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EDITORIAL

Emergence of Diseases of Affluence in Oman

Where do they Feature in the Health Research Agenda?

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ظهور أمراض الغنى في عمان
أين مكانها في بحوث الصحة؟

"I went to the idol temple, to the ancient pagoda; no trace was visible there.....
I gazed into my heart; there I saw him; He was nowhere else"

Jalalaldin Rumi[1]

The health status and living conditions in emerging economies, sometimes called developing countries, have changed considerably because of the rapid growth of the biomedical healthcare infrastructure and acculturation and globalization. Despite this, the previous emphasis that focuses on biological sciences alone in the prevention of and intervention in matters related to disease has not borne the expected results. "Health for All by the Year 2000"[2] has proven to be an unattainable aspiration. Whilst smallpox appeared to have been eradicated from all corners of the world, many communicable diseases remain endemic and multiple-antibiotic resistance has become a major public health issue.[3] In the midst of proliferating infectious diseases, there is also the 'silent epidemic' of non-communicable diseases, often precipitated and exacerbated by an individual's behaviour and life style. There are a range of disorders that are often collectively referred to as "stress-induced" illnesses, which seem to stem from the way people respond to adverse environmental factors.[4] There are also aspects of human behaviour such as smoking and reckless driving, which can result in serious distress and often fatal diseases.

Whilst models of health practice are presently undergoing a reassessment in both financial and political terms, the solution to emerging non-communicable disease would need to be addressed differently in developing countries, including Oman. The present discussion, within the context of emerging non-communicable diseases and the interplay between socio-economics, culture and health, will highlight some emerging themes from social medicine research in Oman. Social medicine, with its umbrella discipline behavioural sciences, is defined here as those field of inquiries using anthropological, psychological and biological techniques that lead to an appreciation of the social and cultural aspects of illness. The central objective of this discourse is to advance the view that stress and distress are experienced in a social and cultural context. The recognition of these effects will serve to emphasize the importance of maintaining biopsychosocial equilibrium in order to safeguard health.

The situation in Oman

Oman has experienced rapid modernization and acculturation in the past few decades. Once considered to be 'The Tibet of Arabia', according to Smith,[5] "Money from oil has brought Omanis progress through development in less than 20 years, development that took a

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thousand years in Europe". One of the major benefits of recent modernization in Oman is the improvement in living standards and the establishment of a modern health care delivery system. UNICEF [6] estimated that 96 percent of the population of Oman has access to health care services. Hospital bed space grew from 12 beds in 1970 to 5,200 beds and more than 120 health centres in 2000. With the improvements in health care, the country has experienced a significant decline in maternal and child mortality.[7] The dramatic progress is testified in child survival rates that were 242 per 1,000 live births in 1970 compared to 13 in a more recent estimate. There is also a negligible gender gap in education and social empowerment. In a recent health system ranking, the World Health Organisation ranked Oman as the most "efficient" health care system in the world in terms of outcomes.[8]

In demographic terms, the current population pattern in Oman fits with a second phase 'demographic transition' characterised by declining death rates coupled with high birth rates.[9] A recent census suggests a wide-based age pyramid, with 42 percent of the population under the age of 15.[10] With this large, young population base, a 3.4 percent population growth and 38 births per 1,000 of the population, a 'baby boom' has been speculated.[11] An unprecedented rise in the standard of living has shielded young Omanis from many of the stresses of growing up that are typical for youth in some developing countries.[12] There are also early indications of the social and economic consequences of a preponderantly youthful population. For example, the country has a far greater number of jobseekers pumped into a slow labour market than it can possibly absorb. The increase in the number of jobseekers coincides with the rise of intentional injury or suicidal behaviour in youths. Deliberate self-harm, one important indication of the lack required of vicissitudes in life, increased among female adolescent Omanis from 1.9 cases per 100,000 in 1993 to 12.8 per 100,000 in 1998.[13]

