



Original Article

A survey of physicians' experience and awareness of institutional provisions designed to foster patient engagement in KSA



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Received 28 January 2018; revised 7 March 2018; accepted 13 March 2018; Available online 17 April 2018

المخلص

أهداف البحث: للحصول على تصورات الأطباء عن خبراتهم ووعيهم حول الأحكام المؤسسية التي يمكن أن تعزز مشاركة المريض في المملكة العربية السعودية.

طرق البحث: في إبريل ٢٠١٧، تم عمل استطلاع عبر الإنترنت عن طريق توزيع استبانة عبر نموذج مستند جوجل للأطباء في المملكة العربية السعودية. يحتوي المستند أسئلة حول خبرة ووعي الأطباء للأحكام المؤسسية من الموارد والدعم.

النتائج: استجاب للاستطلاع ٣٢٥ طبيباً. وأوضحت النتائج أن ١٨.٥٪ منهم يرون أن مؤسساتهم تسمح بجدولة المواعيد عن طريق الإنترنت، و ٨.٩٪ تسمح بالتواصل بين المرضى والأطباء عبر البريد الإلكتروني، و ٢٤٪ تسمح لوصول المرضى للسجلات الصحية ونتائج التحاليل عبر الإنترنت، و ٥٥.٧٪ تسمح بتوفير البرامج التعليمية متعددة الوسائط، و ٧٤.٨٪ تسمح بصنع القرار المشترك بين الأطباء والمرضى. كما ذكر ٣٤.٥٪ فقط من المستجيبين أن مؤسساتهم تقوم بتوفير زيارات منزلية للمرضى ذوي الخطورة العالية. يرى ستة من ١٠ مستجيبين أن هذه الأحكام سيكون لها تأثير إيجابي ونتيجة لهم أيضاً مرضاهم.

الاستنتاجات: يعي الأطباء ويقومون بالأحكام التي تعزز مشاركة المريض. ولكن العديد من المؤسسات لا تدعم وتمارس هذه الأحكام التي تعزز مشاركة المريض. الأطباء الذكور ذوي الخبرة الأطول من الممارسة وأولئك الذين يشغلون مناصب

إدارية عليا هم أكثر من يقدم الدعم، ويقدر أهمية تعزيز مشاركة المريض في ممارستهم.

الكلمات المفتاحية: إشراك؛ المؤسسية؛ المريض؛ الأحكام؛ الدعم

Abstract

Objectives: To survey physicians' perceptions of their experience and awareness of institutional provisions that can potentially foster patient engagement (PE) in KSA.

Methods: In April 2017, an online survey was distributed to clinicians in KSA using Google Forms. The instrument contained questions about the physicians' awareness and experience of their institutions' provision of resources and support.

Results: Three hundred and twenty-five clinicians responded to the survey. The results showed that 18.5% claimed that their institutions allowed online scheduling of appointments; 8.9% reported the institutions permitted contact between patients and physicians through email; 24.0% reported they provided patients with online access to health records and test results; 55.7% claimed they provided educational multimedia programming; and 74.8% confirmed they encouraged joint decision-making between physicians and patients. Only 34.5% of respondents claimed their institutions provided home visits for high-risk patients. Six of 10 respondents thought that such provisions would have positive outcomes for them and for their patients.

Conclusions: Clinicians are aware of and value provisions that foster PE. However, several institutions in KSA do

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Peer review under responsibility of Taibah University.



not support or have provisions in place to foster PE. Male clinicians with longer durations of practice and those with higher administrative positions are more likely to value the importance of PE and support and use it in their practice.

