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CURRENT STATE OF PSYCHIATRY IN SAUDI ARABIA

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ABSTRACT

Background: In 1983, an article and accompanying editorial was published on the state of psychiatry in the Kingdom of Saudi Arabia (KSA), which was described as "a mental health system *in statu nascendi*." *Methods:* We provide a 30-year update on advances in mental health care in KSA. Data are reported from a wide range of sources, including the 2007 Saudi Arabian Mental and Social Health Atlas, which compares services in KSA with the rest of the world. *Results:* We examine how the current mental health system operates in KSA, including recent changes in mental healthcare policy and development of a national mental healthcare plan. Discussed are current needs based on the prevalence and recognition of mental disorders; availability of services and providers (psychiatrists, psychiatric nurses, psychologists, and social workers); education and training in psychiatry; developments in consultation-liaison, addictions, child-adolescent, and

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geriatric psychiatry; and progress in mental health research. *Conclusions:* Mental healthcare in Saudi Arabia has come a long way in a very short time, despite cultural, religious, social, and political challenges, although there still remain areas where improvement is needed. The development of psychiatry in KSA serves as a model for countries in the Middle East and around the world.

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In 1983, psychiatry in KSA was described as "a mental health system *in statu nascendi"* (in the state of being born) [1]. At that time there was only one mental hospital, Shehar Mental Hospital in Taif (near Mecca), that served the entire population of KSA, 6 million at that time (now 28 million). Twenty-five years earlier, the authors claimed, there was no psychiatric hospital, and those with mental illness were "housed in various residencies without organized treatment programs" [1, p. 1493]. By 1982, there were still no formal departments of psychiatry in any major medical center or university in KSA, and the following statement was made: "Consultation-liaison psychiatry awaits birth; psychodynamic thinking is rare; child psychiatry is rarer" [1, p. 1493].

The article above was commenting on a summary of the state of psychiatric practice and education in KSA by a psychiatrist, Steven Dubovsky [2]. The challenge to Saudi psychiatry at that time, said Dubovsky, was reconciling, "Islamic law, folk concepts of mental illness, and twentieth-century knowledge" [2, p. 1456]. In rural areas of the country, treatment of the mentally ill involved physical beatings and use of cautery (burning of body parts [3]) in order to make the patient's body inhospitable to evil spirits so they would leave.

Dubovsky also discussed the challenges that affected diagnosis and treatment. He pointed out that the illiterate status of most older men and women interfered with the mental status exam and overall psychiatric assessment, and that psychiatric symptoms were often expressed in terms of somatic symptoms such as fatigue, pain, or loss of appetite. He also raised issues related to treating substance abuse disorders. Since alcohol and illicit drug use is forbidden, addiction programs were non-existent.

There were also few places to hospitalize psychiatric patients in 1983. The first psychiatric hospital, Shehar Mental Hospital in Taif, was opened in 1952 with 250 beds [4]. The second psychiatric hospital was built in 1960 in Medina and contained 36 beds. In addition, Aramco Hospital in Dhahran had a small psychiatric ward and there were plans in 1983 to open a modern psychiatric ward at the King Saud University in Riyadh.

Medical education on human behavior, psychopathology, and other courses in psychology were uncommon in 1983 at the four Saudi medical schools. There

was a psychiatric residency program at King Saud University, but the program had only three trainees. As a result, fully trained psychiatrists were rare. In 1977, there was only one psychiatrist per 2 million people (i.e., three psychiatrists in the entire country). By 1983, Dubovsky estimated that there were 10 to 30 psychiatrists in KSA, increasing the ratio to one per 200,000 at best. For a psychiatrist working in Saudi Arabia, Dubovsky concluded, this provided "a unique opportunity to watch an ancient world transform itself into a modern one to make a unique and vital contribution to building psychiatric services in a medical system that now knows little about them" [2, p. 1459]. So, what has happened to psychiatry in Saudi Arabia over the last 30 years?

Much indeed has changed. We discuss these changes by describing how the current mental health system in KSA operates, the need for mental healthcare, the availability of services and providers, education and training in psychiatry and psychiatry sub-specialties, progress in mental health research, and unique religious and cultural factors that continue to influence psychiatric practice. When possible, comparisons are made with the United States and other Western countries.

MENTAL HEALTH SYSTEM

In 1989, primary healthcare (PHC) centers were established in KSA, and each family is now registered at a PHC in their area and receives a family health card for access [5]. Patients who require hospital admission are referred to a local general hospital or, if necessary, to a tertiary care teaching hospital. In 2000, the World Health Organization (WHO) encouraged the linking of mental care with PHC centers, which was done in KSA [6]. When primary care physicians (PCPs) at PHC centers identify patients with mental heath problems they cannot handle, patients are referred to a psychiatry clinic for evaluation, to a psychiatric ward at a general hospital, or to a specialty psychiatric hospital. Mental healthcare, however, has rapidly evolved since then. By 2006, KSA had a mental health policy, a substance abuse policy, a national mental health program, and was developing mental health legislation and programs for special populations (children and the elderly) [4].

In 2007, following the model of the 2000 WHO Mental Health Atlas [4] that was designed to identify the unmet mental health and social needs of patients with mental illness around the world, the Saudi Arabian Mental and Social Health Atlas (SAMSHA) was developed [4]. SAMSHA contains sections on mental health policy and legislation, budgeting mechanisms, community care, primary care psychiatry, rehabilitation centers, psychiatric beds, general hospital psychiatry, human resources, programs for special populations, rehabilitation centers, use of psychotropic drugs, and a section on information systems. SAMSHA includes a 4-year national strategic plan with eight goals:

1. develop modern infrastructure and increase specialty providers;
2. improve quality of services;
3. expand substance abuse services;
4. develop CME programs in mental health;
5. develop research units for conducting applied research;
6. establish national quality indicators;
7. develop social service units; and
8. plan and develop mental health services throughout Saudi Arabia.

In 2010, the General Administration for Mental Health and Social Services developed a procedures manual with uniform policies for all psychiatric hospitals.

