A Study on Challenges Encountered by the Academic Medical Centers in Saudi Arabia and Appropriate Strategies for their Improvement

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Abstract: Academic Medical Centers (AMCs) which are the most essential for training the health care professionals in Saudi Arabia are facing several constraints due to technical sophistications. However, the studies focusing on the challenges encountered by the AMCs are scarce and it needs to be explored in a detailed manner specifically in the Saudi Arabian context. Thus, this study has been undertaken by the researchers with two fold objectives: To retrospectively review the literatures, to drive out the challenges faced by the AMCs located in Saudi Arabia and To propose suitable recommendations to be implemented for further improvement of these AMCs in the country. This study suggests several strategic initiatives which will help the policy planners to understand the pros and cons of operating AMCs and to take necessary action for its successful functioning.

Key words: Academic medical centers, challenges, strategy, Saudi Arabia, initiatives

INTRODUCTION

Health care services have been provided with a high priority in Saudi Arabia where the Ministry of Health (MOH) contributes over 60% of the health care services while other government agencies and the private sectors provide 20% of each (Ram, 2014). As like other countries, Saudi Health system also faces many challenges that require new strategies and policies to be adopted by the Saudi Ministry of Health as well as cooperation of other sectors (Almalki et al., 2011). Specifically, the Academic Medical Centers (AMCs) located in Kingdom of Saudi Arabia (KSA) face many challenges in providing better services to its customers. In order to improve these services, the faculty and staff of AMCs should clearly understand the reformed environment its comparative advantages and disadvantages as well as the difficulties encountered by them (Al-Muhanna, 1999). On exploration of previous studies, literatures focusing on the challenges encountered by the AMCs are scarce and it needs to be explored in a detailed manner specifically in the Saudi Arabian context. Thus, this study aims to address two key objectives viz. To derive the challenges faced by the AMCs located in KSA and To propose suitable recommendations for further improvement of AMCs in Saudi Arabia.

Literature review

Academic Medical Centers (AMCS): An overview: Academic Medical Center (AMC) or University Teaching hospital is not a single institution, but a constellation of functions and organizations committed to improve the health of patients and population through the integration of their roles in research, education and patient care (Kohn, 2004). It is comprised of medical education programs and one or more owned or affiliated teaching hospitals or health systems (Lewis and Sheps, 1983). The objective of the AMCs in KSA is to fulfill its tripartite mission viz. treatment, teaching and research. The responsibilities of faculty at AMCs are two fold viz. Direct and Indirect. Direct responsibilities include Imparting education to the future physicians and conducting the scientific research in the areas of bio-medical and health care services. Indirect responsibility is to provide professional medical services through their clinical teachers who teach, do research and take care of patients (Valberg et al., 1994). As a multi-mission entity, AMCs adapt to such shifting framework of accountability in clinical care which poses real challenges (Goureritch, 2014) and appropriate strategies need to be devised to overcome these challenges.

Challenges facing by Academic Medical Centers (AMCS) in Saudi Arabia: By keeping its tripartite mission, the challenges facing AMCs in KSA are

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discussed under two parts viz. Challenges in the medical education sector, (i.e., teaching and research) and its associated health system performance (i.e., teaching hospitals).

Challenges in the medical education sector: In medical education sector, number of institutions increases in order to manage the increased intake of students in higher education. As a result, the challenges for optimal functioning of these institutions are also increased to combat the requirements of the large volume of students. This increase in student enrollment in bachelor's level leads to the involvement of a very few academics in research due to insufficient time (Al-Kuwaiti and Subbarayalu, 2015). However, an urgent priority should to be given to research, since the global university rankings are heavily based on the quality and quantity of an institution's research activity (Al-Ankari, 2013). As a result, the publication rate is low among the Saudi academics in international journals and their participation rate in international research projects is also low. Several reasons have been attributed which include: lack of knowledge and understanding; difficulties in expressing ideas in English (Al-Ankari, 2013; Alnassar and Dow, 2013) inadequate mentoring of Saudi academics by established international academic authors and a lack of confidence to express their academic arguments and findings to international critique. Also, there is a significant drift of the nation's best academics to high paying industry positions due to inadequate and/or inappropriate incentive and reward systems exist within the Saudi university sector (Al-Ankari, 2013).

