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## QUALITY OF LIFE IN TERTIARY HEALTHCARE SERVICES: LESSONS FROM THE SAUDI ARABIA ACCREDITATION SYSTEM

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### Introduction

Complete physical, mental, and social well-being are antecedent propositions of 'leading health' (WHO, 2009). During evaluation or even measuring, self-reported outcomes are collected and considered 'landmarks' for patients, policy makers and society in general. Nothing could be a more reliable expression of health outcomes in today's world than the self-reporting of one's QoL. In addition to multidimensional indicators (Hajiran, 2006), medical care contributes substantially in improving QoL (Glimelius et al., 1996; Van den Berg et al., 2005) especially in tertiary care. On the other hand, Wholey and Hatry (1992) argued that few government agencies provide timely information on the quality and outcomes of their major programme. Practically, the achieved results are outcomes measurements revealing how often patients are harmed. The change in patients' current and future health status that can be attributed to antecedent health care" is referred to by Donabedian (1980) as an outcome. He asserted that outcomes remain the ultimate valuers of the effectiveness and quality of medical care (2005). The functional scale, rather than the numeric or standardized scale on client satisfaction, is conceptualized to measure outcomes performance (Martin & Kettner, 1996). Outcomes are further consequences of outputs; they include Health-Related Quality of Life (Liu et al., 2007).

Thus, different tools and approaches had been implemented to measures QoL in contemporary health outcomes research but rarely correlated with quality of health performance.

### QoL tools

Since 1970, many tools have been extensively introduced to measure QoL. Bowling (2005) argued that such tools could be used either for disease-specific or broad-ranging measuring, depending on the aim of assessment. In fact, WHO has developed some QoL tools that can measure the generic or disease-specific health of a given group of people.

WHO defined QoL as an individual's perception of their position in life in the context of the culture and value systems in which they live and in particularly to the relation to their goals, expectations, standards and concerns (WHO, 1996). QoL assessment tools are in the form of questionnaires. The tools have been implemented to dramatic effect in many research areas especially for assessing treatment outcome (Thompson et al., 2008) and for economic evaluation (Aigner et al., 2006).

A group of health care professionals published a generic instrument known as the WHOQOL-100 from the WHO in 1998. This tool consists of 24 specific QoL facets (e.g., pain, positive feelings, social support, and transport). As the title indicates in the 100-questionnaire survey, there is a need to reduce the number of questions while maintaining reliability and validity. In response to this need, WHOQOL-Bref emerged as a short version of the main instrument, covering mainly four domains in QoL Physical (PHY),

Psychological (PSY), Social (SOC), and Environmental (ENV). The instrument consists of 26 items which measure the previous domains.

This initiative arose from the need for a genuine international measure of QoL and an assurance of the continued promotion of a holistic approach to health and health care. In fact, the WHOQOL-Bref instrument is used in many countries to assess and evaluate the QoL of its population. In general, researchers agree that the concept of QoL is subjective and should at least include assessment of symptom status, this effect on physical functioning, mobility and the role of the individual as well as social, and emotional well-being. Researchers continue to explore the various factors that contribute to individual satisfaction with QoL with a view to optimizing the process of QoL assessment.

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### Process versus Outcomes Measurements Indicators

Most of the current health researchers focus mainly on the process measurement indicators (PMIs). In fact, there are few insightful documents investigating outcomes measurement indicators (OMIs). While some differences include complexity in theory, activity, time, and nature between the two measures, there is a dire need to validate the process in a given research as recommended by the Scandinavian Journal for Rheumatology under assessment systems to evaluate treatment (1999) (tabel 1).

**Table 1.** Process and Outcomes Measurement Indicators

Dimension	PMIs	OMIs
Theory	Reductionism	Holism
Time	Ad hoc assessment	Continuous evaluation
Context	Reflexive	Reflective
	Documentation based	Fact based
	limited experience	Storytelling experience
Pattern	Emphasis on institutions’ hopes	Emphasis on patients’ understanding
	Patients normally passive	Patients normally active
	Tackling part of the system	Considering the whole system

For any evaluation to succeed, data collection on interventions performed within the quality improvement system collaborative and outcomes of those interventions is crucial (Van den Berg et al., 2009). It is essential to involve OMIs while evaluating health care outcomes due to their impact on both micro and macro levels. One must bear in mind that the ultimate goal of outcomes assessment is the final result of the process and not vice versa.

