



### Review Article

## Physician Awareness of Physical Medicine and Rehabilitation: A Cross-Sectional Study from Saudi Arabia

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### Abstract

#### Aim

To ascertain physicians awareness levels regarding the specialty of Physical Medicine and Rehabilitation (PM&R) in Saudi Arabia.

#### Methods

A cross-sectional study involving 200 randomly-selected practicing physicians (aged 25-60 years; 114 males) at the Prince Sultan Military Medical City, Riyadh, Saudi Arabia, from October 2016 to February 2017. A structured questionnaire was employed for data collection.

#### Results

The study cohort (n=200) were a mean ( $\pm$ SD) age of  $33\pm 1.82$  years, with 86% in the 25-35 year age category, and 43% female. The vast majority of the physicians (185 or 92.5%) responded that they were aware or had heard of PM&R and 110 (55%) routinely referred their patients for PM&R care. Of note, 40 (20%) of the physicians felt that PM&R was similar to physical therapy. Of the physicians who were aware of PM&R, 146 (73%) physicians reported improvements in their patients with PM&R care and 176 (89.5%) physicians stated that specialized medical doctors were necessary for rehabilitation.

#### Conclusion

This study identifies a high level of awareness and satisfaction

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among Saudi physicians regarding PM&R services.

**Keywords:** Awareness; Physical medicine and rehabilitation; Saudi Arabia

### Introduction

According to the World Health Organization (WHO), rehabilitation is "The use of all means aimed at reducing the impact of disabling and handicapping conditions and at enabling people with disabilities to achieve optimal social integration" [1,2]. An all-inclusive account of Physical and Rehabilitation Medicine (PRM) or Physical Medicine & Rehabilitation (PM&R), has been clearly recognized and refers to the medical specialty dealing with rehabilitation as the core of its health approach [3].

The PM&R or Physiatry deals with the prevention, diagnostics and treatment of disabling diseases, disorders, and injuries, by using physical methods (such as electrotherapy, therapeutic exercise or pharmaceutical pain control) [4]. The American Board of Physical Medicine and Rehabilitation defines the PM&R specialist as one who is an expert in nerve, muscle and bone, who gives treatment for injuries or illnesses that affect body movement, who diagnoses and treats pain, who restores to the maximum any function that has deteriorated or been lost due to injury, illness or disabling conditions, who treats the entire person and not merely the affected area, who leads a team of medical professionals, offering non-surgical treatments, and who clearly outlines the patient's medical conditions and a suitable strategy of treatment/prevention [5].

This medical discipline assists patients in regaining the ability to manage their lives through re-established body function. Therefore, PM&R offers treatment to patients with traumatic injury, post-surgery or those affected by diseases that induce impairments through disorders of the musculoskeletal or nervous systems, chronic pain or restricted movement [2,6-8]. The treatments typically involve physical therapeutics, medications and/or non-invasive or marginally invasive techniques [9]. The chief focus in PM&R is to enable the individuals to function optimally within the limitations they experience. PM&R consultants act as team leaders and draw up plans and approaches to facilitate the greatest possible functional recovery for the patients. Physiotherapists, occupational therapists, speech and language therapists, psychologists, orthotists and prosthetists form an integral part of this team [2,6]. While the focus of the team is not on complete restoration to the pre-morbid level of function, optimization of the quality of life is the goal for those unable to reach a complete level of restoration [9,10].

As the population within the Kingdom of Saudi Arabia (KSA) has increased and aged, disability has also risen, with greater numbers of systemic, congenital diseases and traumatic (i.e., vehicular injury) injuries. These factors have created an increased demand for PM&R services and a concordant need for higher levels of awareness for PM&R in the KSA [11-14]. Over the past two decades, several rehabilitative services for individuals with disabilities and other residents have been set up by the KSA Ministry of Health (MOH) throughout

the country, however, most of these programs provide physical, occupational, speech and hearing therapy only. Recently, studies have reported an increasing need for more rehabilitation centers, physicians trained in rehabilitation medicine and for teams of rehabilitation professionals in Saudi Arabia [13]. Limited research has been done on PM&R and physician awareness of PM&R in Saudi Arabia. In the current study, the objective was to ascertain the level of physician awareness of PM&R in KSA.

