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From the Editor

The paper from Lebanon reviewed Alzheimer’s in the Region. The author stressed that Middle Eastern countries have certain cultural, social and economic characteristics in common with similar aspiration. The percentage of elderly in the Middle East is expected to increase with improvement of the health care delivery in the area. The region, like other developing countries, needs to define the policies and programs that will reduce the burden of aging populations on the society and its economy. There is a need to ensure the availability of health and social services for older persons and promote their continuing participation in a socially and economically productive life. There is recent increase in the number of Alzheimer’s patients in the region owing to increase longevity and awareness in addition to better diagnosis.

The paper on Mental health in the region come from Australia amid all the current turmoil in the area. The author stressed that from the wider view, treatment of, and attitude toward mental health disorders in the Middle East is an ongoing journey as it has been in the rest of the world. Issues of war and violence, displacement, refugees, occupations by militia and terrorists, restrictions on women in traditional societies, arranged and forced marriages, lack of tolerance for gender dysmorphia, and domestic violence are causing mental health problems such as PTSD, depression, anxiety and suicide (i.e. affective disorders) and are contributing to the psychological and socio-cultural causes of mental health disorders in the region. In regard to organic mental illnesses (e.g. schizophrenia, bipolar disorder) the stigma surrounding such mental health conditions remains a problem along with lack of medical education producing appropriately trained medical professionals, and lack of psychiatric services and hospital beds. These are all issues that have been faced and are still being faced in various parts of the wider world. This review attempted to explores mental health and its treatment, training, education and medical facilities in the Middle East and the stigma that often surrounds these conditions as well as the societal/psychological/environmental causes of mental health problems and mental illness due to war and other societal discord and cultural traditions.

A paper from Turkey looked at Academicianship as a lifestyle that requires thinking not on several, but just on particular fields, such as to perform observation and experiments, follow up patients, educate students, produce new ideas and products, and write all of the results necessarily into the literature. Its duration takes the whole lifespan and it usually does not terminate with earning copious money.
Consequences of Respridone and Olanzapine on salivary IgA and some electrolytes levels in psychotic patients

Rojan Hamed Mohamed (1)
Othman. A. Omar (2)
Kawa F. Dizaye (3)

(1) MSc. Ministry of Health, Erbil, Iraq
(2) PhD, Head of Department of Dental surgery, College of Dentistry, Hawler Medical University, Erbil, Iraq
(3) PhD, Head of Department of Pharmacology, College of Medicine, Hawler Medical University, Erbil, Iraq

Correspondence:
Prof. Dr. Kawa Dizaye
Professor of Pharmacology
Hawler Medical University, Erbil, Iraq
Tel: 009647504452392
Web: hmu.edu.iq
Email: kawa.dizaye@hmu.edu.iq

Abstract

Background: Saliva is a complex secretion and plays an essential role in the maintenance of oral health. It's constituted by water, organic and inorganic components which have biological functions essential for homeostasis of the oral cavity. Saliva also contains a wide variety of unique proteins, such as secretory IgA. Variations in salivary flow can be affected, reversibly or irreversibly, by numerous physiological and pathological factors. Saliva is a promising option for diagnosing certain disorders and monitoring the evolution of certain pathologies or to measure medicines or drugs.

Aim: The aim of this study was to evaluate the effect of atypical antipsychotic drugs (Respridone and Olanzapine) on salivary IgA and electrolytes levels.

Results: The result of the current study showed significant reduction (p<0.05) between salivary levels of immunoglobulin A and electrolytes (Na+, K+, Ca++) in psychiatric patients before and after 2 months of Olanzapine and Respridone therapy. Olanzapine induced a greater percentage of IgA reduction than that of Respridone.

Conclusion: Both Respridone and Olanzapine significantly reduced salivary IgA and electrolytes of N+a, K+ and Ca++level, and both drugs caused reduction of saliva secretion.

Key words: Respridone, Olanzapine, psychiatric patients, Saliva, immunoglobulin A

Patients and methods: The study sample consists of 20 diagnosed psychiatric patients (age range 20-40). They were divided into 2 groups of 10 patients (1st group were treated with Respridone and the 2nd group treated with Olanzapine ), two samples were taken from each patient of both groups, one before starting treatment and the other after 2 months of subjecting them to selected treatment.
Introduction

Saliva is a glandular secretion that is essential for the maintenance of healthy orodental tissue. Saliva is a complex fluid and many of the functions of saliva have a protective role, acts as a lubricant and cleanses the teeth (1).