It has been reported that the training provided in the Saudi universities reflects the didactic 'lecture' model which needs intensive revisions targeting improvement on all aspects. As Saudi universities do not have a strong tradition of collaboration, establishment of a professional network across the country as well as International universities is a major challenge for the Saudi higher education system. It is an incremental process which gathers pace over time as the 'new' partner (in this case Saudi Arabia) establishes its international credibility and confirms its capacity to add significant value to the network partners (Al-Ankari, 2013). Subsequently, an appropriate balance needs to be achieved to develop strong academic skills among students as well as the industry based specific skills required by the employers. As knowledge and skills required by the employers are different, considerable thoughts and planning are necessary in developing a suitable curriculum and learning process to ensure that these dual outcomes are met (Smith and Abouammoh, 2013). It is also noted that

there is an inadequate utility of information technology in teaching, learning and research to support the outcome in the educational system. Therefore, Saudi universities need to invest heavily and judiciously in technology, infrastructure and skilled human resource so that the data generated is able to drive significant improvement in the quality of learning and teaching. Moreover, achieving a better balance between output (quantifiable achievements) and outcome (the actual impact of what the university and its staff do) is critical for success (Colbran and Al-Ghreimil, 2013). Additionally, Saudi universities generally do not have strong strategic plans that provide clear and existing framework for improving the quality as well as outcome and that are compatible with the overall strategy for the higher education system (Smith and Abouammoh, 2013).

Towards improving the Quality of Higher Education, National Commission for Academic Accreditation and Assessment (NCAAA) was established which provides strong foundation to build consistent academic standards across Saudi Arabia (Al-Kuwaiti and Subbarayalu, 2015). However, there is a lack of benchmarking practice among the Saudi universities with the international universities to adapt standards of best practice. Thus, it is vital to instill institutional quality culture in each academic medical center so that it adapts quality as a regular behavior. Students who are studying in the private sector have not met with the eligibility requirements of public universities. Failure rates are also higher than public universities and many academic staff members in these institutions do not meet the general standards expected in public universities of Saudi Arabia (Al-Dali *et al.*, 2013). These quality issues need to be addressed with high priority to ensure that the elements of private education system should not fail to attain the quality requirements in higher education in KSA.

King Abdullah scholarship program has been offered to all the eligible citizens of KSA in order to encourage them to pursue their higher studies abroad. This program is a source of support for Saudi universities by supplying them with highly qualified citizens so that they may compete in the international market and other fields of scientific research. Presently, it seems to be driven by input i.e. the desire to engage as many Saudi students as possible at major international universities. It has been observed that less importance is given to the outcome of the program i.e. whether the program has attained its stated objectives (Bukhari and Denman, 2013).

Even though there are many excellent leaders in Saudi universities, many of them requiring necessary leadership skills and capacity to take the higher education system to

the high-quality and productive future, envisaged by the government (Al-Swailem and Elliott, 2013). Academic leadership center which was established in the year 2009 needs further attention for the successful functioning of the Saudi higher education.

MATERIALS AND METHODS

Challenges of health system performance at teaching hospitals: Population of KSA is rapidly increasing one and observed as 30.8 mln. (2014), a 2.6% rise from 2013 and it has reached to 31.54 mln. in 2015 (AN, 2015; WHO, 2015). Likewise, increase in life expectancy was detected in past few years and reported as 74.2 and 74.5 year in 2014 and 2015 respectively (SUSRIS, 2016). Additionally, KSA's three-fifths of the population live in major cities which are well organized with relatively integrated transportation networks and most basic services (UNDP, 2004). This rapid rise in population, increase in life expectancy as well as alarming over-urbanization leads to an increase in demand for healthcare services beyond the existing the available hospitals. During the past three decades, population of KSA has undergone tremendous changes in lifestyle, primarily leading to minimal physical activity and unhealthy food habits. Such lifestyle transformation is thought to be responsible for the epidemic of Non Communicable Diseases (NCDs) such as cardiovascular diseases, chronic respiratory diseases, cancers and type 2 diabetes and their complications (Al-Nozha *et al.*, 2004; Al-Hazzaa, 2002; Alwan, 1997). Such NCDs accounted for 78% of total deaths in 2014 with composition of Cardiovascular diseases 46%, Diabetes 5%, Chronic respiratory diseases 3%, Cancers 10% and other NCDs 14% (WHR, 2014; WHO, 2006). In addition, Inpatient admission and Outpatient visits were observed as 3.03 and 60.22 million at the end of 2014, respectively. Therefore, it is essential to expand the healthcare services in order to prevent and control the NCDs.