Most psychiatric patients today receive care in private or public psychiatric hospitals that have well-developed inpatient and outpatient services. Many persons with chronic mental disorders reside in psychiatric hospitals. The number of psychiatric outpatient clinics had increased to 44 by 2006, but were usually connected to general or psychiatric hospitals [4]. There is still no well-developed community mental health center (CMHC) system in KSA and little integration of the chronic mentally ill into the community. The creation of a CMHC system (as planned) could take substantial pressure off of psychiatric hospitals. Until then, there are efforts in place to train general medical practitioners at the 1,900 PHC centers in KSA to address psychiatric issues. As of 2010, however, mental health services in PHCs also remained largely underdeveloped. There has also been a problem with availability of psychotropic drugs, especially newer psychiatric drugs with better side-effect profiles, and there is no consistent adverse effects reporting system or electronic prescribing system, although these are all goals of the national strategic plan [4].

NEED FOR MENTAL HEALTH CARE

Although not yet completed, studies are now in the field that will examine the prevalence of psychiatric disorders in the general Saudi population. National and regional community surveys of depression in older adults have been done, along with several regional studies of mental symptoms in secondary school students and studies examining medical patients and patients seen in psychiatric settings.

Community Settings

A survey examining 7,970 Saudi nationals age 60 and over across KSA (identified from medical records at PHC centers) reported that 39% scored at or above the cutoff of 10 on the 30-item Geriatric Depression Scale (GDS) [7]. In a regional study in Abha city, home-based interviews were conducted with 810 persons age 65 or over (elders residing in three PHC center catchment areas) using the 15-item GDS; 18% scored at or above the established cutoff score of 5 [8].

Now in the field, the Saudi National Mental Health Survey is a population-based survey of 10,000 Saudi nationals to determine the prevalence, risk factors, prognosis, and treatment of mental disorders [9]. The Composite International Diagnostic Interview (CIDI) is the diagnostic instrument being used. The Population Studies Center at the University of Michigan has been assisting with preparation, monitoring, and implementation [10]. The survey was scheduled to begin January 2013 and should finish by July 2013 [11].

Medical Settings

Becker and colleagues examined 431 medical outpatients at King Khalid University Hospital in Riyadh (75% under age 50), reporting a 20% prevalence of depressive disorder using the PHQ [12]. Al-Kathami and Ogbeide surveyed 609 primary care patients (mean age 34) in central KSA using the Rahim Anxiety-Depression Scale, reporting that 18% had "mental illness," and if sub-threshold disorders were included, the rate increased to 30% [13]. If one includes the study of 7,970 older adults identified from medical records at PHC centers, rates of depression in primary care outpatient settings range from 18% to 39%, depending on age and severity of symptoms.

Psychiatric Settings

In an early review (1991) of the characteristics of 195 inpatients admitted to a Saudi psychiatric hospital, 57% had schizophrenia (ICD-9), mean age of patients was 30, and 59% were male [14]. A more recent study of 1,366 psychiatric patients admitted to a psychiatric ward at a general medical hospital between 1988 and 1998 found that 20% had schizophrenia, 15% bipolar disorder, 10% depressive disorder, 9% transient psychotic disorder, 8% adjustment disorder, and 8% dissociative disorder [15]. Mean length of stay was 25 days. Males were more likely admitted for schizophrenia, whereas females were more likely admitted for mood or anxiety disorders.

Problems with Detection

Since PHC centers are often the first point of contact, PCPs are largely responsible for identifying mental health problems. In studies conducted in the 1990s and early 2000s, Saudi PCPs missed 50 to 90% of patients with psychiatric problems [16-18]. Although detection rates are low, they are not negligible. In fact, rates are not that much lower than reported in Western countries where the detection of depression (the most common psychiatric problem in medical settings) is typically under 50% [19]. One challenge in KSA is that patients with mental health problems often present to PCPs with somatic not psychiatric symptoms. Many patients also believe that somatic and psychiatric

symptoms have supernatural causes (see below), and thus fail to seek help for these symptoms from medical providers.

As seeking help for mental health problems has become more acceptable in KSA, there is more demand for psychiatric services. As a result, psychiatrists are now being assigned clinics in primary care practices to make them more accessible. Furthermore, patients with mental health needs may also seek psychiatric care directly in public and private clinics without going through a PCP.

SPECIAL POPULATIONS

Children and Adolescents

Symptoms of mental distress are common among community-dwelling Saudi youth, suggesting a future need for mental health services as these youth move into adulthood. Surveys of adolescents in secondary schools find significant depressive symptoms in 14% to 38%, anxiety in 14% to 49%, and high psychological stress in 36%, depending on assessment tool (SCL-90-R, DASS-42, or BDI) [20-22]. These rates, however, are not that much different than in U.S. adolescents [23].

Women

Women in general are more vulnerable to psychiatric disorder, and this vulnerability may be increased in traditionally patriarchal societies. In a country such as KSA, which is both collectivist and paternalistic, women are viewed as "strange" if they deviate from the traditional path dictated by the prevailing social order [24]. Seeking secular mental health services, then, may be viewed by some as deviating from the social order. As a result, women with psychiatric symptoms often first seek religious healers (*sheikhs*) for treatment, and mental health professionals are consulted only if this is unsuccessful [25].

As noted earlier, Western psychiatrists working in KSA during the 1960s and 1980s emphasized the harsh constraints placed on Saudi women living in traditional Muslim Arab settings [2, 26]. These included the inculcation of traditional values and roles, with an emphasis on being married and bearing children. Women were described as repeatedly being reminded that they were inferior to men and subject to their rule. Polygamy was permitted and encouraged, and divorce was an ever-present possibility with threat of thereafter living in poverty or returning to her family of origin. Women are still not allowed to drive and require a male chauffeur or male relative when out in public. These factors could influence vulnerability to psychiatric disorder and access to psychiatric services.

Racy reported that somatization was prevalent in 40 women he saw in eastern Saudi Arabia in 1977, explaining this as due to difficulty voicing psychiatric complaints [26]. He described the typical Saudi female patient as veiled, limping

into the clinic, leaning on the arm of a male relative, who would come with her into the treatment room unless explicitly told not to. Women would remain quiet unless spoken to and would typically start with a list of physical complaints. Research has shown that somatoform disorders and depression are about 55% more common in Saudi women than in Saudi men [12, 27]. This trend, however, may be changing. A more recent study of 2,320 primary care patients in Qatar (adjacent to Saudi Arabia) found the prevalence rate of somatoform disorders only slightly higher in women (24.2% vs. 23.7% for men) [28].