There is no justification to claim that outcomes are the only framework in measuring indicators in health care services because the outcomes measurement cannot stand alone (Moon, 2000; Rouwette et al., 2009). Therefore, access and effectiveness, other factors that correlate with and impact on patients’ preferences (Campbell et al., 2000), are considered.

### *WHOQOL-Bref instrument*

Bearing in mind that health is associated with the WHO definition; WHOQOL-Bref covers all health dimensions. The respondents express to what extent they have experienced the items in health outcomes. Scores represent one's personal experience and satisfaction regarding various aspects of life and health care services in particular. The WHOQOL-Bref is an instrument that conceptually fits within the WHO definition of health table (2). Substantial efforts have been made to properly operationalize the sub-concepts of various aspects of life included in the instrument. WHOQOL-Bref can provide data for both research and clinical purposes. Although it is a relatively brief instrument, its structure allows one to acquire specific information covering many aspects of life and hospital experience.

Table (2) illuminates views on health measurement. Firstly, the WHO definition of health is the most widespread definition worldwide. Rarely are outcomes found while investigating health assessment. Secondly, whereas many hospitals are seeking accreditation, their patients' values, demands, well-being, and expected outcomes are partially overlooked in many health programmes.

**Table 2.** The various facets of health definition

Domain	WHO Definition	WHOQOL-Bref
Physical	✓	✓
Mental	✓	✓
Social	✓	✓
Environmental	✗	✓

### *SA health care system*

Saudi's health care system is comprised of substantial public and a few private entities and is complemented by extremely high standards of living, education, housing, sanitation and hygiene practices and preventative medicine (MOH, 2010). It is recognized by the WHO to be one of the best health care systems in the Middle East ranked 26<sup>th</sup> among 190 of the world's health systems.

**Table 3.** SA public health care system

Criteria	PHC	Secondary Health Care	Tertiary Health Care
Capacity Level	Light	Moderate	High
Referral	No	Yes	Yes
Accreditation	NA	11	10
N	2049	245	55*

\* Some tertiary services within secondary hospitals

The SA government funds, regulates and monitors the majority of health care providers (Almalki et al., 2011) through Ministry Of Health (MOH). Recent statistics indicate that the government funds and operates more than 70% of all health care providers in the country (MOH, 2010). Within these various health care services, there are other semi-governmental agencies that significantly contribute to the health care system (estimated to be 16%); but they are (Al-Yousuf et al., 2002) duplicated services for the MOH. A further 30% of health care hospitals (estimated to be 127) are funded and operated by private organizations (Table 3).

## Tertiary health services in SA

MOH does not, on a regular basis, release comprehensive health statistics. The current trend indicates a huge increase in the allocated budget for health owing to the rapid demographic changes and increasing population. However, communicable disease is eventually controlled owing to many programmes being effectively implemented during the last decades. Since 1985, SA has nearly eradicated many common diseases such as diphtheria, poliomyelitis, whooping cough, and measles. Tuberculosis and hepatitis B have proved more difficult to eliminate and thus, specialized hospitals have been established to treat these cases while minimizing their risks. The health status of citizens and non-citizens are rarely discussed although such issues have attracted some concern from international organizations. The United Nations estimates on Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (HIV/AIDS) for 2006 place the adult prevalence rate at less than 0.02 %.

On the other hand, non-communicable diseases (NCDs) are increasingly becoming a leading cause of mortality in SA, representing over 60% of all deaths. Risk factors such as a person's background, lifestyle and environment are known to increase the likelihood of certain NCDs. In SA, overweight, obesity and hypertension and type 2 diabetes are on the rise, regardless of age or gender (Ng et al., 2011).

