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Original Article

Factors affecting the extent of utilization of physiotherapy services by physicians in Saudi Arabia

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Abstract. [Purpose] To investigate physicians' attitudes, opinions and experiences towards physiotherapy services as well as to identify the potential factors that may affect the extent of utilization of physiotherapy services (based on physicians' beliefs) in Saudi Arabia (SA). [Subjects and Methods] A cross-sectional study was conducted. [Results] A total of 108 respondents met the inclusion criteria. The respondents' attitude towards physiotherapy was slightly low (53.5%), while their opinions and experiences of physiotherapy indicated some important issues. For example, 50% of them believed that physiotherapists did not create a good awareness about physiotherapy services and 55.5% admitted that they did not have enough information about physiotherapy services. The most potential factor reported by physicians that may affect the extent of utilization of physiotherapy services was the lack of physiotherapist's skills and knowledge to assess and treat patients (55.3%), followed by the limited knowledge of physicians regarding the types of physiotherapy services (44.5%) and the lack of cooperation between physicians and physiotherapists (40.7%). [Conclusion] There were some factors that limited the extent of utilization of physiotherapy services in SA. Physiotherapy academics and clinicians should attempt to change physicians' negative attitudes, promoting awareness to provide them with a better understanding of physiotherapy services.

Key words: Physiotherapy, Physicians, Saudi Arabia

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INTRODUCTION

Healthcare professions have rapidly developed due to advancements in technology along with lifestyle innovation¹⁾. Physiotherapy is one such profession, which is considered as a primary health profession²⁾ that assists people to recover following injury, pain or disability³⁾, and it can be classified as one of rehabilitative services⁴⁾. It provides the necessary care for mobility dysfunctions caused by aging, injury, pain, illness or environmental factors³⁾. The World Confederation for Physical Therapy (WCPT) stated that physiotherapists have actively worked to 'help people maximise their quality of

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life, looking at physical, psychological, emotional and social wellbeing. They work in the health spheres of promotion, prevention, treatment/intervention, habilitation and rehabilitation⁵⁾. In many countries, physiotherapy practitioners are called 'physiotherapists', while some countries have their own titles such as 'kinesilogist'. However, all these titles relate to the same profession⁵⁾. The primary purpose of physiotherapy interventions is to reduce pain and restore or maintain physical and functional abilities via conservative interventions which include several modalities and techniques such as therapeutic exercises, manual therapy, electrotherapy and hydrotherapy⁶⁾.

Currently, healthcare professionals work beside physiotherapists to provide the best available treatments to patients¹⁾. Indeed, healthcare staff are required to recognize and respect each other's professional abilities to achieve effective interdisciplinary teamwork⁷⁾. Furthermore, the attitudes, perceptions and knowledge of the public have a direct impact on the recognition of any profession⁸⁾, which may be influenced by their experience of professional practices. One of the key healthcare issues in Saudi Arabia (SA) is disability, which of great influence on Saudi social and economic healthcare issues. In addition, it is important to note that the number of disabled individuals in the population has increased, estimated to be 0.8% of the total population which equates to more than 130,000 persons with a disability in SA⁴⁾. Therefore, there is a need for physiotherapy practices to provide the best care for these people. Consequently, the number of physiotherapists has increased in SA, the Ministry of Health (MOH) reporting that there are approximately two and a half thousand physiotherapists registered in MOH centres and hospitals⁹⁾. Surprisingly, this report recorded nearly four million patients from 2008 to 2012 who visited physiotherapy clinics at MOH centres and hospitals⁹⁾. This large number of patients indicates the essential role of physiotherapy for recovery and health promotion in SA.