Furthermore, research in Western countries consistently finds that somatoform disorder, depression, and all psychiatric disorders are more common in women [29, 30], so the situation in KSA may not be that different (except in certain sub-populations of Muslim Arabic women who are divorced [31] or in polygamous marriages [32]). Thus, it would be unwise to apply Western values and judgments to Saudi women without a full understanding of the religious and cultural traditions in this part of the world [33]. Furthermore, many changes directly applicable to women are now occurring in KSA. Saudi King Abdullah has expanded the rights of women in recent years, removing a number of traditional barriers and encouraging women to play a greater role in society. This includes the right to vote, to run for office, and to voice concerns regarding domestic violence and abuse, with support from the government.

The gender differential in mental health providers in the past also contributed to women's avoidance of psychiatric care, since most psychiatrists were male [34]. Female patients may feel less comfortable disclosing personal information to unfamiliar males, and so avoided psychiatric care for that reason. However, current trends indicate an increasing number of female psychiatrists in KSA. A recent study found that female Saudi medical students planning to go into psychiatry now outnumber men by 3 to 1 [35].

AVAILABILITY OF SERVICES AND PROVIDERS

By the year 2000, besides the two facilities mentioned by Dubovsky in 1983, 18 more psychiatric hospitals had been built and staffed, ranging in size from 30 to 690 beds [4]. Specialized hospitals and treatment programs for substance (alcohol and drug) abuse were also established, including Jeddah's Al-Amal Hospital (200 beds), Riyadh's Al-Amal Hospital (428 beds), and Dammam's Al-Amal Hospital (300 beds) [4]. In 2006, Saudi psychiatric hospitals had a total of 2,886 beds with an occupancy rate of 100% or higher throughout most of the year. The ratio was 1.25 psychiatric beds per 10,000 population, which is only slightly lower than the world average (1.6), although quite a bit lower than in North and South America (3.3) or Europe (8.7) [4]. With de-institutionalization in the United States, the number of psychiatric beds has now declined to 1.4 beds per 10,000 based on data released in May 2012 [36]. Since there has been no de-institutionalization yet in KSA, 1.25 beds/10,000 is relatively low given the need.

The number of qualified psychiatrists has also been increasing in KSA, from 10-30 in 1983 (as Dubovsky states) to 205 in 2006 (0.9 psychiatrists per 100,000 population) [4]. The average in the North and South America combined is 1.6, in Europe is 9.0, and in the United States is 13.7 per 100,000, based on WHO's Mental Health Atlas 2005 [37]. By 2006, the number of psychiatric nurses in KSA had increased to 9.5 per 100,000, which was higher than in the Americas (2.7) but not as high as in Europe (27.5). The number of psychologists had also increased to 0.8 per 100,000, which is less than in the Americas (2.7) or Europe (3.0), but double the world average (0.4). Likewise, by 2006 the number of psychiatric social workers was 0.9 per 100,000, which was about half that in the Americas (1.9) and Europe (2.4). Most nurses initially assigned to psychiatric hospitals, however, do not have special training in psychiatry except for continuing medical education courses [4]. Similarly, most psychologists and social workers do not have post-graduate degrees. Plans are in place, however, to provide advanced training in universities and increase clinical experience. There is now a post-graduate clinical psychology program at the University of Tabuk, a masters in counseling at King Khaled University in Abha, and masters and PhD programs in counseling at King Saud University in Riyadh.

EDUCATION AND TRAINING IN PSYCHIATRY

In order to get a sense of the future of psychiatry in KSA, we first examine medical student attitudes toward psychiatry, and then review psychiatry residency and sub-specialty training programs.

Medical Students Attitudes

A survey of 441 medical students in their first to fifth years at King Khalid University College of Medicine in Abha [35] found that from a list of 14 specialties, 9 (2.0%) chose psychiatry; 1.5% in years 1 to 3 chose psychiatry compared to 4% in years 4 and 5. These low percentages are similar to U.S. medical students in their freshman and senior years [38]. In 2012, 3% of graduating U.S. medical students applied for residency positions in psychiatry [39].

With regard to attitudes toward psychiatry in general, one study compared medical students in KSA with those in other countries, finding more negative attitudes toward psychiatry in KSA [40]. This report was based on a survey of 52 medical students at King Faisal University College of Medicine in Al-hassa [41]. Eighty-two percent endorsed the statement that students with an interest in psychiatry are at risk for being seen by others as "odd, peculiar, or neurotic." Likewise, 82% said that any desire to specialize in psychiatry would be criticized and discouraged by their family. Similarly, 78% said that medical faculty discouraged them from pursuing psychiatry, which was not viewed as emphasizing "physiological" factors enough by 74%. Exposure to training in psychiatry,

however, made a difference. After completing a 4-week rotation in psychiatry, students were more likely to agree that a psychiatric consultation was helpful (74% after vs. 59% before) and that psychiatry was a rapidly expanding frontier (89% vs. 56%).

The above study underscores the importance of exposing Saudi medical students to psychiatry as part of their routine training. In 2009, a national competence framework was developed for medical schools in KSA [42]. In the doctor and patient care section, it included "Applying bio-psychosocial approach in certain clinical encounters" [42, p. 583]. Many of the 21 medical schools in KSA now have a required 3-12 week clinical clerkship in psychiatry during the 5th or 6th years of training [43].

Residency Training

Although Dubovsky indicated specialty training in psychiatry was present to some degree in 1983, post-graduate training in psychiatry really wasn't established in Saudi Arabia until 1997 [44]. There are now three 4-year psychiatry residencies at academic medical centers in Dammam, Riyadh, and Jeddah. The focus of the first 2 years is on general psychiatry, consultation-liaison psychiatry, addiction and drug abuse, neurology, basic principles of drug therapy and psychotherapy, and related neuroscience topics [45]; the second 2 years emphasize training in sub-specialty areas of psychiatry. These three programs graduate approximately 30 residents each year, who then seek board certification (psychiatrists must be board-certified to practice in KSA). Although re-certification is not necessary, 90 CME hours are required every 3 years.