Saliva plays a very important role in oral health, it maintains the integrity of oral hard and soft tissues and protects against immunologic bacterial, fungal and viral infections. Saliva controls the equilibrium between demineralization and remineralization in a cariogenic environment, salivary buffers can reverse the low pH in plaque and allow for oral clearance thus preventing demineralization of enamel. The flow rate and viscosity of saliva may also influence the development of caries (2).

Saliva is comprised primarily of water along with electrolytes such as sodium, potassium, calcium, bicarbonate, magnesium and fluoride. Secretary proteins such as amylase, lipase, albumin, histatin, lysozyme and mucins, immunoglobulins, primarily IgA, IgG & IgM, salivary IgA is the predominant immunoglobulin in secretions of the mucosal immune system. It is found in the saliva, intestinal secretions, bronchoalveolar lavage fluid, urine, tears, and other mucosal fluids. The basic function of immunoglobulins is to help the body protect itself against potential pathogens; it inhibits attachment and replication of pathogenic microorganisms, preventing colonization by these pathogens; it is also capable of neutralizing toxins and viruses, immunoglobulins and has always been the subject of research in finding the relationship with psychotic disorders and few works with controversial results have been done in this respect. Also some of the typical antipsychotic drugs have been noticed to affect the serum concentration of immunoglobulins (3, 4).

Secretion of IgA in saliva is the first line of defense of the host against pathogens which invade mucosal surfaces, salivary IgA antibodies could help oral immunity by preventing microbial adherence, neutralizing enzymes, toxins and viruses; or by acting in synergy with other factors such as lysozyme and lactoferrin, some studies have also demonstrated a lower incidence of caries as a result of a high salivary IgA concentration. In addition, low levels of salivary IgA have been presented as a risk factor for upper respiratory infection and have also been associated with an increased risk for periodontal disease and caries (5).

Oral reactions to medications are common and affect patients’ quality of life. Almost all classes of drugs, particularly those used continuously, such as antidepressants, antihypertensive, anxiolytics, hypnotics, diuretics, antipsychotics among others, including vitamins, minerals and phyto-pharmaceuticals, may cause oral alterations. If not suitably treated, these may aggravate the patient’s general state of health and affect his/her oral health (6).

Olanzapine is one of the atypical antipsychotics; it is useful for the management of several symptoms commonly encountered in palliative care, such as delirium, delusion, hallucinations, apathy and lack of motivation (7).

Risperidone is also one of the atypical antipsychotics called serotonin-dopamine antagonists (SDA), which have high affinities for both the dopamine D2 receptor and the serotonin 5-HT2 receptor in the brain (8).

With noticeable neglect of oral health status in psychiatric patients, and the expected additional effect of the antipsychotic drugs on salivary component (such as electrolytes and Immunoglobulins), and to determine the difference of such effects between different drugs, and to help psychiatrists and dentists better control oral health either by prevention or intervention, such studies have been done.

This study was undertaken to evaluate the effects of Respridone and Olanzapine on the IgA and electrolytes (sodium, potassium, calcium) levels in saliva of diagnosed psychiatric patients.

Patients and Methods

Study Design and Sampling
A total of 20 patients (age range 20-40 years old) were selected from (Erbil psychiatric hospital psychiatric outpatient clinic) after they were diagnosed by psychiatrist for presence of psychosis. They were divided into 2 groups of 10 patients (1st group were treated with Olanzpine and the 2nd group treated with Respridone); two saliva samples were taken from each patient of both groups, one before starting treatment, and the other after 2 months of subjecting to selected treatment.

Inclusion Criteria
1. Age range between 20-40 years.
2. Person under antipsychotic medication (Olanzpine or Respridone).

Exclusion criteria
1. Patient not within the age range.
2. Patient with systemic disease.
3. Persons with smoking habit.
4. Fever and cold.
5. Pregnant and lactating women.
6. Alcohol taking.
7. Patient with medication.