Despite the growth in the evidence-based physiotherapy and the increased need of physiotherapy services, physiotherapy still faces some challenges, such as the recognition of physiotherapy as a crucial service within the healthcare system¹⁰⁾. It has been reported that a physician who is not well informed regarding the important value and role of physiotherapy will delay or make unsuitable referrals to physiotherapists¹¹⁾. Therefore, it may have a direct influence on the extent of utilization of physiotherapy services in any country. In SA, physiotherapists face some challenges including lack of evidence-based practice implementation among physiotherapists¹²⁾ and lack of postgraduate physiotherapy programmes in Saudi universities¹³⁾. In addition, direct access to physiotherapists is not allowed in SA and all patients need physicians' referral to receive a physiotherapy session¹³⁾, as well as inability of physiotherapists to be involved in primary health care centres¹⁴⁾. Furthermore, a recent study conducted by Al-Eisa et al. found that 75% of physicians did not refer any patients or rarely referred patients to physiotherapy clinics in SA¹⁵⁾. It is possible that this may have impacted on the extent of utilisation of physiotherapy services. Indeed, rehabilitative services such as physiotherapy should be provided to patients as early as possible⁴⁾ to provide optimal care for all patients.

It has been reported that if the public and related healthcare professionals were ignorant about the physiotherapy role in healthcare, recognition and professionalization could be curbed and the interventions may be received from alternative healthcare professionals¹⁰⁾. Therefore, it is important to address all these challenges and promote a proper solution to improve the practice of physiotherapy in SA. The aims of this study are (1) to assess physicians' attitudes towards physiotherapy, (2) to explore physicians' opinions and experiences towards physiotherapy services, (3) and to investigate the potential factors that may affect the extent of utilization of physiotherapy services (based on physicians' beliefs) in SA.

SUBJECTS AND METHODS

A cross-sectional descriptive design study with a convenience sample was employed. Participants were physicians working in SA in a clinical or academic setting, with both genders and all nationalities considered in this study. Undergraduate and internship students were excluded as their participation may have a negative impact on the accuracy of the study data. In addition, healthcare professionals other than physicians were excluded. The data was collected through an online survey using a secure Google website. All information was anonymous and only the authors had access to the data. The consent form, aims and the summary of the study were provided on the first page of the survey. The study was approved by the research committee of the Physical Therapy Department, Faculty of Applied Medical Sciences, Umm Al-Qura University, Mecca, Saudi Arabia.

For the purpose of this study considering the Saudi healthcare environment and the relevant cultural influences, the survey was structured and based on some previous studies with similar objectives. The timeframe of the survey, from being available online for participation, was two months from December 2016 to February 2017. The survey was sent out via social media platforms (Facebook and Twitter) and WhatsApp. A total of seven questions investigating the following components:

- Personal information: gender, nationality, work setting, and number of years of experience.
- Attitudes towards physiotherapy services: seven items with a Likert scale ranging from strongly disagree (1) to strongly agree (5) to determine physicians' attitudes towards physiotherapy services in SA.
- Opinion and experiences towards physiotherapy services: seven items related to physicians' opinions and experiences towards physiotherapy services in SA. There were two answer options to each question: yes or no.
- Factors related to the extent of use of physiotherapy services: the final question included five items regarding possible factors that may affect the extent of utilization of physiotherapy services (based on physicians' beliefs) in SA. The three answer options were: (1) yes, (2) no, and (3) unsure.

A pilot test was performed to assess the clarity and the accuracy of the survey; this involved 10 participants. The internal consistency (Cronbach's alpha) was assessed, yielding a value of 0.698. The reliability for each survey section was as follows: attitudes towards physiotherapy services (0.887), opinion and experiences towards physiotherapy services (0.678) and factors related to the extent of use of physiotherapy services (0.529). The data were recorded and analysed using the software IBM SPSS version 19.0 (IBM Corp., Armonk, NY, USA). The percentages and frequencies of the participants' responses to each question were analysed and reported.

RESULTS

A total of 133 respondents participated in the study, with 25 respondents excluded as they were from other healthcare professions specialties (Fig. 1). The total number of respondents included in data analysis was 108 and their personal data is presented in Table 1. Most respondents were male (75%), were Saudis (81.5%) and almost all worked in a clinical setting (83.3%), in particular, the Ministry of Health (39.8%), private health sector (12%), and other governmental sectors (31.5%). Only 16.7% of the respondents worked in an academic setting with nearly half of the respondents having 5 years' experience or less (46.3%). In addition, 27.8% had experience between 6 to 10 years, 18.5% had experience between 11 to 15 years, while only 3.7% of respondents had experience between 16 to 20 years and also with 21 years' experience or more (3.7%).