Psychiatry Sub-Specialties

There is a shortage of all fellowship-trained psychiatry sub-specialists in KSA, particularly in geriatric and child-adolescent psychiatry. The strategic plan as outlined in SAMSHA, however, calls for increased training in these specialties.

Consultation-Liaison (CL) Psychiatry

There is a growing literature base on the practice of CL psychiatry in KSA. For example, one study examined patients referred to the psychiatry CL service at King Fahad General Hospital (930 beds) in Jeddah [46]. The CL service consisted of two full-time consultants, two psychiatry residents, two psychologists, two social workers, and one nurse. Of the 5,263 patients admitted to the hospital during the study period, 3.9% were referred for evaluation. More recent research suggests little change in referral patterns [47]. Rates of referral, referring services, and reasons for referral are about the same in KSA and the United States, although

referrals in the United States are more likely for substance abuse disorders and suicidal concerns [48]. To our knowledge, there are no CL fellowship training programs in KSA.

Child and Adolescent Psychiatry

In 2012, the median age of the KSA population was 25.7 years and 30% was under age 15 (compared to 20% in the United States, where the median age is 37.1) [49]. Based on the research reviewed earlier, rates of mental distress are present in one-quarter to one-half of secondary school students in KSA. With such a large young population and high rates of psychiatric symptoms, it is imperative that child-adolescent psychiatry receives high priority. We could locate no information on the number of fully-trained child-psychiatrists in KSA or whether that number is sufficient to meet the needs of Saudi children and adolescents. However, an accredited child-adolescent fellowship will soon be available at King Saud bin Abdulaziz University in Riyadh.

Addiction Psychiatry

Use, possession, or sale of alcohol or illicit drugs is strictly forbidden in KSA, regardless of religion. Nevertheless, according to one Saudi researcher, "The rapid socioeconomic and cultural development associated with the 'oil boom' led to the adoption of novel attitudes, lifestyles, and recreational pursuits, including drug involvement in Saudi Arabia" [50]. Unfortunately, there is little known on the prevalence of alcohol or illicit drug use in KSA.

The only specific information we could find was a report from the World Health Organization examining consumption of alcohol in persons age 15 or over from 1977 to 1998, which indicated that only 3% of the population used alcohol (1% of women and 5% of men) [51]. Among college students, about 4% admit to using alcohol [52] and the same percentage report personal experience with drugs [53]. Reasons for initiating drug use include peer group influence, pleasure, curiosity, traveling abroad, social stress, and family problems, as well as decreasing per capita income, expanding consumer market, and exposure to international media. To our knowledge, no addiction fellowship programs exist in KSA.

Geriatric Psychiatry

In 2010, life expectancy at birth in KSA was 74 years (compared to 78 years in United States). Population projections indicate that persons over age 60 will increase from 5% of the population in 2010 to nearly 20% of the population by 2050 [54]. As noted earlier, based on the two systematic surveys of depressive symptoms in older adults, the rate of significant depression in KSA is 18% to 39%. Despite this high prevalence, no relevant articles came up using the search

terms "geriatric psychiatry" and "Saudi Arabia" in either Medline or Google Scholar. We are not aware of any geriatric psychiatry fellowships at teaching hospitals or academic institutions in KSA.

PROGRESS IN RESEARCH

Mental health research has been rapidly increasing over the past three decades in KSA. Using PubMed and PsycInfo, researchers gathered information on frequency of research publications addressing mental health issues in 21 Arab countries between 1966 and 2006 [55]. Publications per year from Saudi Arabia increased from 0.0 between 1966-75 to 0.9 in 1976-85 to 11.2 in 1986-95 to 18 in 1996-2006. Thus, from 1985 to 2006, the number of mental health publications increased by twentyfold. Overall, the number of publications from Saudi Arabia in 1966-2006 was 299, which was second only to Egypt (304) among Arab countries.

More mental health research, however, is needed. Investigators in the above study noted that during the 40 years between 1966 and 2006, the Arab world of 300 million people published 2,213 articles related to mental health. This compares to 117,449 articles published globally on mental health in only a 10-year period between 1992 and 2001 (50% of which came from the United States and United Kingdom).

CULTURAL, RELIGIOUS, SOCIAL, AND POLITICAL CHALLENGES

As Dubovsky noted, many cultural, religious, social, and political factors influence the practice of psychiatry in KSA. By far, the strongest influence is religion. Muslim beliefs and Islamic law (*sharia*) help to guide and structure every aspect of life, including work, play, dress, diet, social relationships, and behaviors, including ways of dealing with stress. Every aspect of psychiatric practice, then, is affected by religion in this country that is the birthplace of Islam, the location of Islam's most sacred and holy cities (Mecca and Medina), and the center of Islam's most conservative religious doctrines. Because Saudi psychiatrists in the past received their training in Western countries, the types of treatments offered today (psychotherapy, medications, electroconvulsive therapy) are not greatly different from elsewhere in the world, and there are no unusual restrictions on psychiatric practice. Rather, it is the people whom Saudi psychiatrists treat who are most affected by this unique cultural and religious environment. To illustrate, we examine three areas affected by religion and culture: views on the cause of mental illness, ways of dealing with stress and loss, and attitudes concerning psychiatric treatments.

Causes of Mental Illness

Supernatural explanations for mental illness are widely prevalent in this culture. These are based on both the Qur'an and older Arabic traditions that view the supernatural world as populated by angels and "jinn." Jinn are supernatural beings who can be either good or evil, and if evil (i.e., demonic), are believed to cause harm—including mental illness. Another cause of emotional or mental illness is the "evil eye" (*Natbla*) which is a "look" causing bad luck or injury that is directed by someone with magical power who is envious or wishes ill toward someone. The belief in jinn, the evil eye, and magic (*Seher*) are widespread today in KSA, even among those who are well educated [56].

Emotional distress may also be viewed as stemming from a lack of faith. The Qur'an repeatedly promises forgiveness, mercy, and peace in this life and the next to those who are conscious of God, do good deeds, forgive others, persevere during hard times, follow God's guidance and avoid evil [57]. In fact the greeting made when two people meet in KSA is *assalam alaikum* ("peace be upon you"), which comes directly from the Qur'an. Thus, individuals and those around them may perceive an absence of peace and happiness to result from not having enough faith or not following the Qur'an closely enough, adding guilt and shame to the suffering caused by illness. Since the causes of mental illness are thought to be supernatural or religious, many persons with emotional or mental illness first seek traditional healers (religious and others) before coming to see a psychiatrist [58].

