Rehabilitation Services in Saudi Arabia: An Overview of its Current Structure and Future Challenges

Hana Al-Sobayel1, Einas Aleisa2, Syamala Buragadda1 and Ganeswara Rao M1
1Rehabilitation Health Sciences Department, College of Applied Medical Sciences, King Saud University, Riyadh, KSA
2Female Centre for Science and Medical Studies, King Saud University, Riyadh, KSA

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Abstract

Saudi Arabia is the largest state in Middle East and is a major force in the Arab world due to its oil wealth. The prevalence of disability is growing rapidly in the kingdom of Saudi Arabia. The government has taken number of reforms to improve health care system. As a consequence health care services improved significantly in recent decades. There is still greater requirement for rehabilitation services due to reasons such as growing population, change in life style leading to greater incidence of diabetes mellitus, cardiovascular diseases, increased road traffic accidents leading to head injury, stroke, spinal cord injury etc. This paper focuses on the current structure and future challenges of tertiary care in the capital city of Saudi Arabia, Riyadh.

Keywords: Saudi Arabia; Health care; Rehabilitation services

Introduction

An estimated 10% of the world’s population experience some form of disability. Chronic conditions such as cardiovascular and respiratory diseases, cancer and diabetes, injuries, such as those due to road traffic accidents, mental illness, malnutrition, and infectious diseases are the most common conditions leading to disability. The number of people with disabilities is growing as a result of population growth, ageing and medical advances that preserve and prolong life. These factors are creating considerable demands for health and rehabilitation services. Furthermore, the lives of people with disabilities are affected by the way society interprets and reacts to disability which requires environmental and attitudinal changes (WHO, 2010) [1].

In Saudi Arabia, the prevalence of disability is growing with the rapid increase in the prevalence of the now called "diseases of civilization", such as obesity, cardiovascular disease, and diabetes. Furthermore, the escalating rate of road traffic accidents is accompanied by an eminent increase in people with disability. It is estimated that the Saudi population growth is 2.9% (central department of statistics 2012) with an average life expectancy of 72.2 and 76.2 years for males and females respectively, revealing a trend towards creating an ageing populations [2]. Collectively these conditions require tertiary interventions, commonly known as rehabilitation. The overall supervision of the healthcare facilities, both in the public and private sectors is by the Ministry of Health (MOH 2012) [3]. National survey in Saudi Arabia reported the prevalence of major disabilities among children to be 6.33% [4]. According to central intelligence agency (CIA) urban population: 82% of total population (2010) rate of urbanization: 2.2% annual rate of change (2010-15 EST) Riyadh (capital) 4.725 million Jeddah 3.234 million; Mecca 1.484 million; Medina 1.104 million; Ad Dammam 902,000 (2009) [5].

Rehabilitation is considered a health strategy that is provided by Physical Rehabilitation Medicine and professionals in the health sector and across other sectors to enable people with health conditions experiencing or likely to experience disability, to achieve and maintain optimal functioning in interaction with the environment [6]. Rehabilitation encompasses a wide range of activities including rehabilitative medical care, physical, psychological, speech, and occupational therapy and support services. People with disabilities should have access to both general medical care and appropriate rehabilitation services. Rehabilitation can be understood as one out of 4 health strategies also including prevention, cure and support [7]. There is growing significant evidence on the effectiveness of rehabilitation in number of conditions, such as stroke [8], rheumatoid arthritis [9], or elderly with hip fracture [10].

This paper presents the current structure of rehabilitation services in Riyadh and even focuses on its future challenges in rehabilitation health care system.

Rehabilitation care units in Riyadh

King Khalid University Hospital (KKUH) and King Abdul-Aziz University Hospital (KAUH) are the two major Rehabilitation service providers mainly outpatient services and partly inpatient services in Riyadh, the capital city of Saudi Arabia. There are also other hospitals, such as Sultan Bin Abdulaziz Humanitarian City, King Fahad Medical City among others.

Environmental analysis (current situation)

Internal Environment: The Dean of the College of Medicine is supervising the operation of university hospitals; King Khalid University Hospital (KKUH) and King Abdulaziz University Hospital (KAUH). Rehabilitation services provide mainly outpatient services and partly inpatient services. These services are delivered through rehabilitation departments in both hospitals. Both hospitals are...
undergoing a major expansion as well as establishing new facilities (e.g. Cardiac Center).

The rehabilitation department at KKUH

The rehabilitation department consists of the rehabilitation medicine clinic, physical therapy, occupational therapy, communication disorders, orthotics and prosthetic, nutrition, psychology, and social services. The department operates on a referral system from physicians from different departments within the hospital. The rehabilitation clinicians are usually not involved in the screening process for patients who may need rehabilitation services. Clinic of rehabilitation for the acute patient is not available at the moment. In patients who may require of this rehabilitation services, their attending physician/surgeon, are requisitioned to the rehabilitation department and treated by the appropriate rehabilitation specialist, within inpatient or outpatient facilities according to the patients’ needs.