The physicians' attitudes towards physiotherapy were varied (Table 2), with 85.2% of respondents believing that physiotherapy services have a vital role in secondary care and 81.5% agreed that physiotherapists have experience of human anatomy. However, only 17.6% agreed with the statement that patients have the right to direct access to physiotherapists without referral. Only half of respondents (50%) agreed that physiotherapists have the ability to independently prescribe rehabilitation or exercise programs for patients, while 63.9% felt that physiotherapists are well-qualified and can be trusted to provide care to patients. Only 44.4% were comfortable with the statement that physiotherapists can effectively reassess patients for further investigation when necessary, while 34.3% agreed with the statement that physiotherapists should be allowed to attend some surgical procedures. Overall, physicians' attitudes towards physiotherapy was slightly low (53.5%).

Physicians' answers about their opinions and experiences regarding physiotherapy indicated some key issues (Table 3). Of the respondents, 59.3% had worked with a physiotherapist or rehabilitation team and 79.6% had discussed the need for physiotherapy interventions with their colleagues. Almost all respondents (92.6%) were confident to refer their patients to physiotherapists and 68.5% had communicated with a physiotherapist about patient care. Half of respondents (50%) believed that physiotherapists did not create a good awareness about physiotherapy services. More than half of respondents (55.5%) did not have enough information about physiotherapy services and 83.3% were pleased to know more about physiotherapy services.

Table 4 shows the possible factors that may affect the extent of utilization of physiotherapy services by physicians (based on physicians' beliefs) in SA. The most important factor reported by respondents was the lack of physiotherapist's skills and knowledge to assess and treat patients (55.3%). The second factor was the limited knowledge of physicians regarding the types of physiotherapy services (44.5%), followed by the lack of cooperation between physicians and physiotherapists (40.7%). The least two factors reported by respondents were hospital policy prohibits the use of physiotherapy services in certain conditions (27.8%) and the health status of some patients worsened when physiotherapy interventions were used (25.9%).

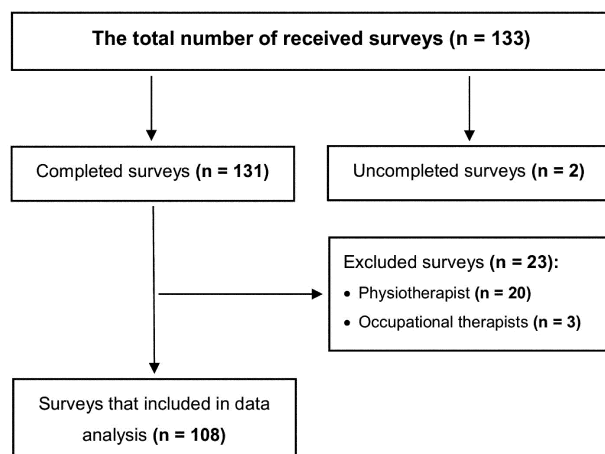


Fig. 1. Flowchart of the study.

Table 1. Personal information of study participants

Variable	Personal Data	N (%)
Gender	Male	81 (75)
	Female	27 (25)
Nationality	Saudi	88 (81.5)
	Non-Saudi	20 (18.5)
Work setting	Ministry of Health	43 (39.8)
	Other governmental sectors	34 (31.5)
	Private health sectors	13 (12)
	Academic (University)	18 (16.7)
Number of years of experience	1 – 5	50 (46.3)
	6 – 10	30 (27.8)
	11 – 15	20 (18.5)
	16 – 20	4 (3.7)
	21 or more	4 (3.7)