Nevertheless, there is a long tradition within Islamic medicine that dates back even before Western medicine that views all illness (including emotional illness) as an *interaction* between psychological, spiritual, and physical causes [59, 60]. In fact, modern pharmacology first emerged under Islamic rulers during the 9th and 10th centuries [61]. Early Islamic physicians used both natural and compound medications to treat illness. Thus, there is a long precedent within the Islamic tradition that supports biological causes for mental illness justifying pharmacological treatment.

Dealing with Stress and Loss

Up until recent times, the de-facto mental health care system in Saudi Arabia, as in most countries around the world, was religion [62]. Religion is widely used to cope with stress, loss, and grief. Religious beliefs provide meaning to traumatic life events and include rituals, both private and communal, for dealing with those events. The importance placed on the family, kin relationships, and the community, both in Islam and in the Bedouin tribal culture that preceded it, make these the core sources of support for dealing with mental illness.

Attitudes Concerning Psychiatric Treatments

Muslims believe that God (Allah) created all things, controls events, and does nothing without purpose. In Islam, God is the cause of all healing. The Qur'an says: "It is He who guides me; He who gives me food and drink; He who cures me when I am ill" [63]. The first response to emotional distress by most in this highly religious culture is to increase praying, fast, go on a pilgrimage (Umrah), or engage in other religious activity. Complete trust in God and resignation to his will (*tawakkul*) in health matters is the rule. There is belief that either mental illness represents a test of faith or a punishment for sin, and if the pain is born patiently and silently, then there will be reward in the afterlife. Conservative Islamic theologians have been quoted as saying "Medical treatment is permissible, but its abandonment is better" [64]. Such Islamic beliefs and Arabic cultural traditions may adversely influence the seeking of psychiatric care and adherence with psychiatric treatments. This is particularly true for treatments that have adverse side effects that precede or accompany their therapeutic effects.

Stigma toward seeking mental health services is also common among traditional Arabs [65, 66]. For example, over 70% of Arab victims of spousal abuse said they felt shame in seeking social services and embarrassment in reporting these problems to anyone outside the family [67]. Furthermore, many Muslim Arabs view mental health services as ineffective and only sought by "crazy people" [68]. In fact, seeking mental health services may adversely affect future marital prospects, and for those women who are married, may cause their husbands to divorce them or take on an additional polygamous wife [69]. There are similar resistances among men to seeking mental health services. Honor is of great importance to Arab men, and seeking help from a psychiatrist may be viewed as diminishing masculinity and reducing the sense of being a family leader and protector [70].

Nevertheless, recent research suggests a more complex picture than might be expected based on the attitudes above. First, the increasing exposure to mental health issues on TV and the Internet is making psychiatric treatment more acceptable to most Saudis, resulting in increased seeking of mental healthcare. Second, even from a religious standpoint, most Muslims today are expected to see physicians when they become sick [71]. Indeed, the Prophet Muhammad often advised his followers to do so [72], and almost certainly sought treatment himself when needed [73]. Thus, Islam does not prohibit seeking psychiatric care or taking psychiatric medications, and some research suggests that adherence with psychiatric treatments is good, at least in some populations.

Medication

A study of adherence to medication for attention deficit-hyperactivity disorder (ADHD) in 51 Saudi children and adolescents and 102 parents reported a 70% adherence rate, much higher than reported in Western countries [74]. All

participants came from intact two-parent homes without evidence of significant dysfunction, and these were not a study entry criteria. Likewise, a study of 147 children with epilepsy in KSA found an adherence rate of 86% for medication [75]. Given the importance and priority given to family in Islam, this finding is not unexpected.

Research in adults provides similar though less positive findings. In a study of 76 Saudi psychiatric inpatients with chronic mental illness, 44% correctly named their medication, 37% identified side effects, and 49% knew their dose [76]. A study of 120 outpatients in Kuwait with chronic psychiatric problems found that 55% prematurely discontinued their medication. Being male, young, single, lower education, diagnosis of schizophrenia or mania, and having a history of multiple psychiatric hospitalizations predicted nonadherence [77]. However, a study of 257 consecutive psychiatric emergencies in Riyadh found that poor adherence with medication was present in only 22% [78]. With regard to keeping clinic visits, a retrospective study of 73 psychiatric outpatients in Riyadh reported 34% nonadherence with clinic visits over a 12-month period [79]. Nonadherence was associated with being single, from rural areas, and unaccompanied by a family member. Adherence rates and reasons for nonadherence, then, are not that different than those reported in Western countries [80].

Psychotherapy

To what extent has the practice of prescribing psychotropic drugs without psychotherapy changed? Psychotherapy as practiced in the West is based on a theoretical framework that is largely secular and culturally dependent, and does not usually give proper attention to Islamic beliefs or values. Since many Saudi psychiatrists were trained in the West, this is the framework in which psychotherapy is practiced. Consequently, Muslim patients often see it as incompatible with their belief system [81]. This is now changing, as Muslim mental health professionals begin developing psychotherapeutic models specifically for Muslim patients [82].

Research examining the prevalence of different psychiatric treatments in Arab Muslim countries supports such change. For example, a 1997 study of 87 non-psychotic patients being seen as outpatients by psychiatrists in Jordan (85% Muslim, predominantly Bedouin-Arab background, similar to Saudi Arabia), found that 75% of men and 85% of women received medications (pills and injections). However, no patients received individual, group, or family therapy. Most instead relied on immediate and extended family, religious leaders, and traditional healers (85% of women consulted traditional healers before or during psychiatric treatment) [83]. In contrast, a 2005 study of 92 patients seeking outpatient mental health services at a psychiatry outpatient department of a specialty hospital in Mecca, KSA, reported that while 79% of patients received medication, 72% received support and counseling either alone or in combination with other treatments [84].