Keywords: Foster; Institutional provision; Patient engagement

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Introduction

Patient engagement (PE) allows healthcare professionals (HCPs) to provide patients with the information and tools needed to determine their own healthcare, rather than depend only on the actions of HCPs or institutions.¹ Often used as an umbrella term that covers many other behaviors, PE is also interchangeable with “patient empowerment,” “patient participation,” and “patient involvement,” each of which can be interpreted subjectively.^{1–5} PE consists of four sequential phases: (1) “blackout” – the state of emotional blackout caused by a critical unexpected event, such as the onset of an illness; (2) “arousal” – the phase in which patients are hyper-attentive to all symptoms; (3) “adhesion” – the phase in which patients become adhesive and adhere to medical prescriptions; and (4) the “eudaimonic project” – the phase in which patients fully come to terms with their health status/conditions.⁶

PE facilitates the development of innovative practices to manage chronic diseases with fewer complications and costs. It aims to achieve excellence in clinical outcomes as a team rather than treat individual patients as sole victims of their illnesses and prescribing specific orders. The steps to achieving PE include exchanging information, discussing details of clinical problems, navigating treatment alternatives, and reaching a medical plan together. Nonetheless, the spectrum of PE is wide, and is influenced by many variables, such as culture, support systems, status of the illness, and demographics of the patients and physicians. Furthermore, the same physician or patient may change his/her position during different phases of treatment or in different situations. Another major challenge is the lack of scientific understanding of PE among HCPs, and no comprehensive guideline for engagement has been validated.^{2,7–11}

The promotion of PE has received increasing recognition as a way to address the challenges of coping with chronic conditions.^{11,12} It has been widely advocated as a crucial component of patient-centered models of sustaining healthcare innovation and a key strategy for including patients’ preferences for and expectations of the design and delivery of services, thereby maximizing their clinical effectiveness.^{13–15,16} Research has validated this perspective and has demonstrated that enhancing PE increase patients’ motivation to seek treatment and participate in the care

process,¹⁷ improves treatment outcomes,¹¹ and generates greater patient satisfaction with the care received.¹⁸ Finally, engaging patients in their care might contribute to the system’s sustainability by reducing the use of healthcare services.¹⁹

In KSA, the concept of PE is new, and there is no adequate empirical research or academic publications on the conceptualization of PE for HCPs and patients. The wide gap in knowledge about the concept of PE, particularly in KSA, is due to the lack of empirical data from this part of the world. Therefore, we conducted this study to assess and document clinicians’ perceptions and experiences of PE based on the institutional provisions in KSA.

Materials and Methods

This cross-sectional descriptive study was conducted using an online survey, which was designed after reviewing the literature and validating the items using experts opinions. Given the large number of respondents in the target population, the questionnaire was developed using the Google document application. The link to the survey was posted on Facebook and Twitter in April 2017. Prospective respondents (clinicians practicing in KSA) were informed about the electronic survey. Only practicing clinicians in adult specialties were invited to complete it. If practitioners answered “yes” to the invitation, they were directed to the actual survey questionnaire. The criteria for inclusion in the study were all clinicians practicing in an adult specialty in KSA. Physicians in pediatric specialties, medical interns, and students were excluded.

The survey questionnaire was developed through a series of literature searches of relevant concepts and institutional provisions for PE worldwide, including KSA. Prior to distributing the questionnaire electronically, a pilot study that elicited feedback about the questionnaire was conducted with 15 clinicians at King Saud University Medical City in Riyadh, KSA on two separate occasions to determine the questionnaire’s content validity and its’ understandability. The questionnaire included items about clinicians’ perceptions and experiences of PE, particularly the delivery and frequency of the institutions’ provisions of resources and support, the usefulness of these provisions for PE, the clinicians’ opinions of the outcomes related to PE in relation to their responsibilities and those of the patients.

The ideal sample size was calculated using the formula: $\text{sample size} = Z_{1-\alpha/2}^2 p(1-p)/d^2$, where $Z_{1-\alpha/2}^2$ is the normal variate, p is the expected population, and d is the absolute error or precision. If the base population of all practicing doctors in KSA is 28,029 based on the Saudi Council for Health Specialties (SCFHS) statistics, using the formula, the ideal sample size was determined to be 379. Data were retrieved from the online survey in Microsoft Excel and statistically analyzed using the Statistical Package for the Social Sciences (SPSS) version 22.0 (IBM SPSS Statistics for Windows, Armonk, NY: IBM Corporation). Descriptive data were reported as numbers and percentages for categorical data and means and standard deviations (SD) for continuous variables. Student’s t-test and cross-tabulations using the Chi-square test were performed to

determine the significance of the analyses of the continuous and categorical variables, respectively. Bivariate analysis using Pearson's correlations was conducted to determine the associations between variables.

