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Review Article

**PRIMARY HEALTH CARE IN SAUDI ARABIA:
A COMPREHENSIVE REVIEW**

*¹ Ameer Taher Mesawa, ² Saleh Abdullah Alghamdi, ² Sami Awdah Aleliani,
² Musharraf Saeed Alamri, ² Mohammed Hassan Alzahrani, ² Abdullah Musaad
Alkhathami, ² Abdullrahman Atiah Alqarni, ² Omar Owaidh Almutairi,
³ Hatim Abdulrahim Alghamdi, ³ Fatimah Saud Albakri
¹ King Abdulaziz University, Jeddah, Saudi Arabia
² Albaha University, Albaha, Saudi Arabia
³ Hamdard College of Medicine & Dentistry-Hamdard University

Abstract:

Little is known about the quality of primary care in Saudi Arabia, despite the central role of primary care centers in Saudi health strategy. This study attempted to evaluate the primary care services in Saudi Arabia in terms of quality service consumer satisfaction to evaluate the quality of primary care in Saudi Arabia, and to distinguish factors impeding the achievement of quality, with the aim of determining how the quality of Saudi primary care could be improved.

Keywords: *access, assessment, effectiveness, performance improvement, primary health care, quality, quality improvement, Saudi Arabia.*

Corresponding author:

Ameer Taher Mesawa,
King Abdulaziz University,
Jeddah, Saudi Arabia

QR code



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INTRODUCTION:

Primary healthcare (PHC) refers to "essential health care" that is based on "scientifically sound and socially acceptable methods and technology, which make universal health care accessible to all individuals and families in a community. It is through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination". In other words, PHC is an approach to health beyond the traditional health care system that focuses on health equity-producing social policy [1]. PHC includes all areas that play a role in health, such as access to health services, environment and lifestyle. Thus, primary healthcare and public health measures, taken together, may be considered as the cornerstones of universal health systems. This ideal model of healthcare was adopted in the declaration of the International Conference on Primary Health Care held in Alma Ata, Kazakhstan in 1978 (known as the "Alma Ata Declaration"), and became a core concept of the World Health Organization's goal of Health for all [2]. The Alma-Ata Conference mobilized a "Primary Health Care movement" of professionals and institutions, governments and civil society organizations, researchers and grassroots organizations that undertook to tackle the "politically, socially and economically unacceptable" health inequalities in all countries. There were many factors that inspired PHC; a prominent example is the Barefoot Doctors of China. PHC is the cornerstone of health-care system. Globally, the importance of PHC has been recognized, and policymakers strive for the improvement of PHC systems. In accordance with the Alma Ata Declaration, issued by the World Health Organization General Assembly in 1978, Saudi Arabia identified the development of PHC as one of the important strategies for providing optimal health care. In 1983, the country began to promote the concept of PHC and adapted it as the foundation of its health-care system. Since then, the health-care services have advanced in Saudi Arabia with a focus on PHC, leading to an improvement in health-care services. The well-established PHC system of the Ministry of Health (MOH) has 2259 PHC centers located throughout Saudi Arabia. The PHC centers provide comprehensive PHC services, including preventive and curative services [3].

Research in health care plays an important role in improving the health services. Health-care research contributes in determining and quantifying health problems and in evaluating the outcome of interventions used for various health issues. Quality

of clinical care depends on evidence-based guidelines and appropriate prescribing practices. Evidence emerging from published research is important for developing evidence-based guidelines. Moreover, scientific research provides information for guiding policy decisions. Clinical research in the primary care setting is also critical in informing policy development and preparing relevant guidelines. In some developed countries, PHC has a research base. However, PHC research in developing countries varies vastly from country to country. In Saudi Arabia, there is a focus to promote evidence-based practice in primary care. However, there are certain issues related to PHC including lack of opportunities for professional development in PHC. Globally, qualitative and quantitative evaluation of research publications is used to assess the scientific activities of institutions. Analyses of research published in various fields of health care, such as nursing and family medicine, have been conducted over the past few decades. In June 2011, Public Health Administration, Qassim, established Research and Information Unit (RIU). Public Health Administration, Qassim, comprises a well-established PHC system and provides health care through 159 PHC centers in Qassim. The mission of RIU is to promote evidence-based health-care services in Qassim through the analysis of routinely collected data, service-oriented research, and dissemination of credible information to the policymakers and health-care providers. To step forward toward this mission, it is important to be aware of health-care research conducted in Saudi Arabia generally and in PHC specifically [4-7]. Moreover, a summary of PHC research activities at a national level is helpful in determining available evidence base and gaps in knowledge. On literature search, few studies have focused on evaluating biomedical research in Saudi Arabia; however, we were not able to find any study focusing on PHC research in Saudi Arabia. Thus, we planned to retrieve and record the journal articles focusing on PHC in Saudi Arabia. The purpose of our study was to analyze quantitatively the PHC research conducted in Saudi Arabia, published in international journals, and documented in PubMed and Google Scholar. Moreover, the purpose of this study was also to determine the distribution of PHC research publications in Saudi Arabia according to time, geographical location, and institutions and to determine the topics taken up by PHC researchers in Saudi Arabia [8].