## Methods

A cross-sectional study was conducted among 200 randomly selected physicians (aged 25-60 years; 114 males) at the Prince Sultan Military Medical City, Riyadh, Saudi Arabia, from October 2016 to February 2017. A structured questionnaire was employed for data collection.

The questionnaire included details on the physicians, including; gender, age, specialty, ranking according to the Saudi Commission for health specialties, source of their awareness of PM&R, knowledge about differences between PM&R and physical therapy, whether they had ever recommended PM&R care for a patient or followed up with the patient post-referral to PM&R care, opinion on patient improvement after PM&R care, opinion regarding the requirements for PM&R referral, necessity for a specialized physician to deliver PM&R care and the need for an increased numbers of rehabilitation hospitals to be established in Saudi Arabia.

## Statistical Analysis

Utilizing Microsoft Excel 2010 (Microsoft Corporation, Seattle, WA, USA) and the statistical package for social sciences version 22 (SPSS Inc., Chicago, IL, USA), the data were analyzed. Besides the descriptive analysis, the differences within the group were identified using the chi-square test.

## Results

A description of the study population is presented in table 1. The 200 physicians involved in the study cohort showed a mean ( $\pm$ SD) age of  $33\pm 1.82$  years, with 43% of the physicians were female. A large percentage (86%) of the study population was in the 25-35 year age group; 82% of the physicians were residents, 13% were medical specialists (registrars and senior registrars) and 5% were consultants.

In figure 1, the physician response to PM&R is shown. A total of 185 (92.5%) physicians reported being aware and/or heard about PM&R, while 40 (20%) responded that PM&R was identical to physical therapy. In all, 110 (55%) physicians had referred their patients to undergo PM&R treatment.

From the physicians referred in this study, 92 (46%) stated that they followed up with their referred patients, 146 (73%) physicians reported patient improvement post PM&R care, while 176 (89.5%) physicians emphasized the need for a specialized medical doctor for rehabilitation care. In fact, 90% of the total physicians expressed that Saudi Arabia requires a greater supply of rehabilitation hospitals (Figure 1).

Table 2 lists the physician responses and associated factors (such as, physician gender, age, specialty and rank) connected with PM&R awareness. The question "Have you ever referred patients to Physical Medicine and Rehabilitation care?" elicited significant results, as did age ( $p < 0.028$ ) and physician specialty ( $p < 0.029$ ).

Variables	n, %
<b>Gender</b>	
Male	114 (57%)
Female	86 (43%)
<b>Age</b>	
25-35 yrs	172 (86%)
36-45 yrs	17 (8.5%)
46-60 yrs	11 (5.5%)
<b>Specialty</b>	
Medical	150 (75%)
Surgical	39 (19.5%)
Others	11 (5.5%)
<b>Ranking in Saudi commission for health specialties</b>	
Resident	164 (82%)
Specialist/registrars	13 (6.5%)
Senior registrars	13 (6.5%)
Consultant	10 (5%)

Table 1: Description of the study participants.

