

Challenges to Quality Primary Health Care in Saudi Arabia and Potential Improvements Implemented by Other Systems: Systematic Review

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Abstract

Introduction: As primary healthcare centres play an important role in implementing Saudi Arabia's health strategy, this paper offers a review of publications on the quality of the country's primary health care. With the aim of deciding on solutions for improvement, it provides an overview of healthcare quality in this context and indicates barriers to quality.

Method: Using two databases, ProQuest and Scopus, data extracted from published articles were systematically analysed for determining the care quality in Saudi primary health centres and obstacles to achieving higher quality.

Results: Twenty-six articles met the criteria for inclusion in this review. The components of healthcare quality were examined in terms of the access to and effectiveness of interpersonal and clinical care. Good access and effective care were identified in such areas as maternal health care and the control of epidemic diseases, whereas poor access and effectiveness of care were shown for chronic disease management programmes, referral patterns (in terms of referral letters and feedback reports), health education and interpersonal care (in terms of language barriers). Several factors were identified as barriers to high-quality care. These included problems with evidence-based practice implementation, professional development, the use of referrals to secondary care and organisational culture. Successful improvements have been implemented by other systems, such as mobile medical units, electronic referrals, online translation tools and mobile devices and their applications; these can be implemented in Saudi Arabia for improving the quality of the primary healthcare system in this country.

Conclusion: The quality of primary health care in Saudi Arabia varies among the different services. To improve quality, management programmes and organisational culture must be promoted in primary health care. Professional development strategies are also needed for improving the skills and knowledge of healthcare professionals. Potential improvements can be implemented to improve the quality of the primary health system.

Keywords: quality, primary health care, Saudi Arabia, health centres, general medical, family practice, community medicine

1. Introduction

Primary health care is the first point of healthcare provision for most people. The World Health Organization [WHO] (2008) reported that the value of primary health care is achieving health throughout the healthcare system by bringing people into the primary care centres. Since the Alma Ata Declaration in 1978, Saudi Arabia has treated the development of key primary healthcare features as one of the country's most important strategies (Littlewood & Yousuf, 2000). In 2013, the Ministry of Health had 2259 primary health centres throughout the country, with a ratio of 7.53 per 100,000 members of the population (Ministry of Health- Saudi Arabia, 2013).

The quality of health care varies in the United States and other countries around the world (Schuster, McGlynn, & Brook, 2005), and like other countries, Saudi Arabia faces several challenges. These include a shortage of Saudi health professionals, high demand for services, rising costs, poor accessibility to some healthcare facilities and changing

patterns of disease (Al-Mutairi, 2017).

Healthcare quality has been defined as a multidimensional concept (Duggirala, Rajendran, & Anantharaman, 2008; Raposo, Alves, & Duarte, 2009). The dimensions of a quality health system have been identified as accessibility, effectiveness, efficiency, equitability and safety (WHO, 2006). Indeed, quality has long been promoted as an integral part of primary health care in Saudi Arabia. In 1993, the country's national guidelines for quality control in primary health care were established, covering the main features of primary health care, including chronic disease management, health education, the management of communicable diseases and environmental health, community participation, prescriptions, referrals, immunisation, paediatric health care and maternal health care (Al-Ahmadi & Roland, 2005). Moreover, in 1995, a management development and personnel programme was initiated in the country's primary healthcare institutions (Almasabi, 2013). In this programme, managers were trained to improve their levels of efficiency and help in the quality improvement efforts being implemented in primary healthcare centres (Al-Ahmadi & Roland, 2005; Almasabi, 2013). However, more than 20 years after the implementation of Saudi Arabia's primary healthcare and quality control programmes, little information about primary healthcare quality is available. This review gives an overview of the Saudi primary healthcare quality and determines obstacles to quality in the country's primary healthcare institutions.

2. Methodology

2.1 Searches and Data Sources

A comprehensive search was performed to obtain studies on the quality of primary health care in Saudi Arabia. The databases used in the search included ProQuest and Scopus, and the keywords used were 'quality', 'primary health care', 'Saudi Arabia', 'health centres', 'general medical', 'family practice' and 'community medicine'. These keywords were used to find articles with matching terms in their abstracts or titles. To discover the most recent studies and literature on our review topic, the search was limited to articles published between 2000 and 2018.

