVID-19 with symptoms, and that last for at least 2 months and cannot be explained by an alternative diagnosis” [7]. There can be the persistence of one or more symptoms of acute COVID, or the appearance of new symptoms. Symptoms can be continuous and remitting [8]. Post-COVID syndrome has been identified not only among those patients who were hospitalized with severe symptoms but also among those who were asymptomatic or with only mild symptoms [9]. The most commonly reported symptoms include (but are not limited to) the following: fatigue, cough, breathlessness, fever, sore throat, chest pain, palpitations, cognitive deficits, myalgia, neurological and psychiatric symptoms, skin rashes, and diarrhea [10,11]. Additionally, Psychological-related symptoms are as follows; post-traumatic stress disorder, anxiety, depression, insomnia, and other manifestations; ageusia, anosmia, parosmia, and skin rashes [12]. Post-COVID rehabilitation is a Multidisciplinary or interdisciplinary care approach [13]. Physiotherapy is one of the key parts of inter and multi professional involvement in COVID-19 management [14]. Physiotherapists are key health-care team members in the management of conditions associated with cardiorespiratory disorders, long-term hospital admission, critical care management; all of which have come to characterize many COVID-19 cases [15,16].

The physiotherapist performs the functional evaluation and elaborates the rehabilitation plan based on physical intervention and movement in order to satisfy the needs of the people after COVID-19. Physiotherapy has an important role in all phases of the disease [17]. At acute phase (intensive care, critical care units), Physiotherapy aims to support the airways and improve physical/cognitive function by facilitating early rehabilitation. Interventions that facilitate tissue saturation with oxygen must be indicated, elimination of airways secretions/clearance and early removal of mechanical ventilation. During Sub-acute phase, Physiotherapy addresses the mobility deficit, respiratory function, cognition, swallowing disorders (dysphagia), nutrition deficiencies, and communication. During this period, independence in the activities of daily living is followed, and providing psychosocial support can prevent mental health issues [18]. Moreover, At Chronic phase, Physiotherapy aims at gradually increasing physical effort. There is also an education on energy conservation, behavior change, adaptation of home and workplace, and use of assistive devices [18,19].

Treatment of people with post-COVID syndrome requires a multidisciplinary approach including evaluation, symptomatic treatment, and treatment of underlying problems. Physiotherapy inputs in the cardiorespiratory specialty were proven. Physiotherapy intervention plays an important role in the rehabilitation of post-COVID-19 patient [20]. Physiotherapy plays a crucial role in the rehabilitation of individuals recovering from COVID-19. The virus can have a wide range of bodily effects, including respiratory, cardiovascular, neurological, and musculoskeletal issues. Physiotherapists can help address these challenges and improve overall function and quality of life [21,22].

Physiotherapy plays a specific and important role in the recovery and rehabilitation of COVID-19 patients. In

the respiratory treatment and physical rehabilitation of patients with COVID-19. Physiotherapy may be indicated in the cases of patients with COVID-19 who present with productive cough and cannot clear secretions independently. High-risk patients are those with existing comorbidities associated with hypersecretion or ineffective cough (e.g. neuromuscular disease, respiratory disease and cystic fibrosis), and they require physiotherapy [22]. Physiotherapy is indicated for ventilated patients who show signs of inadequate airway clearance requiring airway clearance techniques. Patients with severe respiratory failure associated with COVID-19 may require a prone position to optimize oxygenation, and this should be overseen by the physiotherapist [23]. Patients with ICU-acquired weakness due to prolonged protective lung ventilation, sedation, and use of neuromuscular blocking agents require initiation of early rehabilitation by the physiotherapist after the acute phase of respiratory distress [24].

Studies have identified common selected challenges among the interaction of the Healthcare profession involving in the care of post-COVID rehabilitation, Physiotherapy experienced these setbacks during COVID-19 era [25]. There were no reports of any form of discrimination from qualitative studies of physiotherapists who were practicing in countries like the UK and Spain [25]. Discrimination of physiotherapists as front-line healthcare workers in the COVID-19 pandemic in Nigeria may be associated with the interprofessional rivalry rampant in the Nigerian health sector [26]. The perceived or actual discrimination of other healthcare professionals by some medical team leads in Nigeria might hamper professional autonomy, professional identity, professional expertise and interprofessional harmony. Another reason for the discrimination of physiotherapists as front-line healthcare workers, particularly in hospitals, could be because infectious disease medical experts led the COVID-19 teams in these facilities [26]. These specialists may have had little or no clinical interaction with physiotherapists in the hospitals prior to the COVID-19 pandemic probably due to their limited involvement in acute care settings in Nigeria. It is therefore not surprising that the front-line physiotherapists felt that their roles in health promotion, disease prevention, treatment, and rehabilitation in relation to the pandemic were not adequately recognized and utilized. This might have adverse implications for patients with COVID-19 in Nigeria. It is therefore imperative to assess the level of involvement of physiotherapists in COVID-19 rehabilitation especially in southwestern Nigeria. However, such studies are rare in Nigerian settings.

Therefore, this study assessed the level of involvement and utilization of Physiotherapists in post-COVID syndrome rehabilitation in southwestern Nigeria. It also determined the association between the level of experience in respiratory physiotherapy and the level of involvement in COVID-19 syndrome rehabilitation.

METHODS

A total of 108 licensed physiotherapists residing in southwestern Nigeria participated in this cross-sectional study (Male: 57%; Female: 43%). Ethical approval and informed consent were secured before the commencement of the study. An existing questionnaire was adapted into an online Google Form and distributed to licensed physiotherapists across hospitals in southwestern Nigeria. The questionnaire assessed the level of involvement and utilization of physiotherapists during the COVID-19 era. The data was extracted and analyzed using descriptive and inferential statistics, with the level of significance set at $p \leq 0.05$.