Results

A total of 325 clinicians responded to the survey. Their mean total years of experience after graduation from medical school was 9.8 ± 9.5 years (range: 2–60 years). The demographic characteristics of the respondents are shown in Table 1.

Table 2 shows the clinicians' responses to the questions on their perceptions and experiences of the institutional provisions and support for patients. Of the respondents who answered the questions, 60 (18.5%) claimed their institution allowed patients to schedule appointments online; 29 (8.9%) claimed their institution allowed contact between patients and physicians by email; and 78 (24.0%)

reported their institution provided patients online access to their health records and test results. Furthermore, 181 (55.7%) clinicians confirmed their institution provided educational programming using TVs, tablets, banners, and other media; 243 (74.8%) claimed their institution allowed joint-decision making between physicians and patients; 105 (32.3%) reported their institution assigned care coordinators for high-risk patients to prevent complications; and 112 (34.5%) reported their institution provided home visits for high-risk patients.

More than half of the respondents gave "excellent" and "above average" ratings for allowing patients to schedule appointments online (51.7%), promoting contact between patients and physicians by email (58.6%), encouraging joint decision-making (50.7%), assigning care coordinators for high risk patients (60.9%), and providing home visits for high-risk patients (65.2%) (Table 3).

Table 4 shows the physicians' perceptions of the usefulness of the institutional provisions and support in their clinical practices. Over 70% of the respondents perceived the institutional provisions as being useful for their practices, including the online booking, joint decision-making between physicians and patients, educational programs, assignment of care coordinators, and home visits. Respondents perceived online access to health records and test results, and contact between patients and physicians by email as less important (66.2% and 53.5%, respectively).

Approximately 6 of 10 respondents were optimistic about these institutional provisions being incorporated into their daily routines, whereas 5 to 6 of 10 respondents were optimistic that these institutional provisions would facilitate positive outcomes among their patients (Table 5). There was a significant correlation between the clinicians' optimistic perceptions of the institutional provisions and support for PE with gender ($r = 0.122$, $p = 0.028$), length of experience as a clinician ($r = 0.147$, $p = 0.008$), and current position ($r = -0.158$, $p = 0.004$). There also was a significant correlation between the clinicians' perceptions of what patients would feel if these institutional tools and methods for PE were to be added to their responsibilities with clinicians' regions of practice ($r = -0.111$, $p = 0.046$) and gender ($r = 0.140$, $p = 0.012$).

Discussion

This study demonstrated that based on the perceptions of the clinicians that were surveyed, few institutions provided support and tools to foster patient engagement. Less than 30% of our respondents claimed that their institutions allowed patients to schedule appointments online, allowed contact between patients and doctors via email, or allowed patients to have online access to their health and test records (Table 2). This proportion is considerably lower than usage of the internet for health-related bookings, appointments, and healthcare services in many European countries, including Norway, Denmark, Germany, Greece, Poland, Portugal, and Latvia, where internet use is as high as 70% of the population.²⁰ In China, approximately 35% of the patients use an online booking system, although a substantial majority continues to use the walk-in mode.²¹ This finding implies that the vast majority of our patients

Table 1: Demographic characteristics of the 325 clinicians who responded to the survey on institutional provisions for patient engagement.