2.2 Inclusion and Exclusion Criteria

This review included studies that reported on the quality of primary health care in Saudi Arabia and were published in English between 2000 and 2018. Studies with small sample sizes ($n < 100$) and response rates ($< 60\%$) were excluded, as were non-peer-reviewed articles. Exclusion was also applied to articles related to primary health care but not quality.

2.3 Data Extraction

The extracted data are summarised in two tables. Table 1 includes the general characteristics of the literature and studies reviewed, specifically, the type of study, data collection method, sample size, response rate, region and type of organisation where the study was performed. Table 2 focusses on the results of the primary healthcare quality reviews and barriers to quality in each study and lists which dimension of healthcare quality each article addressed.

3. Results

Figure 1 presents the method used for selecting eligible studies for this review. In the first stage, ProQuest and Scopus returned 3288 articles. After duplicate articles and those published before 2000 were removed, 624 remained. Non-peer-reviewed articles (275) and articles not mainly about quality in primary health care (221) were then excluded. After excluding studies with sample sizes under 100 and response rates under 60%, 26 articles were included in this review.

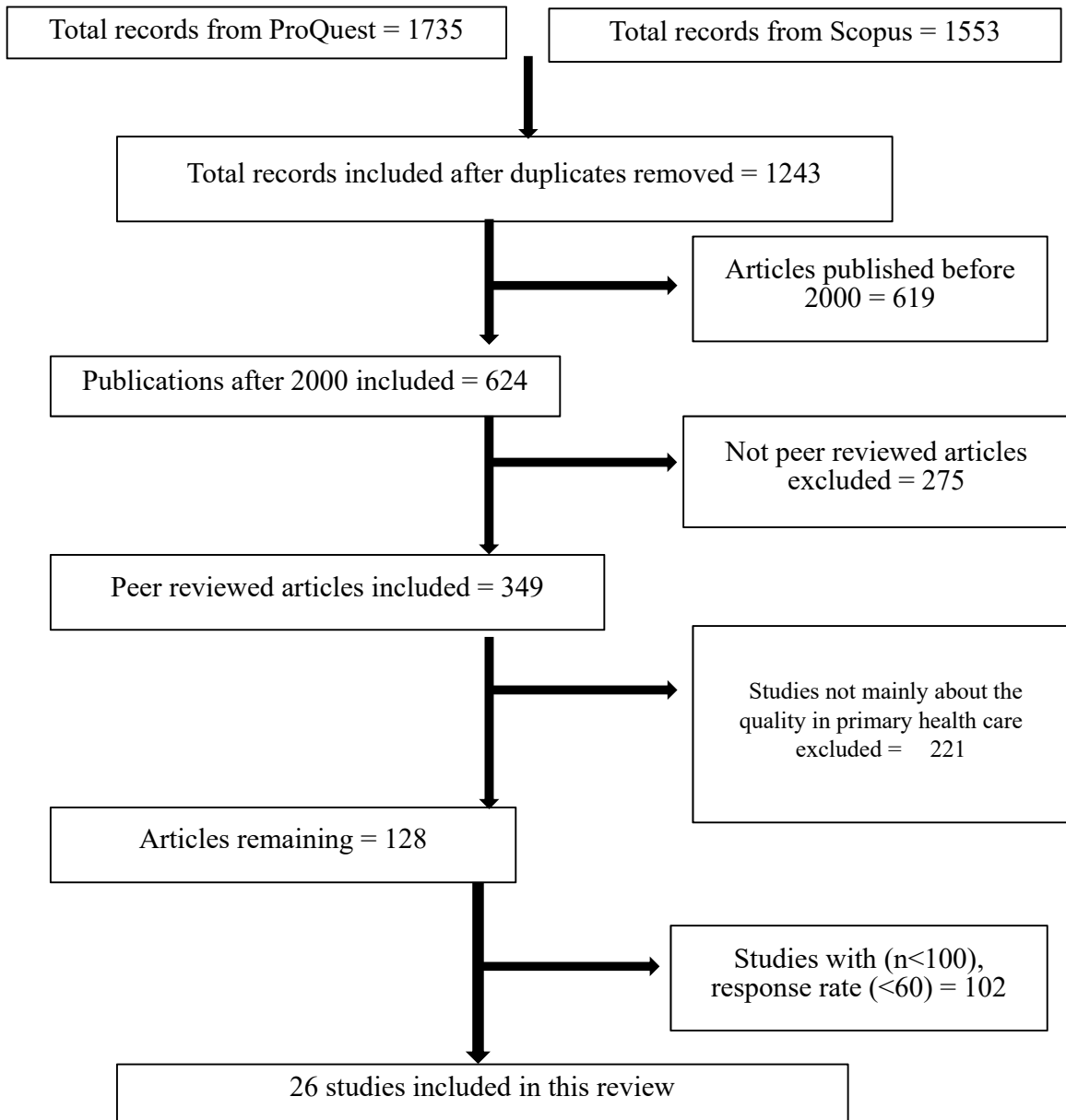


Figure 1. The process of selecting the 26 articles, which are contained in this review