Meeting patients' expectations and involving high curative measures are indicators (Sánchez et al., 2006) of health care institutions' ability to provide appropriate health care services.

Nowadays, health care addresses issues beyond patient treatment. Hospitals, for example, attempt to overcome future risks by adopting both national and international standards. The creating of a safety culture; the promoting of patients' rights; and the recruiting of professional medical staff (Albrithen & Yalli, 2011) in high standard organizations are indicators of a high quality of care being implemented. However, access to these health care organizations is usually facilitated by means of secondary and primary health care procedures. Gallup (2012) released a report indicating a 60% satisfaction from both access and quality of care in SA health care services.

### *Why ACCHs and NACCHs?*

The prevalence of hospital accreditation through hospital quality standards has been increasing (Walston et al., 2008). The competitive pressure in the SA health care system threatens to force individuals further away from their communities than necessary because the gatekeeping standards for access to tertiary institutions are too daunting. However, the recent enactment of SA health services council presents steps being taken, especially the accreditation programme, and represents powerful examples of attempts to maximize QoL in all MOH facilities. The Saudi health care system may therefore be considered unique and innovative (Searle & Gallagher, 1983).

As found in many national health accreditation systems, the Central Board of Accreditation for Health Institutions (CBAHI) was established in 2005 as an imperative resource to support both quality and patient safety under the supervision of the MOH. The Saudi government's role as the dominant health care provider is to supply hospitals country-wide with effective clinical management, qualified human power, and overall, to improve the quality of health care delivery through the introduction of Key Performance Indicators (KPIs) as set out in the CBAHI manual.

The accreditation of twenty-one public hospitals encouraged many other hospitals and health professionals to consider the value of accreditation on QoL hospitals. Since its inception, CBAHI management has insisted on providing patients with a high standard of health and medical care, supported by highly trained staff (CBAHI, 2005). The hospitals are inspected by MOH to ensure compliance with the national

minimum standards and the local regulations. Periodic and random inspections are frequently undertaken to ensure that processes for improving quality in environment, patient care and treatment are continuously updated, improved, and reflected.

Containing more than 881 standards, the CBAHI manual was based on similar international standards (Baroudi & Nofal, 2009) but with a culturally tailored background. However, CBAHI has extracted 22 essential departmental standards aimed at setting up a system where patient and staff safety and satisfaction are the focus of the operation (CBAHI, 2005). Both public and private institutions should adhere to meeting these standards not only to improve their quality and patient safety, but also to operate and participate in providing health services under the new health insurance scheme. The primary focus of these indicators is to inform current hospital activities. Although accreditation is an essential part of the SA health care system, the IOM (2003) stresses its function of contributing to the organizational performance:

***Accreditation is a useful tool for improving the quality of services provided to the public by setting standards and evaluating performance against those standards.***

(The Future of the Public's Health in the 21st Century, p. 157)

Using KPIs in public health is widespread where the aim is to command and control health services (Davies & Lampel, 1998). Basically, health care organizations implement a set of KPIs to judge how well they are performing. The subjective KPIs are defined internally and are subjected to tests of reasonableness (Wolfskill, 2007). O'Connor (2004) strongly believes that when selecting, developing or modifying a test, one should as far as possible look to the main purpose behind assessing health. Again, in designing the study, during the selecting of KPIs, it is wise to look at the level of influence that a provider can contribute (Kastrup et al., 2009).

Purposes of measuring health care outcomes vary from one outlook to another; for example, Bombardier & Tugwell (1982) suggested that diagnostic, prognostic, and evaluative aims were the functional objectives of conducting measuring. For such goals, systematic criteria have been applied to select KPIs that were measurable, reliable, and valid for our sample in conjunction with theory of patients' behaviour. One essential aspect to be addressed about KPIs is what and how to measure (McDowell, 2006; WHO, 2003). Some ideal features of quality indicators are that they be relevant aspects, reliable, easily quantifiable and amenability to quality control. (Campbell et al., 2002).

To conclude, there is a trend towards including the patients' experiences in health care policies. Further, the accreditation system for health care organizations should be scrutinized so as to maximize the pillars of quality of care through introducing QoL.