Demographic variables	n	%
Gender		
Male	153	47.1
Female	172	52.9
Type of main institution		
Governmental, non-MOH, non-military	107	32.9
Military hospital	56	17.2
Ministry of Health	143	44.0
Private sector	19	5.8
Specialty		
Family Medicine	72	22.2
Emergency Medicine	70	21.5
Internal Medicine	34	10.5
OB-Gyn	31	9.5
General Surgery	25	7.7
ENT	11	3.4
Psychiatry	10	3.1
Dermatology	4	1.2
Orthopedics	3	0.9
Urology	3	0.9
Plastic Surgery	2	0.6
Anesthesia	1	0.3
Others	59	18.2
Current position		
Training resident	103	31.7
Consultant	93	28.6
Senior registrar	50	15.4
Service resident	34	10.5
Executive Director, Chairman, or Head	28	8.6
Registrar	24	7.4
Region of practice		
Western	140	43.1
Central	130	40.0
Eastern	28	8.6
Southern	24	7.4
Northern	3	0.9
Nationality		
KSA	304	93.5
Non-KSA	21	6.5

non-MOH = non-Ministry of Health.

Table 2: Responses of the 325 clinicians to questions on their perceptions and experience of institutional provisions and support to patients.

Institutional provision of resources and support	n (%)	How often used n (%)					
		Always	Very often	Sometimes	Rarely	Never	No response
Allows patients to schedule appointments online							
Yes	60 (18.5)	16 (4.9)	12 (3.7)	18 (5.5)	2 (0.6)	7 (2.2)	5 (1.5)
No	234 (72.0)						
Not sure	31 (9.5)						
Allows contact between patients and physicians via email							
Yes	29 (8.9)	9 (2.8)	5 (1.5)	9 (2.8)	2 (0.6)	1 (0.3)	3 (0.9)
No	272 (83.7)						
Not sure	24 (7.4)						
Provides patients online access to health records and test results							
Yes	78 (24.0)	20 (6.2)	13 (4.0)	13 (4.0)	3 (0.9)	29 (8.9)	—
No	213 (65.5)						
Not sure	34 (10.5)						
Provides educational programming via TVs, tablets, banners or other modes							
Yes	181 (55.7)	32 (9.8)	47 (14.4)	59 (18.2)	18 (5.5)	9 (2.8)	16 (4.9)
No	103 (31.7)						
Not sure	41 (12.6)						
Explains to patients their conditions to promote joint decision-making rather than depend on sole decision-making by the physician or institution							
Yes	243 (74.8)	85 (26.2)	84 (25.8)	32 (9.8)	6 (1.8)	13 (4.0)	23 (7.1)
No	51 (15.7)						
Not sure	31 (9.5)						
Assigns care coordinators for high-risk patients to prevent complications							
Yes	105 (32.3)	29 (8.9)	35 (10.8)	21 (6.5)	4 (1.2)	6 (1.8)	10 (3.1)
No	150 (46.2)						
Not sure	70 (21.5)						
Allows home visits for high risk patients							
Yes	112 (34.5)	25 (7.7)	29 (8.9)	25 (7.7)	10 (3.1)	13 (4.0)	10 (3.1)
No	152 (46.8)						
Not sure	61 (18.8)						

Table 3: Clinicians' ratings of the institutional provisions and support methods based on the patients' responses provided to the clinicians who responded "yes" to institutional provisions and support.

Institutional provision and support	Clinician's rating, n (%)					
	Excellent	Above average	Average	Below average	Poor	No response
Allows patients to schedule appointments online	19 (31.7)	12 (20.0)	16 (26.7)	3 (5.0)	3 (5.0)	7 (11.7)
Allows contact between patients and physicians by email	8 (27.6)	9 (31.0)	5 (17.2)	2 (6.9)	2 (6.9)	3 (10.3)
Provides patients online access to health records and test results	21 (26.9)	14 (17.9)	11 (14.1)	8 (10.3)	7 (8.9)	17 (21.8)
Provides educational programming via TV, tablets, banners, or other modes	24 (13.3)	48 (26.5)	52 (28.7)	15 (8.3)	4 (2.2)	38 (21.0)
Explains to patients their conditions to promote joint decision-making rather than depend on sole decision by physician	48 (19.8)	75 (30.9)	56 (23.0)	10 (4.1)	5 (2.1)	49 (20.2)
Assigns care coordinators for high-risk patients to prevent complications (by email, text, or telephone call)	33 (31.4)	31 (29.5)	17 (16.2)	4 (3.8)	2 (1.9)	18 (17.1)
Provides home visits for high-risk patients	43 (38.4)	30 (26.8)	24 (21.4)	3 (2.7)	4 (3.6)	8 (7.1)