Recently, "Saudi Vision 2030", declared by KSA stated that Saudi health care system has benefited from substantive investment in recent decades. As a result, there are 2.2 hospital beds for every 1,000 people with efficient medical specialists and average life expectancy rising from 66-74 year in the past three decades. The goal of Saudi vision 2030 is to increase the average life expectancy from 74-80 year. It insisted to optimize and better utilize the capacity of hospitals and health care centers and enhance the quality of preventive and therapeutic health care services. It is also stated that the public sector should focus on promoting preventive care, reducing infectious diseases and in encouraging citizens

to make use of primary care as a first step. Saudi government should also work towards developing private medical insurance to improve access to medical services and reduce waiting times for appointments with specialists and consultants. Physicians in KSA will be given better training to improve treatment for chronic diseases such as heart disease, diabetes and cancer that threaten our nation's health. But, Saudi health care system is challenged by the shortage of local health care professionals such as physicians, nurses and pharmacists. The majority of work force is expatriates and this leads to a high rate of turnover and instability of work force (Almalki *et al.*, 2011). Since foreign nationals tend to remain in the country only for a short time, continuity is a problem. The average tenure among Non-Saudi physicians and nurses is just 2.3 year (Mufti, 2000). Therefore, it is paramount to retain and attract more Saudis into the medical and health care professions gains a clear priority for effective reform of the health care system in KSA.

In health care sector, there is lack of necessary data for decision making and there is a need for a national level information, utilization and delivery system configuration for the entire system. The level and extent of usage of hospital information systems in Saudi Arabia is still poor and far less than expected (Bah *et al.*, 2011). The delay in adopting and implementing the hospital information systems in Saudi hospitals are mainly due to both technical and human challenges as well as lack of training of the health care workers on using such systems (Khalifa, 2014). Also, the e-health and electronic information systems which are already implemented are not connected to each other or to other private or specialized health organizations (Altuwaijri, 2008). Still people experiences long waiting lists for many health care services and facilities due to an unbalanced distribution of health care services and health professionals across geographical regions (HSYB, 2009; Walston *et al.*, 2008). A high level of coordination needs to be achieved with other related sectors to provide the required infrastructure such as internet and phone services (Almalki *et al.*, 2011). Thus, the accessibility to health care services needs to be optimized in order to meet equity in the distribution of such facilities throughout the country.

In Saudi Arabia, the microeconomic efficiency of the health sector is a problematic one. High admission rates, lack of coordination among the various public and private financing and delivery systems, lack of a need-based master plan, extensive use of private facilities by Saudis with public sector coverage, poorly performing referral system, limited flexibility on the part of public facility managers in centrally controlled public health systems

and lack of incentive based provider payment systems are the indicators of inefficiency at the microeconomic level and it needs to be improved (Oxley and MacFarlan, 1994). Funding health care services is a next challenge faced by the AMCs in KSA (Almalki *et al.*, 2011). It has been observed that the entire health system is equitably financed, particularly for Saudi nationals. Continued government funding of free care for Saudi nationals and public sector expat workers are not sustainable in light of the demographic and economic circumstances of the country. More specifically, the present government spending pattern in sectors like health care cannot be maintainable and it will lead to over burden of the economy which is facing uncertain levels of future oil revenues. The total expenditure on public health services which is free-of-charge, leads to considerable cost pressure on the government. In KSA, expenditure of health and social development for 2016 (SR 105 bln.) has dropped by 34% from 2015 budget (SR 160 bln.) (SUSRIS, 2016). At the same time, KSA has also set aside USD 4 billion for various new healthcare projects in the country. These funds will be allocated to establish 22 new medical projects through the Saudi Arabia (Pavan, 2013). After the increase of large budgetary spending in past decades, the Saudi government is enhancing its efforts to promote private health care, via expanded health insurance, increased loan limits to build private hospitals and support for public-private partnerships (Hawkins, 2015). Furthermore considering the Quality of AMCs, the Central Board for Accreditation of Healthcare Institutions (CBAHI) standards have a good focus on quality improvement and service users; however, there is a need to link these items to the health system of Saudi Arabia. There are no specific accreditation standards for teaching hospitals and the efforts towards quality appear to be fragmented. Due to the dissatisfaction with the current system, there is a significant use of private sector by the Saudi Nationals (USSABC, 2015). Therefore, serious efforts are needed to implement the continuous quality improvement systems in AMCs.