Table 2. Physicians' attitude towards physiotherapy

Items	N (%)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Physiotherapy services have a vital role in secondary care	12 (11.1)	0 (0)	4 (3.7)	32 (29.6)	60 (55.6)
Physiotherapists have no experience of human anatomy	48 (44.5)	40 (37)	12 (11.1)	4 (3.7)	4 (3.7)
Patients have the right to direct access to physiotherapists without referral	15 (13.9)	44 (40.7)	30 (27.8)	17 (15.7)	2 (1.9)
Physiotherapists can independently prescribe rehabilitation or exercise programs for patients	10 (9.3)	20 (18.5)	24 (22.2)	34 (31.5)	20 (18.5)
Physiotherapists are well-qualified and can be trusted to provide care to patients	10 (9.3)	5 (4.6)	24 (22.2)	21 (38.9)	26 (25)
Physiotherapists can effectively reassess patients for further investigation when necessary	5 (4.6)	23 (21.4)	32 (29.6)	32 (29.6)	16 (14.8)
Physiotherapists should be allowed to attend some surgical procedures	20 (18.5)	15 (13.9)	36 (33.3)	17 (15.8)	20 (18.5)

Table 3. Opinion and experience of physicians towards physiotherapy

Items	N (%)	
	Yes	No
Have you worked with a physiotherapy or rehabilitation team?	64 (59.3)	44 (40.7)
Have you discussed the need for physiotherapy interventions with your colleagues?	86 (79.6)	22 (20.4)
Are you confident enough to refer your patients to a physiotherapist?	100 (92.6)	8 (7.4)
Have you communicated with a physiotherapist regarding a patient's care?	74 (68.5)	34 (31.5)
Do you think physiotherapists create a good awareness about physiotherapy services?	54 (50)	54 (50)
Do you have enough information about physiotherapy services?	60 (55.5)	48 (44.5)
Would you like to know more about physiotherapy services?	90 (83.3)	18 (16.7)

Table 4. Potential factors that may affect the extent of utilization of physiotherapy services by physicians

Factors	N (%)		
	Yes	No	Unsure
The health status of my patients worsened when physiotherapy interventions were used	28 (25.9)	56 (51.9)	24 (22.2)
The lack of physiotherapist's skills and knowledge to assess and treat patients	63 (55.3)	21 (19.5)	24 (22.2)
I have limited knowledge regarding the types of physiotherapy services that can be provided	48 (44.5)	46 (42.5)	14 (13)
There is no cooperation between me and the physiotherapist	44 (40.7)	44 (40.7)	20 (18.6)
Hospital policy prohibits the use of physiotherapy services in certain conditions	30 (27.8)	48 (44.4)	30 (27.8)

DISCUSSION

The current study was conducted to investigate: (1) physicians' attitudes towards physiotherapy services, (2) physicians' opinions and experiences towards physiotherapy services, and (3) potential factors that may affect the extent of utilization of physiotherapy services (based on physicians' beliefs) in SA. The study found that physicians' attitudes towards physiotherapy profession was relatively low. In addition, this study indicated some significant factors which may have negatively impacted on the extent of utilization of physiotherapy services.

The present study found that physicians' attitudes towards physiotherapy services in SA was slightly low (53.3%), for example, 50% of respondents did not agree that physiotherapists have the ability to independently prescribe rehabilitation or exercise programs for patients and 36.1% felt that physiotherapists are not well-qualified and cannot be trusted to provide care to patients. Furthermore, 55.6% were not comfortable with the statement that physiotherapists can effectively reassess patients for further investigation when necessary. These findings were consistent with Al-Eisa et al., who reported that 58% of physicians had a negative perception regarding physiotherapy as a profession and 55% of them reported that they were not comfortable about referring patients to physiotherapy departments without prescriptions¹⁵. In addition, similar results were reported by Kutty, Gebremichael and Vargehese, who found that 47.5% of medical doctors had negative attitudes towards the role of physiotherapists¹. The authors also reported that medical doctors aged from 27 to 45 years were less likely to have positive attitudes compared to young medical doctors (22–26 years). Another study by Etrog, Alperin and Laufer indicated

that although the physicians believed that physiotherapy is an essential component in medical intervention, they tend not to support the concept that physiotherapists can work independently without a physician's guidance¹⁶.