RESULTS

General characteristics of the population

Majority of the respondents were male (57%), majority of the respondents were aged 20-40 (67%), majority of the respondents (38%) has a master's degree or equivalent. However, for the years of experience a greater percentage had practiced for more than 20 years (34%) and majority of the respondents (69%) had not received a referral for a post COVID patient (Table 1)

Level of Involvement in Cardiopulmonary Physiotherapy

The results show that majority of physiotherapists were involved (34%) and slightly involved (37%) in cardiopulmonary physiotherapy practice. (Table 1)

Table 1: General Characteristics of the Participants

Variables	Frequency (n)	Percentage (%)
Gender	61	57
male	47	43
female		
Age group	72	67
20-40	24	22
40-60	12	11
60-80		
Level of education	36	33
bachelor	41	38
master/equivalent	31	29
doctoral degree		
Years of experience	32	30
>5	28	26
5-10	11	12
11-15	0	0
16-20	37	34
<20		
Level of referral of post COVID patient	34	31
yes	74	69
no		

Table 2: Level Of Involvement in Cardiopulmonary Physiotherapy

N=108

Level of Involvement	Frequency (n)	Percentage (%)
Strongly Involved	18	17%
Slightly Involved	40	37%
Involved	37	34%
Not Involved	0	0%
Slightly Not Involved	8	7%
Strongly Not Involved	5	5%

Level of Involvement in the Utilization of Cardiorespiratory skills

The results show that majority of physiotherapists slightly not involved (28%) and were involved (22%) in utilization of cardiorespiratory skills (Table 3).

Level of Experience in Respiratory Physiotherapy

The results show that majority of physiotherapists had good (33%) and sufficient (32%) Level of Experience in Respiratory Physiotherapy (Table 4).

Association of level of experience in respiratory physiotherapy with level of involvement in cardiopulmonary physiotherapy practice using chi-square.

Association between level of experience in respiratory physiotherapy with level of involvement in cardiopulmonary physiotherapy was presented in table 4 and from the results it was observed that was significant association between level of experience in respiratory physiotherapy with level of involvement in cardiopulmonary physiotherapy practice (Table 5).

Table 3: Level Of Involvement in The Utilization of Cardiorespiratory Skills

N=108

Level of Involvement	Frequency (n)	Percentage (%)
Strongly Involved	14	13%
Slightly Involved	20	19%
Involved	25	22%
Not Involved	0	0%
Slightly Not Involved	30	28%
Strongly Not Involved	19	18%

Table 4: Level Of Experience in Respiratory Physiotherapy

N=108

Level of Experience	Frequency (n)	Percentage (%)
Very Good	15	14%
Good	36	33%
Sufficient	34	32%
Insufficient	23	21%
No Experience	0	0%

Table 5: Association Of Level of Experience in Respiratory Physiotherapy with Level of Involvement in Cardiopulmonary Physiotherapy practice using chi-square

Level of Experience	Frequency (n)	Chi-Square (X ²)	P-Value
Very Good	6	65.76	0.000*
Good	4	0	0
Sufficient	9	0	0
Insufficient	6	0	1

Key: 1- Strongly Involved, **2-** Slightly Involved, **3-** Involved, **4-** Not Involved, **5-**Slightly Not Involved.

DISCUSSION

This study investigated the involvement in post COVID rehabilitation among physiotherapists in southwest, Nigeria. In this study, it was observed that there was slight involvement by physiotherapists in cardiovascular physiotherapy for post-COVID rehabilitation

Level of involvement in cardiopulmonary physiotherapy; from the results it was observed the physiotherapists are slightly involved in cardiopulmonary physiotherapy (Table 2). A study in South Africa confirmed that most physiotherapists working in the cardiopulmonary field in South Africa are involved in the management of patients with cardiopulmonary conditions. However, the use of evidence-based interventions in the clinical care of patients with cardiopulmonary conditions was inconsistent. There is currently limited involvement of physiotherapists in outpatient cardiac rehabilitation [27]. Physiotherapists managing patients with COVID-19 in the front line in Nigeria felt that they were not regarded as legitimate members of the COVID-19 multidisciplinary teams by the medical team leads and the health system, which led to a low level of involvement in cardiopulmonary physiotherapy in post COVID rehabilitation [25].

The level of involvement in the utilization of cardiorespiratory skills is shown in Table [3] with good experience in cardiorespiratory physiotherapy practice (Table 4), it was observed that the physiotherapists are slightly not involved in the utilization of cardiorespiratory skills. Similar studies have shown that less than 50% of physiotherapists are involved in practicing cardiorespiratory skills [25]. The level of access to current cardiopulmonary hands-on training is one the major factors limiting the exposure to current shreds of evidence in cardiopulmonary skills [28]. Evidence indicates that cardiopulmonary physiotherapy is still the focus of physiotherapy intervention in pediatric intensive care units for mechanically ventilated patients, and supports its use for secretion clearance in this setting. This indicates that physiotherapists are involved in cardiopulmonary physiotherapy in pediatric intensive care units [29].

The association of the level of experience in respiratory physiotherapy with the level of involvement in cardiopulmonary physiotherapy is shown in Table 4, it was observed that there was a significant association between the level of experience in cardiorespiratory physiotherapy and the level of involvement in cardiopulmonary physiotherapy practice. Research has shown that the experience in cardiopulmonary physiotherapy practice enhanced the level of involvement in post-COVID rehabilitation in developed countries compared to some African countries such as Nigeria. [30].

CONCLUSION

The findings indicated that physiotherapists in southwestern Nigeria had limited involvement in post-COVID rehabilitation. Additionally, the level of involvement in cardiopulmonary physiotherapy was significantly associated with the level of experience in cardiopulmonary physiotherapy skills.

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