On the other hand, surveys conducted in Oman suggest that the country is not immune to the ravage of infectious diseases,[14-17] while UNICEF has estimated that 18 percent of children are moderately to severely malnourished.[18] A previous notion known as 'McKeown hypothesis' posits the view that economic development is directly related to the health of the nation.[19] More recently, it has become increasingly clear that economic development is not the only panacea for nation's state of health as the situation in Oman would suggest. Economic development has resulted in the decline of infectious disease, but has probably ignited the emergence of 'diseases of affluence' in Oman.[20-24] Diseases of affluence are those that are triggered by globalization and acculturation and all that it entails in terms of change of lifestyles. Recent affluence is strongly associated with the fact that approximately 18 percent of urban dwellers have diabetes, while the country is also bracing itself for the sequelae of eating disorders, hypertension and lipidemia.[25,26] With the advent of effective emergency care and good medical management of acute cases, the mortality rate, due to intentional and non-intentional injuries such as road traffic accidents, has decreased in Oman.[27] However, survivors of non-intentional injuries are left with an irreversible neurological impairment and debilitating loss of physical, cognitive, and psychosocial functions. The toll taken not only affects the person who sustained the injury, but also his or her entire social network.[28] In this context, the only viable channel to curb the rising tide of non-intentional injury is to institute preventive measures, which would require an understanding of socio-cultural phenomena such as reckless driving.

Behavioural research in perspective

The recent affluence, the emergence of non-communicable diseases and diseases of affluence in Oman seem to call for a conscious reassessment of this emerging situation. Thus, the need to understand the behaviour of an individual in his or her social and cultural contexts should be crucial. Thus research in social medicine in developing countries that will result in understanding the interplay between prevailing social conditions and diseases in those countries is essential. As will become apparent below, this has not been the case so far. Instead, various factors hold back the development of culturally sensitive medical practice and research.

The first is lack of understanding of the situation on the ground. The long period of training for medical personnel and the unique acculturation process of the training leave doctors alienated and cut off from the very societies and ethical values that they are assumed to understand and for which they eventually hope to provide their services. This leaves many healthcare providers in developing countries inadequate to communicate with their patients, whose views on health

and illness are incompatible or incongruent with the biomedical model. Since healthcare practitioners tend to receive little training in cross-cultural clinical communication, this creates a communication disjunction in health care delivery with many ramifications on cost effectiveness, efficiency and compliance.

The second factor holding back the development of culturally sensitive medical practice and research is the idea that people in developing countries are immune to non-physical illnesses. Such ideas were probably promulgated by the conception that people who lived outside of industrialized countries are unencumbered by the exigencies of the 'modern' world.[29] Members of traditional societies, by virtue of their simple technology and mode of living, were considered as 'uncorrupted children of nature'. This myth has largely been laid to rest as it is widely known that, in the global burden of diseases, diseases of affluence are becoming a global challenge, which transcend all borders and cultures. Non-communicable diseases such as psychological disorders have become the leading cause of global mortality and account for a considerable proportion of disability and economic loss.[30]

The third issue that impedes an enlightened quest for the interplay between culture and diseases is the current preoccupation with 'high tech' research to understand the biological underpinning of diseases. Such a focus brings prestige to the index of national development since it entails the employment of high profile techniques such as DNA microarray technology. The highest funded research projects at the premier research centres in Oman are those that aim to discover the genetic basis of diseases.[31,32] It is natural to think that social medicines, with their focus on protean concepts that may be deemed to be unameable to scientific inquiry, are inadequate for modern needs. What is often overlooked is that the priority of medical sciences is to improve the quality of life. This requires not only molecular techniques but also the social correlation of diseases and potentially appropriate social interventions. In spite of the availability of sophisticated diagnostic tools and numerous other high profile technologies for medicine, global health inequalities are widening.[33]

One only has to consider the emerging view on the treatment of substance abuse to see how social concerns are becoming central both to the understanding of the origins of distress and to the treatment of the resulting condition. The World Health Organization measures the 'global burden of disease" by creating a measure of disability, DALYs (disability adjusted life years). It is made up of two components: years of life lost by premature death and years of life lived with a disability of known severity.[34] Using this yardstick, the leading disability risk factors in the world are alcohol and nicotine abuse and dependency. In the past years, the genetic codes for many mind altering drugs have been identified. For example, receptors for mind altering drugs have been cloned, receptor locations mapped and the neurotransmitter systems involved determined.[35] Despite these breakthroughs and the resultant pharmacological interventions to wean people off drugs by preventing withdrawal symptoms, no promising cure is currently available. It is possible that the relapsing nature of addiction may be more strongly related to re-exposure to environmental cues rather than to adverse withdrawal symptoms. In coming to grips with such exceedingly recalcitrant and chronic substance dependence, it has been suggested that drug associated cues play a major role in relapse. This suggests that "addiction represents a pathological usurpation of the neural mechanism of learning and memory that under normal circumstances serve to shape survival behaviours related to the pursuit of reward and cues that predict them" (p. 1414).[36] This implies that environmental cues and not only genetic codes, play a crucial role in maintaining a compulsion to drug misuse.