In contrast, other studies, such as that performed by Al Mohammedali, O'Dwyer and Broderick, found that physicians had positive attitudes regarding respiratory physiotherapy in SA¹⁷. The majority of their respondents (82.5%) reported that physiotherapists have enough skills to be a part of respiratory care teamwork and 91.2% of them agreed that physiotherapists were an essential member of the intensive care unit team. Another study conducted by Odunaiya et al. explored the attitude of doctors who specialised in obstetrics and gynaecology towards including physiotherapists in the management of patients with obstetric and gynaecologic cases¹⁸, reported that most participants had positive attitudes towards physiotherapy. For example, 95.5% of participants agreed that physiotherapists do not cause any harm to patients and 97% agreed that physiotherapists cannot be replaced with drugs and instructions. It seems possible that there are some important factors that may change or influence physicians' attitudes towards physiotherapy, such as past experiences of physicians with physiotherapists, communications, as well as environmental and cultural, factors. According to Puckree et al., respondents who had past access to physiotherapy services was significantly correlated with a positive attitude to physiotherapy compared to other respondents who had no previous exposure to physiotherapy¹⁰. Therefore, it is important to acknowledge these factors to improve the attitudes of health professionals towards physiotherapy.

The physicians' opinions and experience of physiotherapy services indicated some important issues that need to be addressed. Although almost all physicians (92.6%) were confident to refer their patients to physiotherapists in SA, half of them believed (50%) that physiotherapists did not create a good awareness about physiotherapy services. In addition, more than half (55.5%) did not have enough information about physiotherapy services. This was similar to that reported by Karthikeyan and Jones, who found that only 44.1% of healthcare professionals believed that physiotherapists create an awareness of physiotherapy and only 31.7% of them believed they have enough information about physiotherapy in Papua New Guinea¹⁹. In the current study, 83.3% of physicians were pleased to know more about physiotherapy services in SA. This is in line with Al Mohammedali, O'Dwyer and Broderick, who reported that 75.2% of physicians believed that they need further information regarding the physiotherapy role in respiratory care in SA¹⁷. The authors reported that specialized physicians were more likely to refer patients with respiratory conditions to physiotherapists than nonspecialized physicians¹⁷. Karthikeyan and Jones also found that 96.6% of all healthcare professionals who participated in their study in Papua New Guinea reported that they were happy to know more about physiotherapy and 95.9% agreed that they needed some training to understand physiotherapy¹⁹.

In Britain and America, patients can easily access to physiotherapy services (patient self-referral) without physicians' referrals^{20, 21}. This is not the same in SA, as physiotherapists cannot provide a physiotherapy session to a patient without a referral from a physician. Although the present study found that almost all physicians (92.6%) were confident to refer their patients to physiotherapists in SA, many studies showed that the referral rate to physiotherapists in SA is low. According to Al Mohammedali, O'Dwyer and Broderick, only 40.8% of physicians reported that they always referred their patients to physiotherapists for respiratory rehabilitation in SA, while others (59.2%) never or rarely referred their patients or did not provide their answers¹⁷. Another study conducted by Al-Eisa et al. found that 49% of physicians did not refer patients to a physiotherapist and 26% of them rarely referred patients to receive a physiotherapy session in SA¹⁵. These two studies addressed an important issue regarding the fact that there is a low referral rate to physiotherapy clinics in SA, which needs to be improved. Nonetheless, some studies reported a high referral rate to physiotherapy clinics, for example, a study performed by Kutty, Gebremichael and Vargehese found that almost all doctors reported that they had referred patients to physiotherapists for interventions in Ethiopia¹. This study indicated that most referrals were received for patients with neurological disorders (49.8%), followed by musculoskeletal diseases (39.8%)¹. In addition, Odunaiya et al. found that the extent of utilization of physiotherapy services was high in Nigeria, with 94% of doctors reported having referred patients to physiotherapists¹⁸. However, these conflicting results between some countries can be explained by the fact that there are differences in the roles, policy and regulations of their health and education systems, as well as other factors such as the level of interaction and communication of physicians with physiotherapists.