METHODOLOGY:

Sample: the study included two samples consisting of three centers (chosen purposely): The city was

divided into three main geographical zones from each geographical area, the center serving the largest population was selected to determine the quality of resources, the second sample consisted of 300 consumers chosen systematically (every fifth client) from the selected centers to measure their satisfaction. Criteria for selection included Saudi or non-Saudi, adult male or female, having a file served by the center for a period of at least 6 months.

Tools: Two tools were used in this study: instrument I (assessment sheet measuring the resources in terms of availability and quality) and instrument II (a 4 point liken scale measuring consumer satisfaction). Instrument I consisted of a cover sheet (including general information about the center, 19 items related to the total number of medical, paramedical and assistant workers available at the center, 13 items related to facilities. The face validity of the instrument I was checked by asking eight judges from different disciplines and MOH officials to evaluate the instrument. Evaluators generally agreed on the instrument content and scoring system.

Instrument II consisted of demographic data, and a 4 point rating scale of 40 statements grouped into six categories (accessibility, continuity, humaneness, thoroughness informativeness and effectiveness). The rating ranged from strongly agree (4 points) to strongly disagree (1 Point). When the item was not applicable it was coded as 9. Instrument II validity was checked by asking ten judges to evaluate the instrument in terms of clarity of wording, relevance to purpose of the study, appropriate length of the questions, and the scoring system. Results revealed that the instrument is valid; 97.8% of the experts agreed on instrument II, while 2.2% disagreed. Pilot tests were carried out on both instruments and the necessary instruments were made.

Data collection: Phase I of the study lasted for two weeks; data was collected through the structure observation and record review method using instrument I. Phase II lasted for 1 1/2 months, data was collected through the interview method using instrument II. Each patient was interviewed for an average of 15 minutes in a separate room, arranged for the study before seeing the physician.

RESULTS:

The ability to formulate and apply practical strategies to retain and attract more Saudis into the medical and health professions, particularly nursing, is a clear priority for effective reform of the Saudi health care system. Many efforts have been taken by the

government to teach and train Saudis for health professional jobs. Since 1958, a number of medical, nursing and health schools have been opened around the nation to meet this goal. Apart from private colleges and institutes, there are a total of 73 colleges for medicine, health and nursing as well as 4 health institutes in Saudi Arabia. Efforts to establish such colleges are in accordance with training programmes that aim to substitute the largely expatriate workforce with qualified Saudi Arabian nationals in all sectors, including health. The budget allocation for training and scholarships has increased and many MOH employees are offered a chance to pursue their studies abroad. This strategy could improve the skills of current employees, raise the quality of health care and, it is hoped, decrease the rate of turnover among health professionals. However, these efforts may not be enough to solve the challenges. The proportion of Saudi Arabian health professionals in the MOH workforce is expected to decrease in the future as the expansion in health care facilities around the country has the effect of spreading a scarce resource even more thinly [9-11].

More realistic plans and long-term strategies need to be consolidated by the MOH in cooperation with government and private sectors. A good example of such cooperation is the King Abdullah international scholarship programme which was established by the Ministry of Higher Education. In its stage 4, priority has been given to medical specialists including medicine, nursing, pharmacy and other health majors. However, more medical colleges and training programmes need to be established around the country. New laws and regulations to develop and reorganize medical human resources by the MOH are urgently required [12].

Reorganization and restructuring of the MOH

The public health sector is overwhelmingly financed, operated, controlled, supervised and managed by the MOH. This model of management may not be able to meet the population's health care needs into the future unless serious and well-planned steps are taken to separate these multiple roles. Possible solutions include giving more authority to the regional directorates, applying the cooperative health insurance scheme and encouraging the privatization of public hospitals [13].

Decentralization of health services and autonomy of hospitals

To meet increasing pressure on the MOH, more autonomy has been given to the regional directorates in terms of planning, recruitment of professional

staff, formulating agreements with health services providers (operating companies) and some limited financial discretion. It has been suggested that the functioning of the regional directorates is adversely affected by the lack of individual budgets and spending authority. Expenditure for the majority of their activities must be authorized by the MOH, thus affecting the autonomy of regional directorates and hampering effective decision-making [14].