Tables 1 and 2 show summaries of the general characteristics and most important findings of the 26 studies. Among the studies, five were from southern, seven from eastern, eight from central and two from northern and western Saudi Arabia, while three were from Mexico, Canada and Germany. The remaining article incorporated multiple countries, specifically, the United Kingdom, Norway, Finland, Netherlands, Denmark, New Zealand, Canada, Australia and the United States. Most of the studies were carried out in the primary health institutions of the Ministry of Health, while two were carried out in an army health institution. Fifteen studies collected data by questionnaire, seven through medical records and four by interview. The total sample size of all the studies was 9997, while the individual studies' sample sizes ranged from 39 to 1553, with response rates ranging from 61% to 100%.

Most of the studies included in this review focussed on administration, clinical care and interpersonal care (Table 2). The results of these studies can be divided into two main categories: the quality of care provided and obstacles to providing quality care.

3.1 Quality of Care Provided

Access

Maternal care was reported to be available in both urban (67%) and rural (96%) areas (El-Gilany & Aref, 2000). The distances between PHCCs and patients' homes were reported to be acceptable and to provide easy access to centres (86%). Access to the chronic diseases programme was observed to be below target (Al-Jaber & Da'ar, 2016; Al-Khalidi & Khan, 2000; Al-Mustafa & Abulrahi, 2003). For instance, only a small number of registered hypertension patients had visited centres for treatment (16–36%; (Al-Mustafa & Abulrahi, 2003). Dental services were observed to be unavailable in primary health centres (28%), and the cost of private dental services was reported to be high (37%; (Al-Jaber & Da'ar, 2016). Low referral rates and missed appointments reportedly prevented appropriate access to specialist care to health services; most primary care institutions had established registers, appointment systems and follow-up systems (Alhamad, 2013; Kishk & Al Juhani, 2006). Finally, the mobile unit had reduced 35% of attendance for outpatient clinics, which can be a solution to providing health services without needing to provide clinics (Diaz-Perez, Farley, & Cabanis, 2004).

Effectiveness

Many studies have indicated that several primary healthcare programmes have been effective, including diabetes care education (Al-Khalidi & Khan, 2000) and maternal health care (El-Gilany & Aref, 2000). As a result of the diabetes health education programme, about 73% of diabetic patients received health education on relevant topics, which helped physicians communicate more effectively with them (Al-Khalidi & Khan, 2000). The expanded maternal services programme increased maternal care coverage to 96% in rural areas and 67% in urban areas (El-Gilany & Aref, 2000). In contrast, resources for primary diabetic care were inadequate (Al-Khalidi & Al-Sharif, 2002). Many factors contributed to this, including a lack of access to essential drugs (10–18%), lack of coordination with secondary providers regarding diabetic care (65%), lack of appointment systems for diabetic care (10%) and lack of training in diabetic care nurses (57%) and doctors (80%).

Nursing staff were also dissatisfied with working life in primary care, for reasons like inadequate salary (61%), working environments that felt unsafe (60%) and long working hours (71%; (Almalki et al., 2012). A Canadian study from 2011 reported that 85% of the participants used mobile devices and their applications to access new information because such devices allow flexible, quick and easy access to multi-media, journals and medical news (Wallace et al., 2012).

3.2 Obstacles to Providing Quality Care

This review identified four factors that delay the achievement of quality primary health care in Saudi Arabia. These are difficulties in the implementation of evidence-based medicine (EBM), problems at the interface with secondary providers, issues with professional development strategies and organisational culture.