Patients who are referred to the rehabilitation department go through a screening process by the clinical supervisor of the department to make sure that the patient is seen by the appropriate specialist. According to the severity of the condition of the patient, the clinical supervisor also makes decisions. Number of patients treated by rehabilitation practitioners in the last three years (Table 1).

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of in-patients treated</th>
<th>Number of in-patients visits</th>
<th>Number of out-patients treated</th>
<th>Number of out-patients visits</th>
<th>Total number of patients treated</th>
<th>Total number of patients visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>2477</td>
<td>10042</td>
<td>6330</td>
<td>38115</td>
<td>8807</td>
<td>48157</td>
</tr>
<tr>
<td>2010</td>
<td>4066</td>
<td>7884</td>
<td>4972</td>
<td>40428</td>
<td>8981</td>
<td>48312</td>
</tr>
<tr>
<td>2011</td>
<td>4336</td>
<td>4895</td>
<td>5523</td>
<td>53022</td>
<td>8859</td>
<td>57917</td>
</tr>
</tbody>
</table>

*King Khalid University Hospital (KKUH) Annual statistics report

Table 1: Patients treated in rehabilitation services at KKUH in the last 3 years

These statistics do not show the types of cases and treatment by rehabilitation specialists. Then, one cannot judge, which cases are usually most common in demand for rehabilitation. In addition, it is not clear from the available reports (Ministry of Health), as how patients are referred for rehabilitation department and what are the selection criteria. The data is also limited regarding what factors may influence the number of patients treated, and the number of their visits. It is also not possible to identify the ratio: therapist/patient, that which is an important key of the service performance indicator. As for their qualifications, most clinicians in the department are holding Bachelor degree in their specialty. The Table 2, showed degree in their specialty except for one physical therapist with Graduate Diploma and one physical therapist with Masters degree. There are no plans in place for staff training and development.

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Available number</th>
<th>Qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialist rehabilitation medicine physician</td>
<td>1</td>
<td>MD, Physiatrist</td>
</tr>
<tr>
<td>Physical therapist</td>
<td>30</td>
<td>B.Sc., M.Sc. (n=1), Graduate Diploma (n=1)</td>
</tr>
<tr>
<td>Physical therapy technician</td>
<td>8</td>
<td>Diploma</td>
</tr>
<tr>
<td>Occupational therapist</td>
<td>1</td>
<td>B.Sc.</td>
</tr>
<tr>
<td>Occupational therapy technician</td>
<td>2</td>
<td>Diploma</td>
</tr>
<tr>
<td>Orthotics and prosthetics technicians</td>
<td>2</td>
<td>Diploma</td>
</tr>
<tr>
<td>Speech and audiology specialist</td>
<td>1</td>
<td>B.Sc.</td>
</tr>
<tr>
<td>Receptionist</td>
<td>1</td>
<td>Ability to read and write in both Arabic and English</td>
</tr>
<tr>
<td>Medical records technician</td>
<td>1</td>
<td>TMR (technician in medical records)</td>
</tr>
</tbody>
</table>

Table 2: Number of rehabilitation specialists working in the Rehabilitation Department at KKUH and their qualification.

In terms of facilities, the department is comprised of male and female treatment areas, gymnasium for physical therapy, pediatric physical therapy, one hydrotherapy pool, one clinic for each rehabilitation medicine physician, speech pathologist, psychologist, and occupational therapist, and orthotics and prosthetics workshop. The department has limited space for the number of patients seen on a daily basis. The average number of patients visiting the out-patient clinics is approximately 210. There are also safety issues in these facilities.

Current situation

Expansion of KSU Medical City: The expansion of the university hospitals is in place. This includes increasing number of beds, establishing new departments, and establishing specialized centers (e.g. Cardiac center). Table 3 shows the current number of beds in each department and the expected increase. KKUH alone will have 73% increases in total number of beds. The current plan does not include In-patient Rehabilitation Facility (IRF), which is considered a requirement for such a general hospital. According to the Ministry of Health (MOH) strategic plan for rehabilitation services, 10% of general hospitals capacity should be allotted for IRF.

<table>
<thead>
<tr>
<th>Department</th>
<th>Total Existing Number of Beds</th>
<th>Total Beds after the Expansion</th>
<th>% of increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oncology</td>
<td>12</td>
<td>60</td>
<td>400</td>
</tr>
<tr>
<td>Dialysis</td>
<td>10</td>
<td>42</td>
<td>320</td>
</tr>
</tbody>
</table>
SWOT analysis: The following is based on the self-evaluation report of the rehabilitation department for the year 2010. Unfortunately, information from the SWOT analysis conducted by the College of Medicine Strategic Plan Committee was not utilized for the fact that rehabilitation staff and stakeholders were not included in the SWOT analysis sample.