Collection of Saliva Samples
Collection of whole saliva samples which was used in the current study were performed under resting conditions in a quiet room during the afternoon, between 9:00 am and 12:00 am, at least 1 hour after eating, by the spitting method or direct expectoration method: Subjects were asked to collect saliva in their mouths and to spit it into a sterile plastic dish with a diameter of 6 cm for 5 minutes.
Salivary IgA measurement by Enzyme Linked Immunosorbent Assay (ELISA)

For the quantitative determination of the SlgA in the saliva we employed the ELISA method with salivary secretary IgA Kit of (salivary secretary IgA Kit IBL-Germany) in accordance with the manufacturer’s instructions. Salivary slgA levels (mg/ml) in each sample were calculated using a standard curve obtained from calibrators in the kit.

Saliva electrolytes analysis

The fresh saliva specimen was kept in an ice bucket and sent to the laboratory for analysis within one hour. For the determination of salivary ions, saliva was diluted at either 1/100 or 1/1000 and K+, Na+ and Ca2+ concentrations were determined using flame emission spectrometry.

Statistical analysis of data gained from Saliva sample

IgA level for each sample was estimated; the difference between IgA levels in pre-treatment and post-treatment values were calculated, and the mean of IgA difference calculated. Values of standard error, Standard deviation, P value and significance were determined. All data were analyzed using the Statistical Package for Social Sciences (version 21.0; SPSS Inc., Chicago, Illinois, USA).

Paired t-test was used to analyze differences between the pre and post saliva sample variable of the two group, and a t-test for independent variable to evaluate differences between the group; values of less than 0.05 were considered statistically significant. The same procedure was done for estimation of value salivary electrolytes (sodium, potassium, calcium).

Results

Effects of Olanzapine and Respridone on the salivary IgA levels in psychiatric patients

By comparison of salivary immunoglobulin levels (IgA) between psychiatric patients before and after 2 months of 4 mg/d Respridone therapy, significant differences were noted as shown in Table 1.

Table 1: Effect of Respridone and Olanzapine on Salivary IgA levels of 20 psychiatric patients

<table>
<thead>
<tr>
<th>IgA (mg/ml)</th>
<th>Before</th>
<th>After</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respridone/mg</td>
<td>0.167±0.004</td>
<td>0.159±0.005</td>
<td>0.003</td>
</tr>
<tr>
<td>Olanzapine/ mg</td>
<td>0.174±0.005</td>
<td>0.159±0.004</td>
<td>0.022</td>
</tr>
</tbody>
</table>

By comparison of immunoglobulin levels (IgA) between psychiatric patients before and after 2 months of 4 mg/d Olanzapine therapy, significant differences were noted as shown in Table (1).

Effect of Olanzapine and Respridone on salivary electrolytes (Na+, k+, Ca++) in psychiatric patients.

The levels of salivary electrolyte (Na) of psychiatric patient before and after 2 months of 4mg/day of Respridone therapy are significantly reduced as noted in Table 2.

Table 2: Effect of Respridone and Olanzapine on Salivary (Na) levels found in 20 psychiatric patients

<table>
<thead>
<tr>
<th>Na (mm/l)</th>
<th>Before</th>
<th>After</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respridone</td>
<td>7.78±0.39</td>
<td>4.12±0.33</td>
<td>0.001</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>7.55±0.6</td>
<td>4.32±0.59</td>
<td>0.001</td>
</tr>
</tbody>
</table>

The levels of salivary electrolytes (Na) of psychiatric patient before and after 2 months of 4mg/day of Olanzapine therapy are significantly reduced (Table 2).

Comparing the effect of Respridone on salivary electrolytes (K) levels between psychiatric patient before and after 2 months of 4mg/day therapy of the drug, the levels were significantly reduced as noted in Table 3.
Table 3: Effects of Respridone and Olanzapine on salivary (K) levels that found in 20 psychiatric patients

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respridone (mg)</td>
<td>17.91±0.22</td>
<td>17.48±0.23</td>
<td>0.048</td>
</tr>
<tr>
<td>Olanzapine (mg)</td>
<td>17.58±0.22</td>
<td>17.43±0.18</td>
<td>0.045</td>
</tr>
</tbody>
</table>

Comparing the effect of Olanzapine on salivary electrolytes (K) levels between psychiatric patient before and after 2 months of 4mg/day therapy of named drugs the levels significantly reduced as also noted in Table 3.

The levels of salivary electrolytes (Ca) are significantly reduced in psychiatric patient before and after 2 months of 4 mg/day of Respridone therapy as noted Table 4.