Inadequate implementation of EBM

National guidelines have been established for several common conditions; however, some studies have shown that clinical decisions are not adequately evidence based (Al-Ansary & Khoja, 2002; Dashash & Mukhtar, 2003; Khan et al., 2011). This has contributed to inadequate diagnoses, inappropriate clinical decisions, wide practice variations and unsafe prescription patterns (Al-Ansary & Khoja, 2002; Dashash & Mukhtar, 2003). The implementation of evidence-based medicine faces such obstacles as poor guideline dissemination

Table 1. Summary of general characteristics of the included studies in this review

Author	Region	No. Organization	Type of Organization	Study type	Data Collection	Sample size	% of response
(Al-Ahmadi & Roland, 2005)	South	One family practice	Health Authority	Cross-sectional	Medical records	864	NR
(Al-Alfi, Al-Saigul, Abed-Elbast, Sourour, & Ramzy, 2007)	Central	6 PHCs	MOH	Retrospective	Medical Records	330	NA
(Al-Ansary & Khoja, 2002)	Central	275 PHCCs	MOH	Cross-sectional	Questionnaire	650	89
(Albattal, 2014)	Central	One health center	Military	Cross-sectional	Questionnaire	101	80
(Albrecht, Behrends, Schmeer, Matthies, & Von Jan, 2013)	Germany	Hospital	MOH	Cross-sectional	Questionnaire	39	90
(Alfaqeeh, Cook, Randhawa, & Ali, 2017)	Central	10 PHCCS	MOH	Cross-sectional	Questionnaire	1032	91
(Alhamad, 2013)	Central	One general clinic	Military	Case-control	Medical Records	750	86
(Al-Jaber & Da'ar, 2016)	Central	2 PHCCs	MOH	Cross-sectional	Questionnaire	242 health centers	95
(Al-Khalidi & Al-Sharif, 2002)	Southwest	242 health centers	MOH	Retrospective study	Questionnaire	242 health centers	99
(Al-Khalidi & Khan, 2000)	South	One health center	MOH	Retrospective study	Medical records for diabetic patients	198	NR
(Al-Khathami, Kojan, Aljumah, Alqahtani, & Alrwaili, 2010)	Central	NR	MOH	Cross-sectional	Questionnaire	116	100
(Al-Makhaita, Sabra, & Hafez, 2014)	East	24 PHCCs	MOH	Cross-sectional	Questionnaire	144	99
(Almalki, FitzGerald, & Clark, 2012)	Southern	134 PHCCs	MOH	Cross-sectional	Questionnaire	582	92
(Almoajel, Fetohi, & Alshamrani, 2014)	Eastern	NR	MOH	Cross-Sectional	Questionnaire	200	NR
(Al-Mosilhi & Kurashi, 2006)	East	76 health centers	MOH	Cross-sectional	Questionnaire	199	61
(Al-Mustafa & Abulrahi, 2003)	East	13 PHCCS	MOH	Retrospective cohort study	Medical records of adult hypertension patients	320	NR

(Alsharif & Al-Khaldi, 2001)	South	All PHCCS	Aseer region	MOH	Cross-sectional	Questionnaire	383	86
(Alzaied & Alshammari, 2016)	Central	NR		MOH	Cross-sectional	Questionnaire	426	91
(Bawakid et al., 2017)	East	NR		MOH	Cross-sectional	Interview	246	92
(Dashash & Mukhtar, 2003)	West	One health center		National Guard	Retrospective study	Medical records	206	NR
(Diaz-Perez et al., 2004)	Mexico-Northern	rural Community center	health	MOH	Cross-sectional	Medical records	1553	NR
(El-Gilany & Aref, 2000)	North	6 PHCCs		MOH	Retrospective cohort study	Interview	375	NR
(Khan, Lateef, Khamseen, Al Aithan, & Al Ibrahim, 2011)	East	Health Directorate		MOH	Cross-sectional	Questionnaire	122	82
(Kishk & Al Juhani, 2006)	Eastern	32 health centers		MOH	Cross-sectional	Questionnaire	445	79
(Tian, 2011)	UK, Norway, Finland, Netherlands, Denmark, Scotland, Zealand, Canada, Australia, and U.S	New Zealand	NR	MOH	NA	Interview	NR	NR
(Wallace, Clark, & White, 2012)	Canada	Medical School		MOH	Cross-sectional	Interview	232	100%

*MOH: The ministry of health, NR: Not recorded, NA: Not applicable.