**Strengths:**
- Open (free) access to health services in university hospitals for all Saudi citizens.
- Good academic environment.
- Direct links with the College of Medicine and indirect links with other health colleges (Applied Medical Sciences, Pharmacy, Nursing, Dentistry).
- Availability of good quality of care and highly qualified physicians.
- Plans in place for development and improvement of services and staff.

**Weaknesses:**
- Patient safety standards are not established.
- Limited capacity.
- Staff qualifications remain at minimum level.
- Limited communication between the rehabilitation staff and other departments.
- Limited and/or undefined research in the field of rehabilitation.

**Opportunities:**
- KSU support and focus on improving health sector.
- Expansion of KSU Medical City.
- Research Chairs and KSU Endowment.
- Distinguished Faculty and Researchers Program.
- The current urgency for establishing international recognition and accreditation.
- KSU reform and strategic plan priorities.
- Advancements in technology and assistive devices.
- Government and community support for people with disabilities.

**Threats:**
- High competition for talents leading to loose qualified staff.
- Competitive local rehabilitation service providers.
- Private rehabilitation services.
- Limited number of local specialists in the field of rehabilitation.
- Limited local academic rehabilitation programs.

<table>
<thead>
<tr>
<th>Department</th>
<th>Occupied Beds</th>
<th>Vacant Beds</th>
<th>Total Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adolescent</td>
<td>0</td>
<td>15</td>
<td>New</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>99</td>
<td>141</td>
<td>42</td>
</tr>
<tr>
<td>Pediatric + NICU</td>
<td>86</td>
<td>128</td>
<td>49</td>
</tr>
<tr>
<td>Surgery</td>
<td>181</td>
<td>201</td>
<td>25</td>
</tr>
<tr>
<td>Orthopedic</td>
<td>48</td>
<td>78</td>
<td>63</td>
</tr>
<tr>
<td>OBG</td>
<td>136</td>
<td>174</td>
<td>28%</td>
</tr>
<tr>
<td>Trauma</td>
<td>12</td>
<td>40</td>
<td>233%</td>
</tr>
<tr>
<td>Maxillo- Facial</td>
<td>6</td>
<td>12</td>
<td>100%</td>
</tr>
<tr>
<td>ENT</td>
<td>0</td>
<td>12</td>
<td>New</td>
</tr>
<tr>
<td>Burn Unit</td>
<td>4</td>
<td>8</td>
<td>100%</td>
</tr>
<tr>
<td>Diabetic Foot</td>
<td>0</td>
<td>20</td>
<td>New</td>
</tr>
<tr>
<td>IVF</td>
<td>3</td>
<td>11</td>
<td>267%</td>
</tr>
<tr>
<td>Long Stay</td>
<td>0</td>
<td>58</td>
<td>New</td>
</tr>
<tr>
<td>ICU</td>
<td>18</td>
<td>46</td>
<td>35%</td>
</tr>
<tr>
<td>Total number of occupied beds</td>
<td>577</td>
<td>970</td>
<td>68%</td>
</tr>
<tr>
<td>Total vacant beds</td>
<td>48</td>
<td>171</td>
<td>103.6%</td>
</tr>
<tr>
<td>Total capacity</td>
<td>661</td>
<td>1141</td>
<td>73%</td>
</tr>
</tbody>
</table>

Table 3: Current number of beds and the expected expansion.
Key competitive advantage of KSU Rehabilitation Institute: The proposed KSU Rehabilitation Institute has a number of competitive advantages that make its performance sustainable and provide a platform for growth:

- Direct links to academic facilities (health colleges).
- Free access to care.
- University support.
- Support for education and research.

External environment

Target customers and their needs/expectations:

- Patients: need state of the art comprehensive rehabilitation services.
- Referring departments: need to refer patients to rehabilitation department as part of the total treatment and management plan.
- Staff: need to work in a supportive working and learning environment.
- Trainees and students: expect to have good learning opportunities and work experience.
- Academics and researchers: need to gain access to a specialized educational and research facility.

Community: need awareness and education related to rehabilitation.

Major competitors and their competitive advantage:

- Military/Security/National Guard Hospital services
  - Advantage: Adequate financial resources; Government support
  - Disadvantage: Limited to a target population

- Rehabilitation Hospital at King Fahad Medical City
  - Advantage: Easy access for patients; Comprehensive rehabilitation services
  - Disadvantage: Limited space and capacity

- Not-for-profit institutions (Sultan Bin Abdulaziz Humanitarian City)
  - Advantage: Long-term and Chronic care facility
  - Disadvantage: Financial burden

- Disabled Children Association
  - Advantage: Geographical coverage
  - Disadvantage: Limited inclusion criteria

- Czech Rehabilitation Center (Private center)
  - Advantage: Easy access for patients
  - Disadvantage: Financial burden

Table 4: Major local rehabilitation facilities and their competitive advantages.

References