## **Material and Methods**

### *Data collection*

A questionnaire-based survey was distributed to 1200 patients admitted to specialized clinics in various public hospitals in Riyadh Region. As part of a large study evaluating health services outcomes, three parts of the questionnaire were extracted which embodied factors related to demographic and social characteristics, patients' behaviour and QoL. The questionnaire is piloted and validated by health care professionals and academics and displayed an acceptable level of reliability.

### *Ethics*

MOH in SA and Monash University, the primary and secondary Health Research Ethical Committee respectively, approved the research. Data collection did not include personal information that identified participants; all data remained confidential.

### *Sample*

The sample of this study was drawn from a general survey of hospitals providing specialized services. Of 39 public hospitals, only four tertiary public entities were accredited in Riyadh region. To outline the impact of accreditation, ACCHs were included to distinguish their performance from similar NACCHs.

### *Instrument*

Focusing on patients' preferences, a questionnaire is used to involve patients in this study. First, socio-demographic characteristics were identified followed by healthy behaviour variables. Then, to assess QoL, some factors have been listed relating to Physical, Psychological, Social, and Environmental domains. The overall Cronbach's Alpha is 0.793

### *Statistical analysis*

Using a five-point Likert scale, the questions ranged between total agreement and total disagreement. The predictor variables were demographic items and healthy behaviour, while the DVs were items relating to QoL. Where missing data was more than 5%, the questionnaire was disregarded. The frequency distributions of the responses of the patients in ACCHs and NACCHs were described and compared with respect to (a) 7 items concerning PHY; (b) 6 items concerning PSY; (c) 3 items concerning SOC; and (d) 8 items concerning ENV. Finally, the overall result of QoL is correlated with these variables.

Non-parametric inferential statistics were performed using the methods described by Sheskin (2007) and implemented in SPSS version 19.0 using the protocols defined by Field (2009). The aim of the non-parametric analysis was to compare the responses of patients attending ACCHs and NACCHs with respect to their proportions; their frequency distributions; and their median scores. In this study, 27 outliers were identified by Mahalanobis distance statistics and excluded. Median scores are less biased measures of central tendency than mean scores for ordinal data (Sheskin, 2007). The Mann-Whitney test was used to compare two median scores.

## **Results**

Five hundred and seventeen participants from ACCHs participated, additionally, another 542 participants from NACCHs were recruited to this survey based on MOH reports (2012). First, test of normality is used (table 4); followed by responses about general items about QoL (table 4). Then Mann-Whitney test is run to find out if there is a significant difference between the two settings (table 5). Again, the proportion of QoL domains is presented in table (6). Finally, to find if there is a correlation between items related to access and effectiveness of tertiary health services and QoL, Spearman's correlation is performed (table 8)

Distribution of the socio-demographic characteristics of the participants attending tertiary public hospitals is presented in table (4). Approximately equal proportions attended accredited (49%) and non-accredited hospitals (51%). The majority of the patients were male Saudi citizens, younger than 40 years, living in the capital region. Most were single, with a high school education or below, and a monthly income of less than SR 5000. Only 14% of the patients could afford health insurance.

**Table 4.** Test for normality of QoL scales

Domain	Mean	Standard Deviation	Kolmogorov-Smirnov Z	P
PHY	3.09	.624	3.324	<.001*
PSY	3.42	.533	4.835	<.001*
ENV	3.35	.485	6.319	<.001*
SOC	3.46	.632	4.666	<.001*
QOL	3.33	.386	4.153	<.001*

\* Note: Significant ( $p < .001$ ) deviation from normality

**Table 5.** Distribution of responses to general items about QoL (not included in scales)

Item	Very poor	Poor	Neither	Good	Very good
Rating QoL	134 (12.7%)	46 (4.3%)	337 (31.8%)	321(30.3%)	221 (20.9%)
	<b>Very dissatisfied</b>	<b>Dissatisfied</b>	<b>Neither</b>	<b>Satisfied</b>	<b>Very satisfied</b>
Satisfaction with health	31 (2.9%)	65 (6.1%)	526 (49.7%)	255(24.1%)	182 (17.2%)

Some of the items in the instrument were not included in any of the scales (Table 5). Because they were single items, the reliability of the responses could not be evaluated. Over half (51.2%) of the patients rated their QoL as good or very good. Half of the participants were not sure if they were satisfied with their health, but 41.3% agreed that they were satisfied.