(Dashash & Mukhtar, 2003); poor understanding of course technology terminology; a low level of awareness of review publications, journals and databases among physicians (Al-Ansary & Khoja, 2002); and disagreements of physicians with disease self-management education (Khan et al., 2011). Most physicians have limited access to the internet (Al-Ansary & Khoja, 2002).

Table 2. Important findings from this review

Author	Dimension	Focus	Results
(Al-Ahmadi & Roland, 2005)	Interface with secondary care	communication	Hospital feedback was released only if it required by primary healthcare or patient, referral letters were delivered by patients, feedback report lacked the information: Diagnosis (15%), advice (100%), and result of investigation (21%).
(Al-Alfi et al., 2007)	Interface with secondary care	communication	Lack of information in referral form: history (36%), vital signs (30%), result of examination *45%), results of investigation (52%), provisional diagnosis (50%), treatment given in PHCCS (47%). Feedback report received only 30% of referral to hospital.
(Al-Ansary & Khoja, 2002)	Evidence based medicine	Attitude/ barriers	Physicians had a high attitude towards evidence based medical. Barriers the course: Lack of personal time (22%), overload (29%), limited to access to references (16%) and internet (10%). Low level of awareness for: Review publications and journals, and low understanding of the course technical terminology.
(Albattal, 2014)	Interface with secondary care	Management	Implementing referral system, reduce 32% of visits in hospital. The main factors for inappropriate referrals, GP reported: poor awareness of the available clinics of secondary care (67%), lack of referral feedback (86%), difficult to communicate with specialists by phone (91%). To improve referral process, should be periodic referral auditors (84%).
(Albrecht et al., 2013)	Access/ effectiveness	Language barriers	MediBabble application had been implemented in health organisations to overcome language barriers. Participants reported: - (92% of participants) reducing the time of the visit. -(92%) easy to access. -(92%) improving the quality of health care delivery and patient safety.

(Alfaqeeh et al., 2017)	Access	Patient satisfaction	Distance from patients' residence to health centers is problem, in (28%) rural region, (12%) urban region.
(Alhamad, 2013)	Access / Effectiveness	Appointment	Missing an appointment was from 24% to 30%. Reasons for missing an appointment: difficult to book an appointment, long distance, unavailability of transportation, and visiting another health center.
(Al-Jaber & Da'ar, 2016)	Access/ effectiveness	Oral health care	Challenges face by patients: - An unavailable dentist in PHCC (28%), and that explains why (77%) of patients indicate private dental clinics. (37%) the high cost of private dental clinics
(Al-Khalidi & Al-Sharif, 2002)	Organization effectiveness	Resources of diabetes care	Inadequate resource items for diabetic care: Only between 10% and 18% essential drugs, 65% of centers did not have coordination with hospital about diabetic care, 74% have a mini diabetic clinic, 10% did not have an appointment system for diabetic care, 43% had training nurse on health education, 8% health education, 20% of doctors trained on diabetic care.
(Al-Khalidi & Khan, 2000)	Access/ effectiveness	Health educations diabetes	Diabetic patients who received health education: (21%) medication, (80%) diabetes, (44%) insulin injection, (25%) exercise, (21%) signs of hypoglycemia, (39%) foot care, and (77%) diet. 27% of diabetic patients did not receive any education.
(Al-Khathami et al., 2010)	Access	obstetrics	Language barriers between expiate professional special nurses and patients. Patient reported: 70% felt uncomfortable during communication, 50% of nurses avoid conversation, 70% of nurses end the conversation.
(Al-Makhaita et al., 2014)	organization culture	Job stress	The overall stress in the professionals was 46%, The source of stress: work shifts (90%0, non-bachelor's degree (83%).
(Almalki et al., 2012)	Effectiveness	Quality of nurses' work life	Nurses stated: (61%) inadequate salary, (60%) insecure working environment, (70.5%) unhappy with working hours, (58%) unable to balance work with their family needs.
(Almoajel et al., 2014)	Access	Patients satisfaction	(86%) of patients reported distance between center and their home acceptable. While, some patients were not satisfied with centers services: 37% patient agreed working hours in center is not suitable, Long waiting time (39%), difficult to get an appointment (37%), not easy to access to center at any time (49%), not contact for missing appointment (65%), not easy to referral procedure to hospital (22%), not seeing the same doctor when they followed up (31%), and clinic does not listen to patients complaints (62%).