still use the conventional walk-in process of scheduling despite the technological advances and digitalization of healthcare institutions in KSA. Providing an online appointment booking system for patients has been reported to increase patient engagement, optimize the delivery of health care to patients, increase patient satisfaction, and reduce the waiting time for patients.^{22,23} Furthermore, this study showed (Table 4) that 42.5% of our respondents thought that online scheduling of patients' visits was extremely useful for their clinical practices, with more than

half (51.7%) rating this provision as above average or excellent (Table 3). These perceptions were found to be significantly correlated to respondents' current job positions, wherein clinicians employed at the rank of associate professor and above found these online tools and methods most useful, similar to the findings of the study by Zhang et al.²¹ Clinicians employed in positions of a lower rank preferred walk-in appointments because some of their patients were unable to keep appointments that were scheduled online and others needed urgent care.²¹ Consistent

Table 4: Physicians' perceptions of the usefulness of institutional provisions and support in their practice.

Institutional provisions	Extremely useful	Very useful	Somewhat useful	Slightly useful	Not useful at all	No response
Allows patients to schedule appointments online	138 (42.5)	90 (27.7)	33 (10.2)	12 (3.7)	7 (2.2)	45 (13.8)
Allows contact between patients and physicians via email	85 (26.2)	89 (27.4)	66 (20.3)	23 (7.1)	15 (4.6)	47 (14.5)
Provides patients online access to health records and test results	130 (40.0)	85 (26.2)	39 (12.0)	11 (3.4)	16 (4.9)	44 (13.5)
Provides educational programming via TV, tablet, banners, or other mode	159 (48.9)	94 (28.9)	28 (8.6)	5 (1.5)	3 (0.9)	36 (11.1)
Explains to patients their conditions to promote joint decision-making rather than depend on sole decision by physician	197 (60.6)	75 (23.1)	14 (4.3)	7 (2.2)	2 (0.6)	30 (9.2)
Assigns care coordinators for high-risk patients to prevent complications by email, text, or telephone call	173 (53.2)	75 (23.1)	23 (7.1)	9 (2.8)	3 (0.9)	42 (12.9)
Provides home visits for high-risk patients	144 (44.3)	95 (29.2)	22 (6.8)	13 (4.0)	6 (1.8)	45 (13.8)

Table 5: Physicians' perceptions of the effects of the institutional provisions and support on themselves and their patients.

Physicians' perceptions	Positive	Neutral	Negative	Undecided
How do you feel about adding these extra responsibilities to your daily routine?	196 (60.3)	73 (22.5)	15 (4.6)	41 (12.6)
How do you think patients would feel about adding more responsibilities to their existing obligations?	187 (57.5)	60 (18.5)	17 (5.2)	61 (18.8)

with these results, our study also found a correlation between more experienced doctors (those with more years of clinical experience) and gender with a positive outlook on the use of these tools for PE.

Another important finding in this study was the very low percentage of institutions using E-communication between patients and physicians, including patients' electronic access to their health records and electronic communication between the patients and their doctors (Table 2), despite the clinicians' positive perceptions of the advantages of these tools and methods to engage the patients in their own treatment. Our percentage is relatively lower than that reported in a survey of 4203 physicians in the State of Florida that showed a 16.6% usage of emails to communicate with patients.²⁴ Patients who use technology, such as social media and the internet are more empowered and more engaged in their treatment and management, since they are allowed to monitor the progress of their treatment.^{25,26} That study identified factors related to technology use, including a lower usage of email among Asian-Americans, older patients, patients from rural settings, and clinicians' specialty of internal medicine.²⁶ In contrast, the use of email in our study showed no correlation with gender, age, region of practice, or clinical specialty.