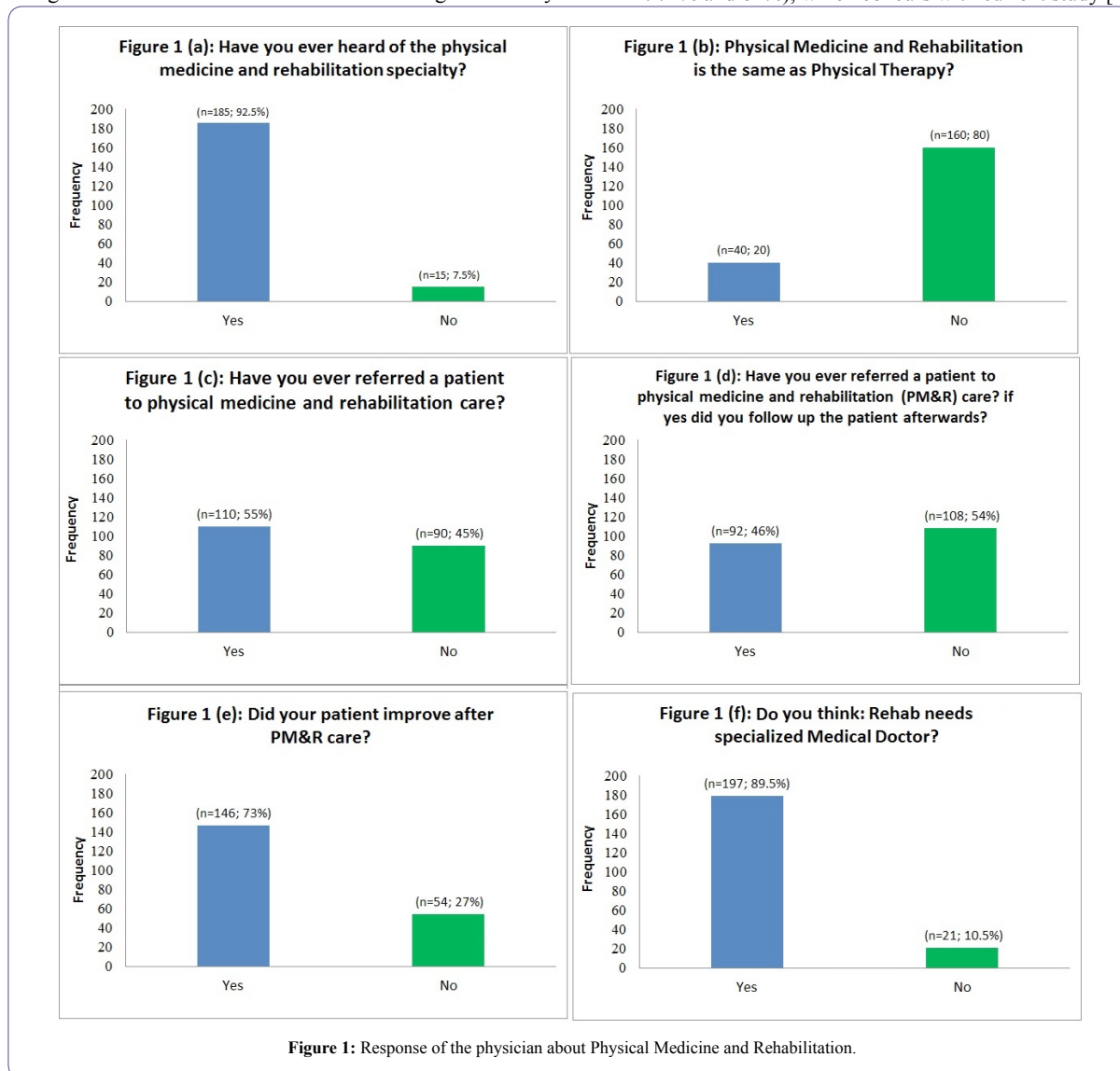
## Discussion

To our knowledge, this study is the first estimate of the extent of knowledge among the physicians in Saudi Arabia regarding PR&M. Including PRM (PM&R) in the standard medical training program has been introduced in a few countries (e.g., Australia, Belgium, Canada, France, Spain, Sweden, USA, and UK) [2]. In a recent study of medical providers in Poland, 404 (80.8%) respondents were found to deem PRM as a fundamental medical specialty. They also recognized the present insufficiency of knowledge and inadequacy of awareness among Medical Students (MS) and Non-PRM Specialists (NPRMS) of the role of PRM in the health care system [15]. In the current study, it was observed that 55% of physicians referred their patients to PM&R care, a finding which concurred with the earlier reports [16]. The majority noted improvements in patients with PM&R care and the need for additional PM&R physicians and centers. In light of the range of investigative queries posed in the questionnaire, the results imply a moderate level of awareness regarding PM&R in all the groups of respondents.