In terms of hospital autonomy, the MOH has tried a number of strategies for improving the management of public hospitals during past decades, including direct operation by the MOH, cooperation with other governments such the Netherlands, Germany and Thailand, partial operation by health care companies, comprehensive operation by health care companies and the autonomous hospital system. Considering the advantages and disadvantages of these approaches, the MOH has standardized an autonomous hospital system for 31 public hospitals in various regions. The autonomous hospital system for public hospitals is expected to raise the efficiency of their performance in both medical and managerial functions, achieve financial and administrative flexibility through adopting a direct budget strategy, apply quality insurance programmes and simplify the contractual process with qualified health professionals. In 2009, the MOH issued new regulations for self-operating public hospitals to ensure a high level of management practices and to improve the quality of services provided. Giving more autonomy to hospitals will help the transition to full privatization of public hospitals in Saudi Arabia. It gives public hospitals more experience in the management of their budgets, health care quality and workforce [15-17].

Health insurance in Saudi Arabia

Funding health care services is a central challenge faced by the MOH [32]. Since the total expenditure on public health services comes from the government and the services are free-of-charge, this lead to considerable cost pressure on the government, particularly in view of the rapid growth in the population, the high price of new technology and the growing awareness about health and disease among the community. To meet the growing population demands for health care and to ensure the quality of services provided, the Council for Cooperative Health Insurance was established by the government in 1999. The main role of this Council is to introduce, regulate and supervise a health insurance strategy for the Saudi health care market [18-20].

The implementation of a cooperative health insurance

scheme was planned over 3 stages. In the first stage, the cooperative health insurance was applied for non-Saudis and Saudis in the private sector, in which their employers have to pay for health cover costs. In the second stage, the cooperative health insurance is to be applied for Saudis and non-Saudis working in the government sector. The government will pay the cooperative health insurance costs for this category of employee. In the final stage, the cooperative health insurance will be applied to other groups, such as pilgrims. Only the first stage has been implemented to date, with the cooperative health insurance being implemented gradually in a 3-phase programme to employees of the private sector and their dependants. The first phase covered companies with 500 or more employees, while the second phase applied to employers with more than 100 workers. The third phase included employees of all companies in Saudi Arabia as well as domestic workers. The government is now working systematically to apply the remaining 2 stages—for employees in the government sector and for pilgrims—before they privatize the state-owned health care facilities. No information is available yet regarding the cooperative health insurance scheme for the population of Saudi Arabia other than employees and expatriates [21-22].

While the market for cooperative health insurance in Saudi Arabia started with only 1 company in 2004, it currently involves about 25 companies. The introduction of the scheme is intended to decrease the financial burden on Saudi Arabia due to the costs associated with providing health services free-of-charge. It will also give people more opportunity to choose the health services they require. The real challenge for policy-makers in Saudi Arabia is to introduce a comprehensive, fair, and affordable service for the whole population. Clearly lessons can be learned from the experiences of other countries, including the advantages and disadvantages of different schemes [23-27].

Privatization of public hospitals

Privatization of public hospitals has been seen by policy-makers and researchers as the best way to reform the Saudi health care system. Steps to implement a privatization strategy have been initiated and related regulation has been passed by the government. As a result, a number of public hospitals are likely to be sold or rented to private firms over the next few years. Privatization of hospitals is expected to bring a number of advantages to the government and to the nation. It is hoped that privatization will assist in speeding up decision-making, reducing the government's annual

expenditure on health care, producing new financial sources for the MOH and improving health care services [28].

On the other hand, privatization may affect the current integrated system between hospitals and PHC facilities. As hospitals become privatized, they will focus on attracting patients, even those who may not require hospital-level care. Moreover, people with health cover may prefer to access big hospitals directly instead of via PHC centres or community hospitals. Additionally, private hospitals will have incentives to shift non-refundable costs back to the public PHC. Such practices will place financial burdens on the government [29].

A further drawback of privatization is that the traditional state/public hospitals will not be able to absorb enough of the health care market compared with private companies, unless they upgrade at all levels (e.g. management, infrastructure and workforce) before starting to privatize. In the move to privatization, private companies are likely to focus their activities within cities and larger communities, leaving people in rural areas at a disadvantage. The government should set regulations that protect the rights of rural communities and provide them with fair and equitable health care services.

Finally, if the government does not apply adequate control over the health care market, expenditure on health care may increase dramatically as a result of higher pricing and profit-seeking behaviour [30].