The provision that allows patients to be involved in joint decision-making with their physicians was most preferred by patients. In our study, 74.8% of respondents claimed their institution allowed joint decision-making rather than sole decision-making by the physician in the management of the patients, although only 19.8% of these respondents rated this provision as excellent (Table 3). This is in accordance with a study conducted by Alhaqwi in 2015, which found that 57% of the patients preferred shared decision-making.¹⁰ The majority of our respondents (60.6%) further deemed the practice of shared decision-making extremely useful for both patients and clinicians. Through this type of decision-making, patients become more involved in all aspects of

their health conditions and are made aware of the most appropriate treatment choices, thereby fitting the description of e-patients (i.e., those who are equipped, enabled, empowered, and engaged in their healthcare decisions).^{27,28}

Enabling planned home visits improves treatment outcomes through patient empowerment and engagement.²⁹ Our study showed that 34.5% of our respondents claimed that their institution had provisions for home visits for high-risk patients, and 38.4% thought that the delivery of this provision was excellent, while 44.3% claimed that it was extremely useful as a tool to engage patients in their management (Tables 2–4). This was very true particularly among oncology patients for whom healthcare reform has shifted from institutional-based cancer treatment to patient-centered medical homes that are patient-driven and patient-focused.³⁰

The positive correlation between physicians' perceptions and awareness of PE and male gender, duration of practice, and higher academic rank can be explained by culture, autonomy, and administrative power. The practice of medicine in KSA among women began only in 1975, and male doctors actually enjoyed more advantages than female doctors; however, a 2017 survey showed that there was gender equality among doctors in terms of opportunities in all aspects.³¹ Doctors with a longer duration of practice and a higher academic rank tended to occupy higher administrative positions, and were thus, more aware of the institutional provisions.

The use of a self-report survey is itself a limitation of the study. Most of the questions that were asked in the survey were based on the investigators' presumptions and hypotheses regarding their perceptions and awareness of PE. A qualitative study would have highlighted more in-depth responses about physicians' current awareness of PE. Our target sample size was 379 respondents, and our actual study sample was 325, which was less than our original aim. However, with the 325 respondents, we were able to deduce information and detect findings that answered our questions and fulfilled our objectives, although our sample did not

reach the ideal size. Finally, our study highlighted the importance of PE on the perceptions of the physicians/clinicians, and found that male clinicians with longer durations of practice and higher positions, such as associate professors were more likely to promote PE, value its importance, and use tools and methods to promote PE in their practice.

Conclusion

Clinicians value the importance of PE in the management of patients. However, few institutions in KSA provide and support methods to foster PE. Male clinicians with longer durations of practice and those in higher positions are more likely to promote, use, and value the importance of PE in their practice. However, there is a need for institutions to evaluate the utilization and significance of their PE programs and foster PE to empower patients to take an active role in their treatment and management.

Recommendations

There is a need for institutions to evaluate the utilization and significance of their PE programs and foster PE to empower patients to take an active role in their treatment and management.

Conflict of interest

The authors have no conflict of interest to declare.

Ethical approval

The institutional review board (IRB) of the College of Medicine, King Saud University, Riyadh, KSA granted ethical approval of the study's protocol. All research activities were conducted in compliance with fundamental principles of the ethical treatment of human subjects and the policies of the IRB. Confidentiality of the respondents' information and the collected data were protected by storing them in a secure location throughout the study period. Participants' completion of the online survey constituted giving informed consent to take part in the study. Written informed consent from the participants was not sought due to the nature of the study.

Authors' contributions

All authors testify that all persons designated as authors qualify for authorship and have checked the article for plagiarism. All authors have met all four of the following criteria: BS – conception of the work, planning of the study, manuscript writing, approval of the final version. AK – Design of the work, acquisition and interpretation of data, writing of manuscript, approval of the final version. MB – Design of the work, acquisition and interpretation of data, writing of manuscript, approval of the final version. GG – Design of the work, interpretation of data, writing of manuscript, approval of the final version. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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How to cite this article: Shahahmad BS, Khan AA, Batais MA, Gaumer GL. A survey of physicians' experience and awareness of institutional provisions designed to foster patient engagement in KSA. *J Taibah Univ Med Sc* 2018;13(3):291–297.