While reviewing the health insurance, Saudi health care system ensures free medical coverage to all Saudi citizens and expatriates working in the public sector. Private-sector employees and their families receive basic healthcare coverage from their employers through private insurance companies (Walston *et al.*, 2008). In Saudi Arabia, the Council of Cooperative Health Insurance (CCHI) Scheme was established in the year 1999 and insurance was made insurance mandatory for Saudis and Non-Saudis workers in private sector and their families. Where, Non-Saudi workers in government sector and their families are provided with healthcare services by government agencies (Cooperative Health Insurance Council). Recently, CCHI has also endorsed a visitor health insurance system for visitors to KSA (Arab news, 2015b). Health insurance growth rate was 20.7% with a value of SAR 18.9 billion In 2015, compared with SAR 15.7 bln. in 2014 (SAMA). Also, the total number of health insurance policy holders has reached 11 mln. by the end of 2015. Saudis constitute 30% (3.1 mln.) of total policyholders versus 70% for foreigners (7.9 mln.) through 26 health insurance providers with a network of 2,567 outlets. Gross written premium in health insurance sector showed 25% increase in 2015, when compared to 2014 (AC, 2016).

RESULTS AND DISCUSSION

Strategic initiatives to improve the Academic Medical Centers (AMCS) in Saudi Arabia: The first issue to be addressed is the optimization of human resources and it is must to retain and attract more Saudis into the health care professions which gains a clear priority for an effective reform of the Saudi health care system (Almalki *et al.*, 2011). Similarly, Saudi government is aggressively working towards implementation of "Saudization policy" in healthcare sector, while factoring in the availability of qualified staff and the industry's growth rate. A study by the Riyadh Chamber of Commerce and Industry showed that foreigners make up 51% of the health sector workforce. There is a need to review the existing Saudization in the healthcare industry and skill levels of experienced overseas technicians. A new report has also revealed that the Saudi government's intentions to completely fill all medical jobs in the kingdom with Saudi nationals within the next five years (Pavan, 2013).

To improve Saudi research force in healthcare sector, sufficient budget has to be allocated for training and scholarships for the Saudi nationals and students with a chance to pursue their studies in abroad (Health system profile). Even though, a significant percentage of National's Education Budget has been provided for student scholarships, (i.e., King Abdullah Scholarship Program), there is no evidence that students who are entering into these programs are to be benefit to the KSA when they return from abroad. Therefore, a review needs to be conducted by education experts who are independent of this scholarship program for its better implementation. In addition, the existing National Qualifications Framework (NQF) should be strengthened to support consistency of standards and student mobility across institutions and academic programs.

In Saudi universities, it is paramount to develop a strong and effective academic leadership at all levels and the person in charge needs more administrative freedom to initiate and continue the development for Saudi higher education (Smith and Abouammoh, 2013). Curriculum development should strongly reflect the future employment needs of the Kingdom and career guidance should direct the students into study programs which lead to genuine employment outcomes. All kind of education sectors should work together to maximize educational outcome. Specifically, processes and strategies need to be developed for the greater involvement of female academics in academic planning and affairs both at the institution and department levels (Jamjoom and Kelly, 2013). It is also essential to establish a rigorous process for faculty Performance Planning and Review (PPR) which needs to be supported with clearly laid out steps for improvement as well as clearly articulated consequences for continuing poor performance. There must also be a system of incentives and rewards for continuing excellent performance. Appropriate strategy needs to be devised to attract the international academicians to collaborate and work with Saudi universities in order to improve the quality of research and facilitate international benchmarking. In addition, it is mandatory to expand the university-industry collaboration so as to increase industry-based financial support for research which focus more on practical outcome of benefit to the nation. It also provides opportunities for international 'showcasing' of research in Saudi universities.

While considering the improvement of public hospitals as a center of teaching, training and medical education, a Saudi University Hospital Commission consisting of representatives from all the colleges has to be formulated to achieve the goals and mission of the university hospitals. It is also important to accelerate the establishment of new university hospitals to meet requirements of the Colleges of Medicine and other Health Science Colleges. However, this needs a considerable time frame, effort and funds. Likewise, the information technology infrastructure needs to be upgraded at both the institutional and system levels to assist planning and quality of teaching and learning. A single regulation for the university hospitals has to be framed under the umbrella of Ministry of Higher Education with mission and goals of such hospitals as well as the criteria that should be applied on them.

Similarly, the principle of academic accreditation for university teaching hospitals need to be expanded and sufficient funds has to be allocated to meet the target as it is a major requirement by the Saudi Commission for Health Specialists to allow such hospitals to impart training as per the programs of the commission.