Table 4: Effects of Respridone and Olanzapine on salivary (Ca) levels that were found in 20 psychiatric patients

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respridone (mg)</td>
<td>1.99±0.25</td>
<td>1.42±0.26</td>
<td>0.00</td>
</tr>
<tr>
<td>Olanzapine (mg)</td>
<td>1.52±0.15</td>
<td>1.44±0.14</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Effects of Olanzapine on the salivary Ca levels
The levels of salivary electrolyte (Ca) are significantly reduced in psychiatric patient before and after 2 month of 4 mg/day of Olanzapine therapy as aslo noted Table 4.

Comparing effect of Respridone & Olanzapine on Salivary IgA, Na, K, and Ca.

The result of this study showed that no significant differences were found in the effect of both drugs (Respridone and Olanzapine) on salivary IgA after two months of 4mg/day therapy. Also the result showed that both drugs have the same reduction effect on salivary electrolytes (Na, K,Ca) after tow month therapy. This mean that there were no significant differences of their effect on the salivary electrolytes as seen in table 5. However Olanzapine induced a greater percentage of changes in IgA in psychiatric patients than that of Respridone as shown in Figure 1.

Table 5: Salivary levels of IgA and salivary electrolytes (Na, K, Ca) in psychiatric patient treated with both Respridone and Olanzapine

<table>
<thead>
<tr>
<th></th>
<th>Respridone</th>
<th>Olanzapine</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgA(mg/ml)</td>
<td>0.159±0.005</td>
<td>1.59±0.004</td>
<td>1</td>
</tr>
<tr>
<td>Na(mM/l)</td>
<td>4.12±0.33</td>
<td>4.32±0.59</td>
<td>0.74</td>
</tr>
<tr>
<td>K(mM/l)</td>
<td>17.48±0.23</td>
<td>17.43±0.18</td>
<td>0.86</td>
</tr>
<tr>
<td>Ca(mM/l)</td>
<td>1.42±0.26</td>
<td>1.44±0.14</td>
<td>0.94</td>
</tr>
</tbody>
</table>
Discussion

Saliva is a complex biofluid that plays an essential role in the maintenance of oral health. It constitutes water, organic and inorganic components which have biological functions essential for homeostasis of the oral cavity. It contains a wide variety of unique proteins, including proline rich proteins (PRPs) and enzymes such as lysozyme, lactoferrin, peroxidases, and secretory IgAs. A major protective function results from the salivary role in stabilizing the ecological balance in the oral cavity via clearance, aggregation and reduced adherence by both immunological and non-immunological means as well as direct antimicrobial activity.

As salivary immunoglobulin levels (IgA) in psychiatric patients with the effect of Olanzapine and Respridone (Atypical Antipsychotic Therapy) at a daily dose of 4 mg, was one of the aims of the current study, a statistically significant reduction in the level of IgA is reported in psychiatric patient when they were treated with the Respridone or Olanzapine drugs. Higher drooping was noticed when Olanzapine was used, although no significant difference reported between salivary levels of IgA in patients treated with both drugs but Olanazpin induced a greater percentage of reductions of salivary IgA than that of Respridone. Therefore physicians should be aware of oral infection or dental caries in psychiatric patients treated with both drugs especially with Olanzapine. No data is available about the influence of antipsychotic agents on salivary IgA. However Jafarzadeh et al. (2008) found an increase in the salivary IgA levels with increase of patient age up to 60 years. The reduction of salivary IgA found by the current study does not support this statement, and can be explained by the curtailment effect of antipsychotic drugs on salivary volume production generally, and its constitutes specifically (5). In another study Hussein (2010) observed the effect of antipsychotic drugs on serum IgA levels (9), found insignificant difference in serum IgA levels before and after 2 months of treatment with antipsychotic drugs. This result did not agree with those found by the current study, and the difference is expected to be due to that, antipsychotic drugs need more time and/or there dose to show there effect systemically on blood, rather than salivary IgA which affected more rapidly. While Burns et al, (1982) suggested there were higher levels of IgA in serum rather than saliva (10), this again supports the current study explanation of need of higher dose and duration of therapy with antipsychotic drugs to reduce these higher levels of serum IgA.