Research in social medicine in Oman

As groundwork for the need to establish cultural variations as a key factor when delivering health services in Oman, the following section examines the social determinants of disease in Oman by highlighting research that has shown that non-communicable, non-physical illnesses exist in Oman and are invariably related to social and cultural factors.

One approach to tease out whether social issues do impact on health is to examine whether the repertoire of human behaviour is a by-product of culture or of biology. One circuitous way to explore this issue is to examine whether isomorphous conditions such as psychiatric disorders have a universal, phenotypic presentation. One interpretation suggests that the 'hardware' or pathology of disease remains essentially constant throughout the world, irrespective of the cultural context in which they appear. On the other hand, reaction to illness ('software'), like culture-spe-

cific signs and symptoms, are viewed to be shaped by one's environment.[37,38] On this basis, one could classify various reactions to stress as 'culture-bound disorders' within the diagnostic categories of Western nosology. Despite the eloquence of such a view, there is very little empirical evidence to show that diagnostic entities derived from another cultures are applicable to Omani society.[39-41] One conspicuous finding from such studies is that the central psychopathology of anorexia nervosa (morbid fear of fatness) is largely absent among adolescent Omanis presenting with eating disorder.[43] The lack of fat-phobia among adolescents in Oman may have several reasons. Primarily, the concept of body-image, as has been reported in western populations, may not be applicable to adolescents in Oman. Alternatively, there is culture-specific manifestation of eating disorder, which may not be parallel to that observed in western adolescent population. Kleinman[44] has cautioned that a view of human nature developed for one cultural group should not be uncritically applied to members of another group for whom its validity has not been established.

To illustrate further that medicine is inescapably social, surveys in Oman suggest that acute forms of unidentified medical illness are invariably present in all primary as well as tertiary care settings. As there is no evidence of 'disease' in these patients, it is assumed that their sickness occurs in response to psychological stresses. Al-Lawatia et al.[45] have reported that approximately 77 percent of the patients seeking consultation in primary health care have non-physical illnesses. In tertiary care centres in Oman, Chand et al.[21] reported that approximately 8.6 percent of those seeking consultation at Sultan Qaboos University Hospital had various forms of non-physical illnesses. In a community survey, Al-Busaidi[46] has reached similar conclusion. Descriptive studies from Sultan Qaboos University have suggested that if the condition is refractory and not amenable to medical intervention, cultural beliefs about the causality and treatment of the distress are likely to be invoked.[21,46] Most of the complaints are expressed in "somatopsychic" rather than "psychological" ways, a communication style that has been often thought to reflect the communal nature of Omani society.[47,48] According to Dwairy, "…in the absence of a distinct domain for the self, somatic complaints are sometimes the only expression of distress. In addition, complaints about fear or sadness are not encouraged in the Arab/Muslim culture" (p. 84)[49] On the whole, emerging data suggest that many types of non-physical illness encountered in other countries are common in Oman. Some minor differences do exist, however, in the incidence of the types of reaction. Other differences occur because of certain culturally determined aspects of symptomatology.[24, 50, 51] More studies to substantiate this view are therefore required. It is worthwhile noting that high percentage of medical attendees in Oman present with distress for which doctors tend to find no accompanying bodily disturbance. Such patients account for a large number of consultations, 'doctor shopping', unnecessary tests, multiple surgeries and a variety of other procedures, which might ultimately lead to iatrogenic illnesses.[45]