In another study performed in KSA to identify the attitudes of the general practitioners to PM&R, most of the participants (92.2%) expressed insufficiency of knowledge imparted in musculoskeletal education in the general practitioner training courses and 84.3% had not studied disabilities at all [17]. Among the respondents, 56.8% had visited at least one disabled patient during the previous month, while 11% had upwards of 10 during the same time period. General practitioners indicated that the musculoskeletal physical examination was the most required educational field [17]. This study found that 93 physicians had some awareness and/or had heard about PM&R and 82% reported that PM&R was different from physical therapy. Additionally, 90 physicians stated the need for specialized medical doctors for rehabilitation. In fact, 90% of the physicians responded that Saudi Arabia urgently required a greater number of rehabilitation hospitals. In a recent research done to ascertain the knowledge levels of the Medical Students (MS) and Non-PRM Specialists (NPRMS)

on the part played by PRM in health care system, it was clear that the knowledge of the definition of an individual having a disability

and PRM was meager (MS: 58% and 35%; NPRMS: 39% and 30% PRMT: 72% and 62%), which concurs with current study [2].



(a) Gender vs Physician Responses		Responses	Male	Female	P value
Have you ever heard of the physical medicine and rehabilitation specialty?	Yes	104	81	0.307	
	No	10	5		
Physical medicine and rehabilitation is the same as physical therapy?	Yes	27	13	0.92	
	No	87	73		
Have you ever referred a patients to physical medicine and rehabilitation care?	Yes	65	45	0.303	
	No	49	41		
Have you ever referred a patients to physical medicine and rehabilitation care? If yes, did you follow up the patients afterward	Yes	52	40	0.507	
	No	62	46		
Did your patient improve after physical medicine and rehabilitation care?	Yes	87	59	0.146	
	No	27	27		
Do you think rehabilitation needs specialized medical doctor?	Yes	101	78	0.406	
	No	13	8		

(b) Age vs Physician Responses	Responses	25-35 yrs	36-45 yrs	46-60 yrs	P value
Have you ever heard of the physical medicine and rehabilitation specialty?	Yes	157	17	11	0.267
	No	15	0	0	
Physical medicine and rehabilitation is the same as physical therapy?	Yes	35	3	2	0.954
	No	137	14	9	
Have you ever referred patients to physical medicine and rehabilitation care?	Yes	89	11	10	0.029
	No	83	6	1	
Have you ever referred patients to physical medicine and rehabilitation care? If yes, did you follow up the patients afterward	Yes	79	7	6	0.785
	No	93	10	5	
Did your patient improve after physical medicine and rehabilitation care?	Yes	124	12	10	0.384
	No	48	5	1	
What you think: Rehabilitation needs specialized medical doctor?	Yes	152	16	11	0.385
	No	20	1	0	

(c) Specialty vs Physician Responses	Responses	Medical	Surgical	Others	P value
Have you ever heard of the physical medicine and rehabilitation specialty?	Yes	136	39	10	0.14
	No	14	0	1	
Physical medicine and rehabilitation is the same as physical therapy?	Yes	33	3	4	0.52
	No	117	36	7	
Have you ever referred a patients to physical medicine and rehabilitation care?	Yes	85	22	3	0.164
	No	65	17	8	
Have you ever referred a patients to physical medicine and rehabilitation care? If yes did you follow up the patients afterwards	Yes	61	25	6	0.028
	No	89	14	5	
Did your patient improve after physical medicine and rehabilitation care?	Yes	107	30	9	0.622
	No	43	9	2	
What you think: Rehabilitation needs specialized medical doctor?	Yes	133	37	9	0.368
	No	17	2	2	

(d) Ranking vs Physician Responses	Responses	Resident	Consultant	Senior Register	Specialist Register	P Value
Have you ever heard of the physical medicine and rehabilitation specialty?	Yes	149	10	13	13	0.318
	No	15	0	0	0	
Physical medicine and rehabilitation is the same as physical therapy?	Yes	33	0	3	4	0.318
	No	131	10	10	9	
Have you ever referred a patients to physical medicine and rehabilitation care?	Yes	83	8	9	10	0.6
	No	81	2	4	3	
Have you ever referred a patients to physical medicine and rehabilitation care? If yes did you follow up the patients afterwards	Yes	72	6	7	7	0.632
	No	92	4	6	6	
Did your patient improve after physical medicine and rehabilitation care?	Yes	117	8	10	11	0.689
	No	47	2	3	2	
What you think: Rehabilitation needs specialized medical doctor?	Yes	145	10	11	13	0.357
	No	19	0	2	0	

**Table 2:** Physician responses about PM &R awareness and association of age, gender, specialty and ranking.

Some limitations have been observed in this study, including its cross-sectional characteristic, and also that the study was limited to a single hospital. More studies, conducted on a larger scale, are required to overcome these limitations.