The finding of current study showed that both Olanzapine and Respridone significantly reduced the salivary Na levels, at the same time they showed almost similarity in their effects on salivary Na level when they were compared together. The same reduction in salivary Na levels was reported by Godoy, et al (2012) who measured changes in salivary Na in patients who were under Clozapine administration, and they explained such droop in Na levels by its relation to decrease the salivary flow rate (11). Hence the same explanation can be used in the current study, as both Olanzapine and Respridone have the same xerostomia effect, a result and explanation supported also by Tayab et al, (2012) (12).
Few studies are available around this subject, going to results that atypical antipsychotic drugs (Olanzapine & Respridone) can affect the amount of saliva secreted and may alter the composition of saliva via their receptor effects on the dual sympathetic and parasympathetic innervations of the salivary glands, as it is regarded as the main factor responsible for the decrease in the salivary flow rate, and the decrease in electrolyte levels.

Although most explanations for changes of salivary Na levels go with those blaming salivary flow rate, still many factors should not be neglected such as dietary Na intake differences.

The finding of the present study showed that Respridone significantly reduced the salivary Ca levels, while Olanzapine showed no significant effect on Ca levels. Catalán, et al. (2014) concluded that changes in electrolyte concentrations and pH in saliva have an important role in the enamel demineralization of teeth (15). The results of this study, showed general reduction in the levels of all three investigated electrolytes (Na, K, Ca). That’s to say there were changes in the levels of electrolytes, and its mostly seen that Respridone showed greater effect, whilst Olanzapine showed less effect on the level of electrolytes. These findings are expected to have many explanations, one of them is how far the patient follow the regular dosage of the treatment, as it has been reported that swing in the levels of antipsychotic drugs may affect the levels of secretion of saliva and also the levels of electrolytes, Reynolds (2011) and Mos, (2015) stated that non constant daily dosage of the drug intake causes xerostomia for the patients. This results from stimulation of sympathetic postsynaptic alpha-1 adrenergic receptors, and thus leads to an increase in water and electrolytes secretion, also increase in the stimulation of Beta-1 adrenergic receptors resulted in elevated secretion of enzymes and proteins in saliva (16, 17). Also it was noticed that activation of somato dendritic alpha-2 adrenergic receptors inhibited saliva secretion (17).

Another explanation for this fluctuation, is that the expected effect of the antipsychotic drugs on the glandular tissue of the salivary gland itself and the resultant effect on the reduction of salivary secretion. This effect was noticed by Vinayak et al (2013) when they studied the Salivary glands, and noticed a swelling in patients treated with clozapine which do not manifest hypersalivation (18). The effect of the antipsychotic drugs on glandular tissues themselves leads to thickening and stasis of saliva, claiming calcium salts and its precipitation in the ducts, and this leads to calculus formation and obstruction, resulting in distension of the gland.

**Conclusion**

Based on this study’s results the following conclusion can be made;

1. Both Olanzapine and Respridone show significant reducing effect on salivary IgA levels in psychiatric patients. Nevertheless Olanzapine induced a greater percentage of IgA reduction than that of Respridone
2. Both Olanzapine and Respridone have significant reducing effect on salivary electrolytes (Na+, K+ and Ca++) levels in psychiatric patients.
3. Both Olanzapine and Respridone caused reduction of saliva secretion (Xerostomia).

**References**

Mental Health Issues in the Middle East - An Overview

Lesley Pocock

Correspondence: Lesley Pocock
Publisher medi+WORLD International
Email: lesleypocock@mediworld.com.au

Introduction

From the wider view, treatment of, and attitude toward mental health disorders in the Middle East is an ongoing journey as it has been in the rest of the world.

Issues of war and violence, displacement, refugees, occupations by militia and terrorists, restrictions on women in traditional societies, arranged and forced marriages, lack of tolerance for gender dysmorphia, and domestic violence are causing mental health problems such as PTSD, depression, anxiety and suicide (i.e. affective disorders) and are contributing to the psychological and socio-cultural causes of mental health disorders in the region. In regard to organic mental illnesses (e.g. schizophrenia, bipolar disorder) the stigma surrounding such mental health conditions remains a problem along with lack of medical education producing appropriately trained medical professionals, and lack of psychiatric services and hospital beds. These are all issues that have been faced and are still being faced in various parts of the wider world.

This paper explores mental health and its treatment, training, education and medical facilities in the Middle East and the stigma that often surrounds these conditions as well as the societal/psychological/environmental causes of mental health problems and mental illness due to war and other societal discord and cultural traditions.