Subsequently, more specialist centers with highly experienced university teachers needs to be established for improving the knowledge and skills of teaching and research among academic staff in universities. In addition, an appropriate strategy needs to be formulated to increase the rate of bed occupancy and minimize the stay of patients without reason.

Necessary initiatives need to be taken to enhance coordination among all health care service providers in order to avoid waste of resources and duplication of effort (Alhusaini, 2006). Even though the Council of Health Services has been established to develop a policy for coordination and integration among all health services authorities in Saudi Arabia, a significant progress has yet to be achieved (Al-Khazem, 2009). Subsequently, such coordination is also needed in order to enhance the use of e-health strategies and to launch a comprehensive national system for health information.It is suggested to develop and implement 'smart' information collection and analysis systems with regular updating facilities which can be accessed at both the system and institutional levels (Smith and Abouammoh, 2013).

In order to contain the cost of health care expenditure, there is a need for a system that must be technically efficient, financed equitably and by an appropriate mix of public and household revenues. A substantial government financial support also needs to be augmented by earmarked taxes and user charges by households. Although Saudi citizens have access to national health insurance, private healthcare insurance is also utilized by Saudis as it gives them the choice of either attending a government or private hospital. In addition, Saudi government also approved health insurance to visitors and it need to be expanded to hajj and umrah pilgrims. Therefore, the government should encourage an appropriate and planned private sector growth in health care service delivery by considering the options such as Possible autonomization (granting hospitals greater management autonomy), Corporatization (i.e., moving hospitals under a new quasi-private umbrella) and ultimately, privatization, (i.e., selling hospital assets to the private sector) of the public service delivery network including health care (Saati, 2003). Such policy could relieve the financial pressure on the government's investment budget and the government must increase their ability to monitor, regulate and enforce contracts with the private sector for successful implementation of privatization policy.

Problems such as rise in population and life expectancy, increased urbanization, high prevalence of NCDs, high inpatient admission and outpatient visits lead to increased demand on healthcare services and put pressure on Saudi government to expand those services with new hospitals which in turn increase the burden with cost of healthcare expenditure. Alternately, the government should introduce the self-operation Program across AMCs in KSA. It is the management and operation of university hospitals by the hospital administration independent from the direct administration of the university. University hospitals should have their own budget that should be supervised by the relevant university both to provide the required medical service as well as to create a conductive environment for education, training and research by following the similar practices adopted by the National Guard, MOH and Defense Hospitals. Emphasis should be made on the separation of the management and operation of the Colleges of Medicine and Medical Services from the operation of these university hospitals, since the above said services are part of medical centers. The self-operation requires application of the social security system instead of the retirement system applied to all the employees of the hospital with permanent and temporary contracts. As for those who are part of the academic staff of the university, they should be contracted under the umbrella of 'part time' system for the academic medical centers. By this system, it is also possible to make contracts of clinical employees to serve as clinical academics to teach, educate and train students and interns as it is globally practiced. By means of this Hospital self-operation system, utilization of available healthcare academics for academic and clinical services, training of healthcare students, diagnosis and treatment of infectious and non-communicable diseases can be achieved. According to Saudi Vision 2030, "Saudization" is also successfully implemented by providing more opportunities to Saudi healthcare professionals.

Reasons behind successful implementation of self-operation system at the university teaching hospital:
- Availability of sufficient number of consultants and experts from the pool of academic staff and researchers and the cost of those will be counted within the budget of the College of Medicine, Dentistry and other Allied health programs
- Possibility of generating additional revenue through medical research like other countries across the globe

- Possibility to find the financial support by opening the door for the faculty members to work as part-time consultants at the university hospitals similar to that of other countries in the rest of the world
- Elimination of dualism and conflict of tasks by defining the medical service and the academic tasks.
- Recruitment of human resources as per the international standards, not according to the regulations of Civil Service and
- Assist in increasing the bed occupation rate by the optimum use of beds

CONCLUSION

This study highlights the challenges facing the AMCs in KSA and the necessary initiatives to be taken to overcome these challenges. Some of the major challenges facing AMCs highlighted in this study include: Managing increased intake of student; imbalance between teaching, research and healthcare service roles of academics; drift of academics to industrial sectors; inadequate utility of information technology in teaching, learning and research; lack of data for policy decision making and benchmarking; underutilization of electronic health system shortage of local health care professionals, incorporating appropriate health insurance system. This study would help the policy planners by suggesting several strategic initiatives to improve the AMCs in KSA.

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