The present study reported several potential factors that may limit the extent of the use of physiotherapy services (based on physicians' beliefs) in SA. The three most potential factors reported by physicians was the lack of physiotherapist's skills and knowledge to assess and treat patients (55.3%), followed by the limited knowledge of physicians regarding the types of physiotherapy services (44.5%) and the lack of cooperation between physicians and physiotherapists (40.7%). The physicians' beliefs about lack of physiotherapists' knowledge to assess and treat patients is not completely correct, especially when those physicians did not have a good knowledge about physiotherapy roles and services or did not communicate or cooperate with physiotherapists in the first place. In addition, some negative perceptions of physicians may have been impacted by their beliefs and opinions regarding physiotherapists as a profession. For example, Ogiwara, Inoue and Hyuga stated that physiotherapists indicated that doctors considered them as technicians rather than professional colleagues, which may negatively impact on their professional relationship²². Furthermore, physician's dominance, when some physicians treat with other healthcare professionals as their secretary and that they have a right to control them, as well as the lack of availability of physicians to discuss patients and their management²³ can decrease the communication and interaction between physicians and physiotherapists, subsequently negatively impacting on the physicians' perceptions about physiotherapy and may limit the use of physiotherapy services. However, it is also important for physiotherapists to be up-to-date with recent

and reliable knowledge and implement evidence-based practice to demonstrate their professionalism, that they have the ability to diagnose and treat patients with a high-standard of care using the best safe conservative treatments.

Many studies demonstrated associations between the level of physicians' knowledge and the use of physiotherapy services. For example, Odunaiya et al. reported that a low level of physicians' knowledge regarding the role of physiotherapists may limit the use of physiotherapy services¹⁸. Another study found that physicians who attended a lecture about physiotherapy or had previous training in physiotherapy were more likely to acknowledge the role of physiotherapy than other physicians in SA¹⁵. In addition, Etrog, Alperin, and Laufer reported that the lack of formal training regarding physiotherapy had a negative impact on physicians expectations for physiotherapy treatment success¹⁶. The authors also found that physicians who had positive attitudes and perception towards physiotherapy efficiently referred patients to physiotherapy clinics, providing more appropriate intervention instructions¹⁶. A recent study conducted by Al Mohammedali, O'Dwyer and Broderick indicated that most physicians who did not see physiotherapists as an essential member of the intensive care unit team were not aware of the role of the physiotherapist¹⁷.

Cooperation between physicians and physiotherapists is also an important factors that can lead to the improvement of the patient' quality of care²². For physiotherapy to have excellent interdisciplinary cooperation with healthcare professionals, it is necessary that doctors and university medical teaching staff have a positive attitude towards physiotherapy, as well as a sound knowledge base about physiotherapy which can be affirmatively passed to junior medical professionals and students¹¹. However, some physicians prefer minimal contact with physiotherapists, but this could be changed when physiotherapists develop flexible social approaches to alter their communication styles to help negotiate effectively with physicians²³.

Many studies have suggested the provision of formal training and education about physiotherapy to physicians and healthcare professionals^{2, 7, 11, 15, 17, 24} to increase the use of physiotherapy services, to increase the level of knowledge, to improve professional relationships, to enhance multidisciplinary teamwork and to promote awareness between healthcare professionals and public about physiotherapy. Such training could take the form of academic (undergraduate and postgraduate level), and clinical education^{19, 22}, interdisciplinary professional education, inter-professional training, clinical meetings and seminars^{11, 18, 19}, the interaction between various healthcare disciplines and communication^{7, 19, 24}, incorporating information explaining the abilities and skills of physiotherapists¹⁶ or some basic and general physiotherapy modules¹ in medical education, creating awareness of physiotherapy roles via public education and direct discussion², publishing educational handouts on available services provided by physiotherapists¹¹, the involvement of physiotherapists in ward rounds^{18, 19} and physiotherapists' participation in research projects¹⁹.

In conclusion, this study showed that physicians' attitudes towards the physiotherapy profession was relatively low and identified some significant potential factors that may have negatively impacted on or limited the extent of utilization of physiotherapy services in SA. Physiotherapy academics and clinicians should attempt to change physicians' negative attitudes and promote awareness to provide them with a better understanding of physiotherapy services. Physiotherapists also have the responsibility to promote their profession with the most recent evidence-based knowledge amongst other healthcare professionals as well as the general public in SA. In addition, physicians should recognise the need for physiotherapy services, utilising them when required to assist in improving patient care. Further research is recommended to investigate the barriers of cooperation and communication between physiotherapists and physicians.

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