## Conclusion

This study identifies a high level of awareness and satisfaction among Saudi physicians regarding PM&R services. The PM&R services must be expanded and proven to be a significant medical

specialty that can be offered to traumatized or ill patients. Therefore, we recommend that in the future, further studies be accomplished to confirm the results of this study.

## References

1. World Health Organization (2001) International Classification of Functioning, Disability and Health (ICF). World Health Organization, Geneva, Switzerland.

2. Tederko P, Krasuski M, Denes Z, Moslavac S, Likarevic I (2016) What medical doctors and medical students know about physical medicine and rehabilitation: a survey from Central Europe. *Eur J Phys Rehabil Med* 52: 597-605.
3. Momsen AM, Rasmussen JO, Nielsen CV, Iversen MD, Lund H (2012) Multidisciplinary team care in rehabilitation: an overview of reviews. *J Rehabil Med* 44: 901-912.
4. <https://www.merriam-webster.com/dictionary/physical%20medicine%20and%20rehabilitation>
5. American Academy of Physical Medicine and Rehabilitation (2017) What is a physiatrist? American Academy of Physical Medicine and Rehabilitation, Chicago, USA.
6. Gutenbrunner C, Ward AB, Chamberlain MA (2009) Re: the dream of a medical specialty named physical and rehabilitation medicine: a commentary on the European White Book of Physical and Rehabilitation Medicine. *Am J Phys Med Rehabil* 88: 1037-1039.
7. Stucki G, Bickenbach J, Gutenbrunner C, Melvin J (2017) Rehabilitation: The health strategy of the 21st century. *J Rehabil Med* 31.
8. <https://www.jrcptb.org.uk/specialties/rehabilitation-medicine>
9. Dawson PU (2009) A new discipline in medicine, physiatry: physical medicine and rehabilitation. *West Indian Med J* 58: 497-498.
10. Bal S, Oz B, Gurgan A, Memis A, Demirdover C, et al. (2011) Anatomic and functional improvements achieved by rehabilitation in Zone II and Zone V flexor tendon injuries. *Am J Phys Med Rehabil* 90: 17-24.
11. Mahmoud H, Qannam H, Zbogar D, Mortenson B (2017) Spinal cord injury rehabilitation in Riyadh, Saudi Arabia: time to rehabilitation admission, length of stay and functional independence. *Spinal Cord* 31: 509-514.
12. Robert AA, Zamzami MM (2013) Traumatic spinal cord injury in Saudi Arabia: a review of the literature. *Pan Afr Med J* 16: 104.
13. Al Jadid MS (2011) Rehabilitation medicine in the Kingdom of Saudi Arabia. *Saudi Med J* 32: 962-963.
14. Aleisa E, Al-Sobayel H, Buragadd S, Rao MG (2014) Rehabilitation services in Saudi Arabia: An overview of its current structure and future challenges. *J Gen Practice* 2: 184.
15. Tederko P, Krasuski M, Nyka I, Denes Z (2015) [Knowledge of physical and rehabilitation medicine among physicians and medical students in Poland]. *Wiad Lek* 68: 123-131.
16. Raecissadat SA, Samadi B, Rayegani SM, Bahrami MH, Mahmoudi H (2014) Survey of medical residents' attitude toward physical medicine and rehabilitation. *Am J Phys Med Rehabil* 93: 540-547.
17. Raissi GR, Mansoori K, Madani P, Rayegani SM (2006) Survey of general practitioners' attitudes toward physical medicine and rehabilitation. *Int J Rehabil Res* 29: 167-170.