Accessibility to health services

Optimizing the accessibility of health care services requires equity in the distribution of health care facilities throughout the nation and equity of access to health professionals, including transport to services and providers. Accessibility is also affected by the level of cooperation between related sectors. The current MOH statistics indicate that there is a maldistribution of health care services and health professionals across geographical areas. People experience long waiting lists for many health care services and facilities. Additionally, there is a dearth of services for disadvantaged groups such as the elderly, adolescents and people with special needs such as disability, particularly in rural areas. Finally, many people do not have the ability to access health care facilities, particularly those living in border and remote areas [31].

In order to improve accessibility to health care

services in all parts of the country, a holistic strategy for the redistribution of health care services, involving PHC centres, general hospitals, central and specialist hospitals as well as the health professionals, should be adopted by the MOH. The MOH should also liaise with other sectors such as transport, water and power companies and social security services in order to develop services in deprived areas and to care for people with the greatest needs [32].

Patterns of diseases

The change in disease patterns from communicable to noncommunicable diseases in Saudi Arabia is another challenge that needs more attention from the MOH. There has been an alarming increase in the prevalence of chronic diseases, such as diabetes, hypertension, and heart diseases, cancer, genetic blood disorders and childhood obesity. Treatment of chronic diseases is costly and may even be ineffective. For example, the annual cost for treatment of diabetes mellitus in Saudi Arabia was estimated to be 7 billion Saudi riyal (SR) (US\$ 1.87 billion). Early prevention is the most effective way to reduce the prevalence of chronic diseases and the costs and difficulties associated with treatment in the later stages of disease. Any projected reforms in the health care system must involve plans to address this change in emphasis [33].

Promotion and prevention programmes for crises

Development and implementation of practical plans and procedures to meet national crises in Saudi Arabia, such as wars, earthquakes and fires and explosions at petroleum factories, are a further important need. Road traffic accidents, for example, killed more than 39 000 and injured about 290 000 people between 1995 and 2004. According to WHO, road traffic accidents are now the highest cause of death, injury and disability in adult males aged 16 to 36 years in Saudi Arabia. Caring for people affected by road accidents consumes a significant proportion of the MOH budget; for example, the cost of treating injured people during 2002 was estimated to be SR 652.5 million (US\$ 174 million). These funds could be used to develop the health system and improve services. Plans to manage issues of this kind need to be comprehensive and well-coordinated among the related sectors in order to be achievable.

e-health and national health information systems

There is increasing concern about the underutilization of electronic health systems in Saudi Arabia. Implementation of e-health and electronic information systems has already started in a number

of hospitals and organizations such as the King Faisal specialist hospital and research centre, national guard health affairs, medical services of the army forces and university hospitals. While uptake of e-health systems is moving slowly in MOH institutions, there are a number of information systems operating in the regional directorates and in central hospitals. Unfortunately, these information systems are not connected to each other or to other private or specialized health organizations.

To develop e-health services in the public sector, a budget of SR 4 billion (US\$ 1.1 billion) was allocated by the MOH to run a 4-year development programme (2008–11). Additionally, a series of conferences on e-health have been held by the Saudi Association for Health Information to emphasize the importance of e-health in enhancing the quality of health care delivery and to explore the necessary strategies, policies, applications and infrastructure.

More coordination among different health care providers is needed in order to enhance the use of e-health strategies and to launch a comprehensive national system for health information. A high level of coordination must be achieved with other related sectors to provide the required infrastructure such as internet and phone services [34-36].

New strategy for health care services

To meet the challenges of the Saudi health care system and to improve the quality of health care services, the MOH has set a national strategy for health care services. This strategy was approved by the Council of Ministers in April 2009. It focuses on diversifying funding sources; developing information systems; developing the human workforce; activating the supervision and monitoring role of the MOH over health services; encouraging the private sector to take its position in providing health services; improving the quality of preventive, curative and rehabilitative care; and distributing health care services equally to all regions.

The national strategy for health care services is to be implemented by the MOH in cooperation with other health care providers and it will be supervised by the Council of Health Services. A 20-year timeframe for achieving the objectives of this strategy has been identified.

DISCUSSION:

In our study, during the past 29 years, although PHC research outputs were low in Saudi Arabia, there was

a steady increase with time. An increase in biomedical research activities in Saudi Arabia is reported from 2006 to 2012, with a sharp rise from 2011 to 2012. A researcher reported an increase in biomedical research publications during the years 2008-2012, with a 22.9% increase in 2010 while 23.6% increase in 2012. Other countries have also shown trends of increasing research activities in various health-care fields, such as nursing research and general practice publications. This trend may be attributed to the realization by administrative authorities of the importance of research for improvement of health-care services [7-10].