Globally, many young lives are blighted by the deterioration of public health services and worsening material and social conditions, in addition to road traffic accidents, war and violence, infectious diseases, stress-induced and self-inflicted death.[52] Inevitably, death is a universal phenomena, but does the reaction to it vary from culture to culture? This is a pertinent question as it may shed light on whether human emotions such as grief reactions are shaped by our socialization or by a biological predisposition. Studies from Oman suggest that there is a specific Omani respond to death. Following untimely death, Omanis are likely to invoke the belief in revenants, known as 'mu ghayeb'.[53] This belief involves a complete denial of the loss for a long period, even after the rituals and mourning. The expectation is that the dead person will return. The belief assumes that the deceased are expected to leave the grave after burial and join their families when the spell placed on them by a sorcerer is broken. Whatever the merit of this belief, it is clear that emotions even for losses as mundane as death appear to be culturally sanctioned and considerably modified by local, social and psychological characteristics.[54] The fact that highly variable emotional reactions are found across very different populations suggests that sociocultural or ecological factors play a substantial role in emotional expression. It has long been established that emotional stress plays an important role in more than half of all medical problems.[4] Studies are needed to illuminate how emotions are expressed in Oman and their impact on health and disease.

Studies coming from different parts of the world suggest that many problems, which were previously thought of as primarily medical, and hence demanding conventional medical intervention, are in fact

more appropriately disentangled by changing individual and social attitudes and behaviour.[55] Many health campaigns tend to have only modest success because traditional customs and health beliefs often override biomedical assumptions and considerations. As a result, communicable and non-communicable diseases are proliferating, not only because of poverty, but also because of prevailing traditional views on health and disease.[56] It is also apparent that the extent to which any medical treatment is adhered to is often a function of a range of socio-cultural beliefs, such as the personality of the patient and the quality of interaction between doctor and patient. In this context, a person's behaviour appears to impede an enlightened and cost-effective delivery of health care.

CONCLUSION

Despite the much heralded rhetoric on the 'human genome project'[57] and the bombastic prediction that it "…could also spin off many other advantages for the future generation" (p. 15),[58] mundane epidemiological surveys that would gather familiar aggregates of diseases have not been forthcoming in Oman. According to Finkler, Skrzynia and Evans, "… genetic prognostications apply to the aggregate rather than to the individual, whereas the patient desires information that is applicable to his or her specific condition" (p. 404).[59] There is indication that diagnoses that are based on the genetic origins of illnesses are associated with unpredictability and stigma and these sufferers are likely to perceive their situation as 'fate' and, as a result, prefer not to modify their unhealthy lifestyle. Most disheartening for developing countries, there is burgeoning research linking ethnicity and diseases.[60, 61] In addition to being insensitive to heterogeneous communities in largely young countries, still on the verge consolidating their national identity, 'geneticisation' seems to hinge on the wrong assumption of ethnic homogeneity in terms of identity and functioning. This has the negative effect of stigmatizing vulnerable individuals and inadvertently their kindred also. In their quest to be associated with the fame of cutting edge research, medical researchers in developing countries are plundering much needed resources that could be fruitfully utilized for prevention of emerging disease and dispensing healthcare delivery consonant with the situation on the ground.

At the dusk of last millennium, health planners predicted "Health for All by the Year 2000". At the dawn of this century, some admirable achievements were accomplished including eradication, prevention and treatment of some diseases that were once thought to be impervious to intervention. The long cherished dream that one day biomedical sciences would decipher and cure all the diseases and suffering and that therefore human beings will become immortal is still a far fetched yearning. In the interim, new challenges have arisen on the horizon, including the proliferation of non-communicable diseases against the background of intransigent treatment resistant infectious diseases. The formidable challenge for this century is to come to grips with illnesses that stem from the way individuals respond to the external world. Although our biology has been programmed to respond to environmental demands, this blueprint appears to be ill equipped to respond to 21 century reality. The challenge here will entail to explaining the interplay between socioeconomic, culture and biological aspects of human behaviour and resultant ill health. It appears that in the absence of coherent systems to embraced new challenges, the quality of health care may never rise above a certain ceiling and that this ceiling could be quite low. Oman has marched to success in curbing familiar problems like malnutrition and infectious diseases, the next challenges are lifestyle diseases that stem from life itself and the results of recent affluence.

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