CONCLUSION

Since 1983, the number of psychiatric hospitals in KSA has increased ninefold, including the opening of specialty clinics and hospitals in alcohol/drug addictions and child-adolescent psychiatry. There is now a procedures manual in place with uniform policies for all psychiatric hospitals, and the 2007 Saudi Arabian Mental and Social Health Atlas includes a 4-year national strategic plan with eight goals, which are helping to transform and modernize mental healthcare in KSA. The number of psychiatrists has increased tenfold, and there are many more psychiatric nurses, psychologists, and social workers as well. Medical schools now expose students to training in psychiatry, and fellowships will soon be available in psychiatry subspecialties. Mental health research is also rapidly expanding, and KSA is among the leaders in such research among Arab nations.

Of course, there remain areas for improvement, including an increase in both general psychiatrists and those trained in sub-specialty areas. Exposure of medical students to psychiatry will help to achieve this goal. Although issues related to sexuality, HIV infection, and addiction have not in the past been openly discussed in Saudi Arabia, there is increasing willingness to address these issues in psychiatry given the public exposure that TV and the Internet have given them [85]. As in the United States, detection of mental disorders remains poor in primary care settings, where most people first present with mental health problems. More research is also needed, as Dubovsky suggested, on many subjects.

Arabian social and political culture, religious beliefs and values, and the importance and influence of family—all affect the development and manifestations of mental illness, the seeking of mental healthcare, and the kinds of treatments that Saudis are likely to accept and comply with. Continued progress in mental healthcare in KSA cannot be achieved unless these factors are taken into account.

REFERENCES

1. Pasnau RO, Hartmann L. Psychiatry in the Kingdom of Saudi Arabia. *American Journal of Psychiatry* 1983;140(11):1493-1494.
2. Dubovsky SL. Psychiatry in Saudi Arabia. *American Journal of Psychiatry* 1983; 140(11):1455-1459.
3. Qureshi NA, al-Amri AH, Abdelgadir H, El-Haraka EA. Traditional cautery among psychiatric patients in Saudi Arabia. *Transcultural Psychiatry* 1998;35:75-83.
4. Al-Habeeb AA, Qureshi NA. Mental and Social Health Atlas I in Saudi Arabia: 2007-08. *Eastern Mediterranean Health Journal* 2010;16(5):570-577.
5. Qureshi NA, van de Molen HT, Schmidt HG, al-Habeeb TA, Magzoub MEM. Criteria for good referral system for psychiatric patients: The view from Saudi Arabia. *Eastern Mediterranean Health Journal* 2009;15(6):1580-1595.
6. World Health Organization (WHO). *Atlas: Mental health resources in the world*. Geneva, Switzerland: World Health Organization, 2001.
7. Al-Shammari SA, Al-Subaie A. Prevalence and correlates of depression among Saudi elderly. *International Journal of Geriatric Psychiatry* 1999;14:739-747.

8. Abolfotouch MA, Daffallah AA, Khan MH, Khattab MS, Abdulmoneim I. Psychosocial assessment of geriatric subjects in Abha City, Saudi Arabia. *Eastern Mediterranean Health Journal* 2001;7(3):481-491.
9. The Saudi National Mental Health Survey (SNMHS): *Progress update as of 31 December 2010.* Riyadh, Saudi Arabia: Prince Salman Center for Disability Research. See website: http://www.pscdr.org.sa/en/research/projects/Documents/SNMHS_Program_update.pdf (last accessed 11-4-12).
10. Population Studies Center. *Saudi National Mental Health Survey—Preparation, monitoring & implementation.* Ann Arbor, MI: Institute for Social Research, University of Michigan, 2012.
11. Mona K. Shahab, Program Manager, *Saudi National Mental Health Survey.* Prince Salman Center for Disability Research, Riyadh, Saudi Arabia. Information based on communication by e-mail on November 6, 2012.
12. Becker S, Al Zaid K, Al Faris E. Screening for somatization and depression in Saudi Arabia: A validation study of the PHQ in primary care. *International Journal of Psychiatry in Medicine* 2002;32(3):271-283.
13. Al-Kathami AD, Ogbeide DO. Prevalence of mental illness among Saudi adult primary care patients in central Saudi Arabia. *Saudi Medical Journal* 2002;23(6):721-724.
14. Qureshi NA, Al Quraishi NY, Hegazy IS. Some characteristics of mental patients admitted to a psychiatric hospital. *Arabian Journal of Psychiatry* 1991;2(2):146-158.
15. AbuMadini MS, Rahim SI. Psychiatric admission in a general hospital. Patients profile and patterns of service utilization over a decade. *Saudi Medical Journal* 2002;23(1):44-50.
16. Al Faris E, Al Hamid A. Hidden and conspicuous psychiatric morbidity in Saudi primary health care. *Arabian Journal Psychiatry* 1995;6(2):162-175.
17. Al Faris E. Towards a campaign to combat psychological disorders in the community. *Annals of Saudi Medicine* 1998;83:205-207.
18. Becker SM. Detection of somatization and depression in primary care in Saudi Arabia. *Social Psychiatry & Psychiatric Epidemiology* 2004;39:962-966.
19. Mitchell AJ, Vaze A, Rao S. Clinical diagnosis of depression in primary care: A meta-analysis. *Lancet* 2009;374:609-619.
20. Asa ARA, Abdel-Fattah MM. Prevalence, symptomatology, and risk factors for depression among high school students in Saudi Arabia. *Neurosciences* 2007;12:8-16.
21. Al-Gelban KS. Depression, anxiety and stress among Saudi adolescent school boys. *Journal of the Royal Society for the Promotion of Health* 2006;127(1):1-5.
22. Khalid S, Al-Gelban KS. Prevalence of psychological symptoms in Saudi secondary school girls in Abha, Saudi Arabia. *Annals of Saudi Medicine* 2009;29(4):275-279.
23. Merikangas KR, He JP, Burstein M, Swanson SA, Avenevoli S, Cui L, Benjet C, Georgiades K, Swensen J. Lifetime prevalence of mental disorders in U.S. adolescents: Results from the National Comorbidity Survey Replication—Adolescent Supplement (NCs-A). *Journal of the American Academy of Child & Adolescent Psychiatry* 2010;49:980-989.
24. Abu-Baker K. The impact of social values on the psychology of gender among Arab couples: A view from psychotherapy. *Israel Journal of Psychiatry* 2005;42(2):106-115.