(Al-Mosilhi & Kurashi, 2006)	Development professional	Attitudes/obstacles	Most physicians were aware of CME. The most obstacles for attending CME: (37%) lack of time, (26%) non-availability of suitable, (14%) distance, (17%) practice commitments, subjects covered (17%). 2% had PHC postgraduate qualification in primary health care.
(Al-Mustafa & Abulrahi, 2003)	Access	Hypertension	PHC registers recorded the expected total number of adult hypertension patients between 16% and 36% in the community. The study found that the services offered only cover less than 20% of the expected number of adult hypertensives.
(Alsharif & Al-Khaldi, 2001)	Development professional	Attitudes/obstacles	Most physicians had a positive attitude toward CME, 26% had postgraduate qualifications barriers to attending CME: Work overload 928%0, and lack of time (43%).
(Alzaied & Alshammari, 2016)	access/ Effectives	Evaluation/Obstacles	PHC had a good order for accessible and effective. Obstacles for PHC: communication between users and staffs, staffs need more training, incentives, and scholarship.
(Bawakid et al., 2017)	organization culture	Job stress	Sources of stress in physicians: Evening shift (23%), outside duties (81%), and PHCCS administrative transaction is slow (74%).
(Dashash & Mukhtar, 2003)	Effectives	Asthma	Guidelines were not followed: Use of non-recommend, over and under prescribing, drug interactions, poor follow up and continuity of care, and suboptimal care for asthmatic children.
(Diaz-Perez et al., 2004)	Access/Effectives	Mobile medical unit	35% of patient who received the consultation from the mobile unit, not visited any of the clinics for follow up during the following year.
(El-Gilany & Aref, 2000)	Access	Maternal health	The coverage of maternal care in high in urban (67%) and rural (96%). Low socioeconomic group received less maternal care.
(Khan et al., 2011)	organization culture	Diabetes	Weakness of knowledge (diabetes) in physicians: Unknow correct diagnostic criteria of type 2 diabetes 928%), knew correct angle of insulin injection (35%0, and not agree about diabetic self-management education (87%).
(Kishk & Al Juhani, 2006)	Organization culture	Job satisfaction	Characteristics in primary care: work team, corporate work environment, attitude improving between staff. Job dissatisfaction was: doctors (52%) and nurses (67%), includes: Workload (70%), professional opportunities (78%), and appreciation reward (67%).
(Tian, 2011)	Interface with secondary care	Electronic-Referral	E-referral had successful reducing wait times and improve access to secondary, quality of referral communication, and complete and accurate information of referral patients.
(Wallace et al., 2012)	Effectives	Electronic Education	85% of participants reported using mobile devices and their application, can provide easy, quick accessing to journals, news, multimedia.

MOH: Ministry of Health, PHCCs: Primary health care centers, GP: General practice, NA: not applicable, NR, not records, CME: continuous medical education, GP: General practice.

3.3 Interface with Secondary Care

In 1986, a referral system was established to improve communication and coordination between primary health care and hospitals (Al-Ahmadi & Roland, 2005). Evidence indicates that the implementation of the referral system reduced hospital outpatient visits by 32% (Albattal, 2014). However, several studies identified a lack of information on referral forms, including history (36%), vital signs (30%), the results of examination (45%), the results of investigation (52%), provisional diagnosis (50%) and the treatment given in PHCCs (47%; (Al-Alfi et al., 2007). In addition, feedback reports were received for only 30% of referrals to hospitals (Al-Alfi et al., 2007; Albattal, 2014). The main factors reportedly contributing to inappropriate referrals in general practice are a poor awareness of available secondary care clinics (67%), a lack of referral feedback (86%) and the difficulty of communicating with specialists by phone (91%; (Albattal, 2014). Moreover, hospital feedback to PHCCs was released only at the request of patients or health centres (Albattal, 2014), and the feedback forms lacked information, including diagnosis (15%), advice (100%) and the results of investigations (21%; (Al-Ahmadi & Roland, 2005). In contrast, electronic referral was related to success in improving the quality of referral communication between primary and secondary health services and providing complete and accurate information about referral patients (Tian, 2011).