For patients in ACCHs, the median score for QoL was 3.29 and 3.44 for patients in NACCHs. The median scores ranged from 2.92 to 3.63 for the former and 3.34 to 3.57 for those at the latter. A Mann-Whitney test indicated that the median scores for the ACCHs and NACCHs were significantly different ( $U = 113977.5$ ,  $p < .001$ ) implying that QoL was higher for the patients at NACCHs (Table 6).

**Table 6.** Mann-Whitney test for the two proportions

Scale	ACCHs (N = 517)	NACCHs (N= 542)	Mann-Whitney U	P
	Grouped Median	Grouped Median		
Physical	2.92	3.34	95663.5	<.001*
Psychological	3.33	3.57	116613.0	<.001*
Environmental	3.25	3.50	232524.5	<.001*
Social	3.63	3.34	116667.5	<.001*
QoL	3.29	3.44	113977.5	<.001*

Note: \* Significant difference ( $p < .05$ ) between ACCHs and NACCHs

**Table 7.** Access and effectiveness domains and QoL

QoL and	Totally disagree	Disagree	Not sure	Agree	Totally agree
Access	58 (5.5%)	23 (2.2%)	390 (36.8%)	412(38.9%)	176 (16.6%)
Effectiveness	32 (3.0%)	58 (5.5%)	310 (29.3%)	422(39.8%)	237(22.4%)

Access to health care and effectiveness of treatment are two separate factors showing a correlation with QoL. More than half of the participants believe strongly that access to health care can improve their QoL. More than two-thirds (62.2%) tend to agree that effectiveness of medicine can improve their QoL (table 7).

A correlation has been conducted to find out the degree of the relationship between access to health care and effectiveness of treatment on one hand, and QoL on the other hand. The result is summarized in table (8).

**Table 8.** Spearman’s Correlation between Access, Effectiveness and QoL

Domain	R	Sig.
Access	.349	<.000*
Effectiveness	.161	<.000*

Note: \* Significant difference ( $p < .05$ )

## Discussion

This study investigates QoL of pre-discharge patients in tertiary public health care services in SA. Overall, the results show that patients are not discharged prior to their appropriate treatment regardless of social and demographic characteristics, hospital size, and type. As indicated, citizens and foreigners have traditionally valued their hospitals’ admission, treatment and discharge, whether in ACCHs or NACCHs. However, there is an observed consistent difference in experience of QoL when comparing ACCHs and NACCHs enrolees. Subjects attending NACCHs have reported higher QoL scores than their counterparts attending ACCHs. Although enrolees to some extent associated unrestricted access to health care and effective medicine with improving their QoL, the current accreditation methods have an insignificant impact on increasing QoL.

Physical, mental, social, and environmental scores of QoL domains in all settings tend towards the positive (i.e., agreement) end of the scale. Even though NACCHs enrolees have asserted that they maintain higher QoL than do ACCHs enrolees, no great split in the system emerges at least not as reported by patients. It is rare to conduct research into QoL of Saudi’s patients especially in longitude studies. In this study, the higher level of well-being is a mixture of all health dimensions (Albrecht & Devlieger, 1999) indicating decent QoL (Burckhardt et al., 1989). One part of the Arabic culture is that people are optimistic and attempt to conceal illness (Abudabbeh, 2005), especially those of Islamic background where patients forbear the disease (Al-Jahdali et al., 2012). The most salient feature is the strong social network among patients and their relatives (Meleis, 1982). The positive social interaction increases well-being (Finch et al., 1989; Kawachi & Berkman, 2001; Rook, 1984). Perceptions of other health domains, including health services, psychological and physical are at an acceptable level. From the environmental perspective, patients declare challenge and dissatisfaction in accessing health care services. However, current health conditions follow comparable patterns in both settings while a difference is observed between the score of each group based on projected internal and external factors related to QoL. Although access may improve QoL (Topal et al., 2012), effective treatment shows unsatisfactory progress most cases being acute and in advanced stages.