Globally, universities are considered the center of research activities, and the majority of the biomedical publications are produced from work conducted by universities or medical colleges. A study from Turkey reported almost all family medicine publications (99%) from the universities while another study from Saudi Arabia reported 54.6% of all biomedical publications from the universities. Our study also found that universities contributed more than half (56.2%) of the published research studies which can be interpreted by the fact that the universities have family medicine and community medicine departments, and publishing research is mandatory for professional upgradation of the staff members. On the other hand, research is not mandatory at the MOH institutions. Moreover, the number of qualified family physicians and public health consultants is small, and these experts are more likely to be involved in managerial tasks. Thus, there is a lack of expertise in research at PHC level, which underscores the importance of PHC physicians' in-service training in research skills. In our study, most (85.6%) of the published articles were original research studies, which corresponds to the finding of another study in which majority (69%) of the Family Medicine/General Practitioner publications were mostly original researches. Furthermore, in a review of biomedical publications in Saudi Arabia, more than three-fourths of the publications were original researches, while another study from Saudi Arabia reported 82.1% of original articles. Our study found the proportion of review articles as 11.25% which is higher than other studies from Saudi Arabia reporting review articles comprising 3.4% and 6.4% of the published biomedical research papers [22-27].

In our study, cross-sectional studies had the highest proportion among the original researches, corresponding to the findings of other studies. Although cross-sectional studies are informative and

helpful in decision-making; for better evidence base, other study designs also need to be promoted in PHC research. One of the steps to promote the use of other study designs can be the encouragement of peer-reviewed journals for the publication of studies with study designs that are practice relevant and have quality research evidence for PHC. In our study, the highest proportion (23.5%) of articles was published in Saudi Medical Journal, corresponding to another study in which 34.9% of the general medical articles were published in Saudi Medical Journal. One of the reasons for this finding is that Saudi Medical Journal, founded in 1979, is the oldest medical journal in Saudi Arabia, and it is published monthly since 1999. Although Journal of Family and Community Medicine focuses more on the PHC and community-based researches, in our study, it has almost half of the articles as compared to Saudi Medical Journal. The reason being that the Journal of Family and Community Medicine was established in 1994 and was published once in 6 months till the year 2000, after which it increased its publication to once in every 4 months. Our study found that majority (46.3%) of the published articles were from Riyadh province, corresponding with other studies reporting the majority of publications from Riyadh.. Another study reported 65.3% of all Saudi biomedical publications from Riyadh. These findings can be attributed to the fact that Riyadh, being the capital city of Saudi Arabia, has the central offices of MOH and prestigious academic and health-care institutions providing PHC services. Our study has certain limitations. It provides only a quantitative analysis of studies published on PHC in Saudi Arabia and does not explore their quality. Our study included electronically available online peer-reviewed articles in two selected databases. Consequently, articles not included in either database but recorded in another electronic database might not be found. Moreover, because of changes in listed journals or indexing conditions, the number of retrieved publications for any particular year may change. As we stopped literature search in April 2013, the number of articles might have been changed for the years searched because of addition or deletion of journal articles in the two databases. From some abstracts, we were not able to find variables such as study design for published studies. Deciding research topic was challenging for some studies because in some articles two or more MeSH terms seemed appropriate. On the other hand, we were unable to find an appropriate MeSH term for occasional studies. Thus, it is expected to have misclassification in research topics of the articles. However, despite the limitations of our study, we consider this study as the first step for further in-depth analyses of PHC research in Saudi

Arabia [29].

CONCLUSION AND RECOMMENDATION:

Our study results suggest that despite a well-established PHC setup in Saudi Arabia, the research outputs are low. Most of the studies are conducted by the academic institutions. The study design for most of the published articles is cross-sectional, and many of them are based on the available records at health-care facilities. Thus, there is a dearth of analytical and experimental study designs, which provide a better evidence base as compared to cross-sectional studies. For promoting PHC research, developing research skills and a supportive infrastructure is required. It is important to have a central regulatory authority for PHC research to plan properly and monitor the research activities in PHC. Previous research has shown that although PHC physicians are aware of the obstacles and realize their gaps in knowledge and skills, they are motivated to participate in research. Thus, on-job training can be provided to PHC physicians for capacity building in research. By enhancing the PHC research, there will be an increased evidence base for PHC leading to effective translation of research evidence into service delivery. This will strengthen the PHC systems and will improve health outcomes. In this era of information explosion, establishing an electronic database for PHC research in Saudi Arabia and preparing a periodic PHC literature summary may improve accessibility and utilization of PHC published research.

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