3.4 Organisational Culture

Several studies reported many positive organisational characteristics in PHCCs, such as work teams, the corporate work environment, continuing education (Al-Mosilhi & Kurashi, 2006) and positive staff attitudes towards improvements through the implementation of EBM (Al-Ansary & Khoja, 2002). However, many studies also pointed out that primary care professionals' general sense of job significance was poor (Almalki et al., 2012; Kishk & Al Juhani, 2006). These studies found that more than half of professionals were dissatisfied with management practices, incentives, workloads and medical facilities (Almalki et al., 2012; Kishk & Al Juhani, 2006). Studies on stress among primary healthcare professionals found that sources of stress included outside duties (81%), paperwork (81%) and slow administrative transactions (74%; (Bawakid et al., 2017; Khan et al., 2011).

3.5 Professional Development Strategies

Evidence indicates that the professional development strategies in PHCCs are inadequate (Al-Mosilhi & Kurashi, 2006; Alsharif & Al-Khalidi, 2001). Studies have shown that only about one-third of physicians in primary health care had postgraduate qualifications, and only 2% of these were in primary health care (Al-Mosilhi & Kurashi, 2006; Alsharif & Al-Khalidi, 2001). Even fewer were shown to have access to international journals (Alsharif & Al-Khalidi, 2001). Major additional obstacles to professional development were work pressure, distance from educational institutions, the unavailability of suitable continuous medical education (CME) and a lack of time (Al-Mosilhi & Kurashi, 2006; Alsharif & Al-Khalidi, 2001).

4. Discussion

The Saudi primary healthcare programme has achieved considerable success, and it is considered a pioneering programme in the country within a few years of its establishment. This is reflected in certain effective and accessible primary healthcare services, such as diabetes care education and maternal health care. However, dental services are still unavailable in most PHCCs, and variations in some aspects of primary care quality, such as the management of chronic diseases, have been identified. In a study performed in Canada, similar variations in primary healthcare quality were observed (Lévesque et al., 2012).

Mobile medical units have been implemented as an alternative solution to supply the standard of dental care to reach the underserved population in several countries. These units have been shown to be highly successful in improving access and cost-efficiency (Diaz-Perez et al., 2004). A school-based study in the south of Africa showed that having a mobile dental unit was cost effective; it showed cost savings of 9.1% and eliminated missed appointments (Moleté, Chola, & Hofman, 2016). Similarly, a cross-sectional study comparing the costs of a fixed facility and mobile dental unit in Thailand stated that the mobile dental unit provided comprehensive oral health at a lower cost (Tianviwat, Chongsuvivatwong, & Birch, 2009). Thus, this intervention can be implemented as alternative solution for unviable dental services in some primary healthcare settings in Saudi Arabia.

The clinical care quality is affected by failures to adhere to the appropriate referral patterns and guidelines of EBM. Attempts have been made to promote the practices of EBM in Saudi primary health care, but because of poor professional development and guideline dissemination, these efforts have yet to achieve their potential. Studies have shown that physicians face barriers to education, such as work pressure, distance, the unavailability of suitable CME and a lack of time. In addition, few physicians have access to international journals. Kredo et al. (2016) point out that increased implementation of evidence-based clinical guidelines will contribute to improving

the quality of primary care. This review found that Saudi physicians have positive attitudes towards EBM; however, their lack of training in EBM practices prevents its implementation. This is similar to the findings that general practitioners in Australia have positive attitudes towards EMB, but in daily practice, they are not employing the terminology and performing the tasks involved in EBM implementation (Young & Ward, 2001).

The quality of feedback reports and referral letters demonstrates that communication between primary care physicians and hospital specialists is poor. This review observed a worrying lack of basic clinical information in both referral letters and feedback reports, including the results of clinical examinations and investigations and the duration of complaints. Senitan, Alhaiti, Gillespie, Alotaibi, and Lenon (2017) report that providing hospital specialists with adequate clinical information about the health status of patients, including evaluations of their initial health conditions and all specific questions that need to be addressed, is important for saving patients' lives.

Electronic referral (e-referral) may improve the interfacing between primary and secondary healthcare providers by allowing general practitioners from primary health care to electronically request referrals to specialist health professionals (Naseriasl, Adham, & Janati, 2015). E-referrals have been defined as the method of transferring patient care responsibility from referring healthcare providers to specialist healthcare providers and the responsibility for transferring appropriate information back in an appropriate timeframe (Tian, 2011). Several countries, including the United States, United Kingdom, Australia, New Zealand, Denmark and the Netherlands, have implemented e-referrals to improve the quality of the referral system in health care (Naseriasl et al., 2015; Tian, 2011). Consequently, these countries have noted improvements in the quality of the interface, accurate transfers, reduced wait times, more accurate feedback information and complete health information. Thus, the health referral system may be improved by implementing e-referral in Saudi Arabia.