25. Al-Solaim L, Loewenthal KM. Religion and obsessive-compulsive disorder (OCD) among young Muslim women in Saudi Arabia. *Mental Health, Religion & Culture* 2011;14(2):169-182.
26. Racy J. Somatization in Saudi women: A therapeutic challenge. *British Journal of Psychiatry* 1980;237:212-216.
27. Alibrahim OA, Al-Sadat N, Elawad NAM. Gender and risk of depression in Saudi Arabia: A systematic review and meta-analysis. *Journal of Public Health in Africa* 2010;1:e7.
28. Bener A, Ghuloum S, Burgut FT. Gender differences in prevalence of somatoform disorders in patients visiting primary care centers. *Journal of Primary Care & Community Health* 2010;1:37-42.
29. De Waal MW, Arnold IA, Eekhof JA, van Hemert AM. Somatoform disorders in general practice: Prevalence, functional impairment and comorbidity with anxiety and depressive disorders. *British Journal of Psychiatry* 2004;184:470-476.
30. Kessler RC, Berglund P, Demler O, Jin R, Koretz D, Marikangas KR, Rush AJ, Walters E, Wang PS. The epidemiology of major depressive disorder: Results from the National Comorbidity Survey Replication (NCS-R). *Journal of the American Medical Association* 2003;289(23):3095-3105.
31. Al-Krenawi A, Graham JR. Somatization among Bedouin-Arab women: Differentiated by marital status. *Journal of Divorce and Remarriage* 2004;42:131-144.
32. Al-Krenawi A. A study of psychological symptoms, family function, marital and life satisfactions of polygamous and monogamous women: The Palestinian case. *International Journal of Social Psychiatry* 2012;58(1):79-86.
33. Hiel B. Dhahran women push the veil aside. *Pittsburgh Tribune-Review*, May 13, 2007. See website: http://triblive.com/x/pittsburghtrib/news/middleeastreports/s_507462.html-axzz2PDZDjD2M (last accessed 4-1-13).
34. Al-Subaie AS. Nicotine dependence and its relationship to depressive anxiety symptoms among Saudi university students. *Arabian Journal of Psychiatry* 1999;10(2):110-119.
35. Mehmood SI, Kumar A, Al-binali A, Borleffs JCC. Specialty preferences: Trends and perceptions among Saudi undergraduate medical students. *Medical Teacher* 2012;34:S51-S60.
36. Treatment Advocacy Center. Psychiatric bed numbers plummet to 1850 levels, putting patients, the public at risk: New study calls for moratorium on hospital closures. *Catalyst*, fall issue 2012;1:8-9. See website: http://www.treatmentadvocacycenter.org/storage/documents/catalysts/fall-2012-catalyst.pdf (last accessed 11-9-12).
37. World Health Organization (WHO). United States of America, in *Mental Health Atlas*, 2005:491-493.
38. Compton MT, Frank E, Elon L, Carrera J. Changes in U.S. medical students' specialty interests over the course of medical school. *Journal of General Internal Medicine* 2008;23:1095-1100.
39. National Resident Matching Program: Residency Match Data, 2011. See website: http://www.nrmp.org/data/resultsanddata2012.pdf (last accessed 11-6-12).
40. Roberts LW. Stigma, hope, and challenge in psychiatry: Trainee perspectives from five countries on four continents. *Academic Psychiatry* 2010;34(1):1-4.
41. El-Gilany AH, Amr M, Iqbal R. Students' attitudes toward psychiatry at Al-hassa medical college, Saudi Arabia. *Academic Psychiatry* 2010;34(1):71-74.

42. Zaini RG, Abdulrahman KAB, Al-Khotani AA, al-Hayani AMA, Al-Alwan IA, Jastaniah SD. Saudi Meds: A competence specification for Saudi medical graduates. *Medical Teacher* 2011;33:582-584.
43. Amr M, Amin T (2012). Assessment methods of an undergraduate psychiatry course at Saudi University. *Sultan Qaboos University Medical Science Journal* 2012;12(2): 214-224.
44. Gaffas EM, Sequeira RP, Al Namia RA, Al-Harbi KS. Test blueprints for psychiatry residency in-training written examinations in Riyad, Saudi Arabia. *Advanced Medical Education & Practice* 2012;3:31-46.
45. Saudi Board of Psychiatry, 2000. See website: http://arabic.scfhs.org.sa/new/fellowship_arabia_file/SB-26.pdf (last accessed 11-6-12).
46. Alhamad AM, Al-Sawaf MH, Osman AA, Ibrahim IS. Differential aspects of consultation-liaison psychiatry in a Saudi hospital. I: Referral pattern and clinical indices. *Eastern Mediterranean Health Journal* 2006;12(¾):316-323.
47. Alhuthail YR. Timing of referral to consultation-liaison psychiatry. *International Journal of Health Science* 2009;3(2):175-170.
48. Kishi Y, Meller WH, Kato M, Thurber S, Swigart SE, Okuyama T, Mikami K, Kathol RG, Hosaka T, Aoki T. A comparison of psychiatric consultation-liaison services between hospitals in the United States and Japan. *Psychosomatics* 2007; 48(6):517-522.
49. U.S. Global Health Policy. Population under age 15 (percent) 2012. See website: http://www.globalhealthfacts.org/data/topic/map.aspx?ind=82 (last accessed 11-8-12).
50. Rahim SIA, Abumadini MS, Khalil MS, Musa T. Long-term outcome of treated addiction in Saudi Arabia: Predictors of relapse in 10-year-follow-up. *Arabian Journal of Psychiatry* 2005;16(2):86-97.
51. World Health Organization. Saudi Arabia, 2004. See website: http://www.who.int/substance_abuse/publications/en/saudi_arabia.pdf (last accessed 11-10-12).
52. Al-Rethaiaa AS, Fahmy AA, Al-Shwaiyat NM. Obesity and eating habits among college students in Saudi Arabia: A cross sectional study. *Nutrition Journal* 2010;9:39.
53. Al-Subaie AS, Al-Hajjaj MS. Awareness and knowledge of Saudi university students about drug dependence. *Saudi Medical Journal* 1995;16:326-329.
54. Mirkin B. Population levels, trends and policies in the Arab region. Challenges and opportunities. United National Development Programme, Regional Bureau of Arab States, Arab Human Development Report, 2010, p. 33. See website: http://www.arab-hdr.org/publications/other/ahdrps/paper01-en.pdf (last accessed 11-9-12).
55. Jaalouk D, Okasha A, Salamoun MM, Karam EG. Mental health research in the Arab world. *Social Psychiatry & Psychiatric Epidemiology* 2012;47:1727-1731.
56. Obeid T, Abulaban A, Al-Hantani F, al-Malki AR, Al-Ghamdi A. Possession by 'Jinn' as a cause of epilepsy (Saraa): A study from Saudi Arabia. *Seizure* 2012; 21:245-249.
57. Abdel Haleem MAS. *The Qur'an* (Oxford University World's Classics series). Oxford, UK: Oxford University Press, 2005 (suras 6:126-127; 9:40; 10:25-26; 13:20-24; 16:30-32; 19:60-63; 20:47-48; 36:55-58; 42:40; 48:4).
58. Sayed M, Abosinaina B, Rahim SIA. Traditional healing of psychiatric patients in Saudi Arbia. *Current Psychiatry* 1999;6(1):11-22.
59. Rahman F. *Health and Medicine in the Islamic Tradition*. Chicago, IL: ABC International Group, Inc. (Kazi Publications), 1998:43.