In general, high scores in NACCH can reveal initiators of dialogue between survey-takers, patients, and health-policy makers through highlighting QoL issues that need to be dealt with and eliminating issues of no benefit to outcomes. Setting potentially irrelevant standards to QoL outcomes increases patient burden and the likelihood of an insignificant finding or even health system dysfunction. The chosen standards are not sufficiently specific to be sensitive to the improvement taking place during the treatment period. In some researches, accreditation has improved certain aspects of QoL, such as patient safety (Al-Awa et al., 2011), and overall performance (Riley et al., 2012). This paper has not yet clearly indicated such improve-

ment. However, the analysis has concluded that health outcomes are achieved whether or not the hospital is accredited. When hospitals seek accreditation only, standards are purely related to implementing quality tools as optional measures; they are not, for instance, associated with obligatory clinical guidelines practice. In NACCHs, the absence or lack of implementing legislative standards, policies, and frameworks may lead to unfavourable consequences for patients, providers, and overall, to the failure of the health care system. From policymakers' and survey-takers' perspectives, the accreditation in SA is more administrative process and requirements rather than long term outcomes. From hospital management point of view, or accreditation system entities, no valid data shows the pre- and post-accreditation outcomes were improved at least theoretically. This study, contrary to expectations, has yielded to 'less impact' of standardization on tertiary health care services.

A number of limitations of this study should be stated. This study portrays no stringency of clinical decision the entire conclusion is based on patients' self-reporting. It scrutinized only cases admitted to selected and specialized hospitals. Since this study indicates no significant relationship between QoL and certain selected socio-economic factors, the results are less clear with respect to the influence of preferential treatment the goal of this study being to measure the whole system performance and not any one particular case.

It is possible that this sample is fragmented and uncoordinated under free-for-services approach. Participants may have compared service performance of primary and secondary health care in some clinical respects, and thus, their perception of the best outcomes has been compromised. Further studies may include direct correlations between QoL and disadvantaged patients especially those in rural areas. It is suggested that statistics on specific disease cases are released periodically. As this study deals with patients who are about to be discharged, further investigation is recommended based on a longitudinal design and involving many more patients.

Overall, although the results assure one that both ACCHs and NACCHs are performing well in terms of health outcomes, there is no clear cut better performer as far as health domains are concerned. Further investigations may not rely only on investigating QoL in the health care system, but may concern themselves entirely with the impact of accreditation and the deeper relationships between QoL and quality of care.

## Recommendations

As accreditation has less effect on patient's experience of QoL in health care, the current standards ought to be re-measured in parallel with the objectives of patients' expectations and values. Whether or not these tools are implemented, it is vital to involve patients in decision making.

One of the suggested and commonly used approaches nowadays is to redesign the health care system based on patient preference and expectation (Epstein & Hundert, 2002; Kohn et al., 2000). The classical recommendation of measuring emphasizes a focus on patients (Andaleeb, 2001) rather than activities. However, this shift requires change within the health research in order to facilitate a concept of patient-centeredness. The role of the researcher therefore is to enable and encourage hospital standardization to take place, allowing for institutions to achieve the best outcomes, by active participation of the patients.

The current standards are mainly concentrated on the method by which the process is formulated rather than on meeting the patient's demands and needs (Weston, 1981). Under the 'free-for-service' coverage, absence of measuring market share, productivity, and even ROI, it is high time that enrollees in the SA health care system should openly reveal their views, outcomes, and tendencies not only on a personal level, but also from the holistic approach.

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**Practical implementation:** This study makes an important contribution to the literature on QoL among tertiary care patients. In this participatory approach, the reflection of high QoL is not associated with high health care standards. Reconsidering current standards to incorporate patients' well-being and experience, for instance, is crucial for the new standards' generation development.

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