In this review, wide variations in the quality of interpersonal care were observed. These variations are related to language barriers and cultural gaps between patients and healthcare professionals. Most of Saudi Arabia's primary healthcare professionals are non-Saudi, and they may not speak Arabic, their patients' main language. Online translation tools like MediBabble offer a possible solution for overcoming challenges related to language barriers. MediBabble presents medical professionals a fast, convenient and free interpreter. Using advanced voice recognition software, translations of medical instructions and questions are presented to obtain a standard medical history (Irfan & Ginige, 2018; Rahman, 2017). This tool can be used both offline and online (Sheik-Ali, Dowlut, & McConaghie, 2016), and it translates to six languages, namely, English, Russian, Cantonese, Haitian Creole, Mandarin and Spanish (Sheik-Ali et al., 2016). A case study showed that both patients and medical professionals were highly satisfied with MediBabble, reporting that the tool was easy and fast in terms of collecting and translating information (Boujon, Bouillon, Spechbach, Gerlach, & Strasly, 2018). In brief, the MediBabble application shows success as a medical translator; therefore, it can be applied in Saudi Arabia.

Primary healthcare professionals' lack of access to information and training is a major concern, as they are unable to maintain their skills and knowledge (Hughes, 2008); Johnston, Crombie, Alder, Davies, and Millard (2000) pointed out that improving professionals' access to evidence-based guidelines and medical information is an essential requirement for improving the quality of primary health care.

Mobile devices and their applications present a possible solution for helping healthcare professionals overcome the barriers to education and the practice of EBM. These devices have become common in healthcare settings, contributing to the fast growth in the development of medical software applications in this field (Wallace et al., 2012). Mobile applications like QuantiaMD and MedPage Today are used by practicing healthcare professionals to continuously engage in medical education activities that keep them informed about recent medical practice and evidence-based information (Ventola, 2014). The QuantiaMD application provides well-scripted interactive case studies that make it possible to share with colleagues (Ozdalga, Ozdalga, & Ahuja, 2012). In addition, MedPage Today is a popular mobile application that provides continuing medical education news services and free continuing education among healthcare professionals (Ventola, 2014). A 2011 survey of Canadian medical schools showed that 55%, 95% and 75% of students, residents and faculty, respectively, agreed that mobile devices provide fast access to educational resources and have positive education effects (Wallace et al., 2012). Therefore, the Saudi primary healthcare system can benefit from implementing mobile devices and their applications.

The motivation and morale of healthcare centre staff may be improved by concentrating on patient load, working hours, salaries and the improvement of facilities and resources. The employment conditions of non-Saudi professionals and their roles in improving quality must also be examined. A sense of job security should be granted through contract conditions.

This review has certain limitations. Most of the studies examined were carried out in Ministry of Health institutions, the country's major providers of primary health care, while other providers included military health

institutions. Factors that delay the achievement of quality vary from one provider to another because each primary healthcare provider has different goals and priorities for providing quality services. The studies in this review were varied in their design method and in the aspects of care studied, limiting the option of pooling their evidence.

5. Conclusion

This review found that the primary healthcare agenda faces significant challenges in Saudi Arabia. These challenges include the lack of some services in PHCCs, such as dental care; issues of interfaces with hospitals, such as missing important clinical information from referral letters and feedback reports; language barriers between health professionals and patients; and primary healthcare professionals' lack of access to information and training. The challenges identified in this review can be addressed by improving all aspects of the primary healthcare system and establishing a comprehensive quality assessment system. This review suggests some potential improvements that have been implemented by other systems to address these challenges. First, mobile dental units have been implemented as an alternative successful solution for limited dental services in the healthcare system in many countries, and these units can be adopted in Saudi Arabia. Second, an effective solution for challenges in the referral system that may be applicable is an e-referral system, which has been implemented in several countries, including the United States and Australia. Such e-referral systems present complete, accurate information about referred patients. Third, the MediBabble application presents a possible solution for overcoming language barriers. Fourth, mobile applications, such as QuantiaMD and MedPage Today, provide easy and fast access to health education resources and keep health professionals informed about recent medical practice and evidence-based information. Further research on adopting solutions in Saudi Arabia that have been successfully implemented elsewhere is needed.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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