60. Mohit A. Mental health and psychiatry in the Middle East: Historical development. *Eastern Mediterranean Health Journal* 2001;7(3):336-347.
61. Nagamia HF. Islamic medicine history and current practice. *Journal of the International Society of Islamic Medicine* 2003;2:19-230.
62. Regier DA, Goldberg ID, Taube CA. The De Factor US mental health services system: A public health perspective. *Archives of General Psychiatry* 1978;35:685-693.
63. Abdel Haleem MAS. *The Qur'an* (Oxford University World's Classics series). Oxford, UK: Oxford University Press, 2005 (sura 26:78-80).
64. Rahman F. *Health and medicine in the Islamic tradition*. Chicago, IL: ABC International Group, Inc. (Kazi Publications), 1998:48.
65. Aloud N, Rathur A. Factors affecting attitudes toward seeking and using formal mental health and psychological services among Arab-Muslim population. *Journal of Muslim Mental Health* 2009;4(2):79-103.
66. Koura M, Al-Sowielem L, Al-dabal B, Shaheed RA, Al-Halal A, Al-Mahfoodh N, Hasishi A. Qualitative research: Stigma associated with psychiatric diseases. *South Asia Journal of Family Medicine* 2012;3(6):44-47.
67. Abu-Ras W. Barriers to services for Arab immigrant battered women in a Detroit suburb. *Journal of Social Work Research & Education* 2003;4(1):49-65.
68. Erickson CD, al-Timimi NR. Providing mental health services to Arab Americans: Recommendations and considerations. *Cultural Diversity & Ethnic Minority Psychology* 2002;7:308-332.
69. Al-Krenawi A, Graham JR, Kandah J. Gendered utilization differences of mental health services in Jordan. *Community Mental Health Journal* 2000;36(4):501-511.
70. Dwairy M, Van-sickle TD. Western psychotherapy in traditional Arabic societies. *Clinical Psychology Review* 1996;16(5):231-249.
71. Stacey A. Health in Islam: A holistic approach, 2009. http://www.islamreligion.com/articles/1878 (last accessed 3-15-13).
72. Farooqi MIH. (date unknown). Medicine of the Prophet (Tibb al-Nabvi): A message par excellence. Islamic Research Foundation International, Inc. See website: http://www.irfi.org/articles/articles_251_300/medicine_of_the_prophet.htm (last accessed 3-16-13).
73. Robson J. *Mishkat Al-Masabih*. New York, NY: Orientalia Art Ltd, 1975:947, 949-950.
74. Ibrahim ESR. Rates of adherence to pharmacological treatment amng children and adolescents with attention deficit hyperactivity disorder. *Human Psychopharmacology* 2002;17:225-231.
75. Al-Faris EA, Abdulghani HM, Mahdi AH, Salih MA, Al-Kordi AG. Adherence with appointments and medication in a pediatric neurology clinic at a University Hospital in Riyadh, Saudi Arabia. *Saudi Medical Journal* 2002;23:969-974.
76. Shahin SH, Daly EB. Knowledge, attitudes and beliefs about psychotropic medication among Saudi hospitalized psychiatric patients. *International Journal of Nursing Studies* 1999;36:51-55.
77. Fido AA, Husseini AM. Nonadherence with treatment among psychiatric patients in Kuwait. *Medical Principles and Practice* 1998;7:28-32.
78. Al-Subaie AS, Marwa M, Hawari RA, Abdul-Rahim FA. Psychiatric emergencies in a University Hospital in Riyadh, Saudi Arabia. *International Journal of Mental Health* 1997;25(4):59-68.
79. Alnamlah RA. What is interfering with attendance in adult psychiatric outpatient clinics? *Neurosciences* 2006;11:293-296.

80. Sajatovic M, Velligan DI, Weiden PJ, Valenstein MA, Ogedegbe G. Measurement of psychiatric treatment adherence. *Journal of Psychosomatic Research* 2010;69: 591-599.
81. Hodge DR, Nadir A. Moving towards culturally competent practice with Muslims: Modifying cognitive therapy with Islamic tenants. *Social Work* 2008;53:31-41.
82. Amer MM, Jalal B. Individual psychotherapy/counseling. In Ahmed S, Amer MM (eds.), *Counseling Muslims: Handbook of Mental Health Issues and Interventions*. New York, NY: Routledge, 2012:87-118.
83. Al-Krenawi A, Graham JR, Kandah J. Gendered utilization differences of mental health services in Jordan. *Community of Mental Health Journal* 2000;36(4):501-511.
84. Masood K, Gazzaz ZJ, Ismail K, Dhafar KO, Kamal A. Pattern of psychiatry morbidity during the Hajj period at al-Noor Specialist Hospital. *International Journal of Psychiatry in Medicine* 2007;37(2):163-172.
85. Ahmed S, Amer MM. *Counseling Muslims: Handbook of mental health issues and interventions*. New York, NY: Routledge, 2012.

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