Some forms of organic mental illness can be alleviated with new or improved pharmaceutical and medical management (e.g. while schizophrenia cannot be cured it can these days often be well controlled through appropriate medication to the extent that sufferers can lead a normal productive life) and/or psychiatric treatment (e.g. cognitive behaviour therapy (CBT)) while other issues causing despair, depression, anxiety and suicide in some individuals may require social reform, government policy, legal frameworks and indeed political peace and stability in society.

In some of the more traditional Middle East countries societal and cultural issues are still causing mental illness, and appropriate treatment facilities and care providers, and political recognition and human rights, freedom of women, recognition of homosexuality and gender dysmorphia, could allow people better freedom to make their own life choices and eliminate some of the causes. These are issues that require social, religious and political solutions that meet the real needs of Middle East societies. The ‘Arab Spring’ showed clearly that there are a wide range of social attitudes within the region and these have a bearing on society as a whole and countries must work toward solutions that decrease the mental health issues in their communities and allow people to make their own choices within a religious, cultural and political framework.

It is also recognised that each country in the region has its own approach, problems and successes. This paper looks at the more general issues that affect the countries of the region to a greater and lesser degree.

It must also be recognised that not all change is necessarily good and the modernisation of societies also brings adverse effects, and their own sources of mental health issues.

Unique Challenges

War and conflict

The first and most obvious social cause and source of mental health problems is the seemingly endless plague of war in the region.

The topic of man’s propensity to war and willingness to wreak terror and violence on his fellow man is a mental health issue in its own right and one that requires far greater study. This paper will look at the mental health effects of this most barbarous tendency of humans.

War and conflict causes loss of loved ones and family under cruel and extreme conditions, such as starvation, mass murder, torture, rape, loss of home and a sense of belonging, deliberate expulsion from homes and communities, loss of income and societal and family structure, loss of societal norms, loss of social identity, loss of faith and hope, prejudice and violence against minorities, loss of dignity and self esteem.

Therefore war and conflict results in mental health issues such as depression, PTSD, suicide, childhood behavioural problems, despair and anxiety and often ending in suicide, or acts of violence against others.
War and conflict currently debases and murders citizens of Syria, Iraq, Yemen, South Sudan, Palestine, and Kashmir in extraordinary numbers and touches the lives of all people of the Middle East and has done so for millennia. It could be argued that this inherited problem has caused ongoing mental illness in some populations and has hindered progress and social reform and personal ambition.

Those who flee countries under attack face new mental health crises and issues in the countries that they either flee to or in those countries that give them refuge.

In 2015 the UN Office for the Coordination of Humanitarian Affairs estimated that 10.8 million people are affected by the conflict in Syria, with 4 million refugees having fled the country. In early 2015, UNHCR estimated 3 million people in Iraq faced mental health problems. Millions of people have experienced the trauma of political and religious conflict and persecution in the Middle East, especially women, who the Iraqi Ministry of Health have determined are disproportionately affected by mental health illness due to recent conflicts (1).

Doctors without Borders, (Medecins sans Frontieres) advises there are currently only four psychiatrists for every 1 million residents in Iraq, and even fewer professionals are trained in related mental health professions such as psychological counseling. Of the professionals working with Syrian refugees in Iraq, there are only four, who do on average 70-100 counseling sessions per week with traumatized individuals. Similarly, in Jordan, a country now hosting an estimated 659,828 refugees (2) there are a total of 31 psychiatrists and 24 psychologists for the entire population, including refugees from Palestine, Syria, and Iraq. Lebanon and Turkey also have inordinate numbers of Syrian refugees who have fled the barbarity in their own country. Unfortunately, most psychiatric professionals are strictly hospital-based and provide mainly biological care leaving no mental health professionals to address Post Traumatic Stress Disorder in populations. (1)

The International Medical Corps has identified a number of challenges and recommendations including:

- Increase the availability of services.
- Make mental health care part of general health care.
- Train and license more mental health professionals.
- Address developmental disorders in children.
- Advocate for improved national mental health service provision and policies. (4)

Mental health issues such as post-traumatic stress disorder and depression are common in the Middle East. War compounds these problems, making treatment harder to obtain. In Syria, prior to the current conflict, mental health care was delivered out of three hospitals in Damascus and Aleppo. One has been destroyed and the other two are now inaccessible, according to the World Health Organization (5).

In America there are 1.2 psychiatrists per 10,000 people; no Arab country has more than 0.5, and most have far fewer. The WHO reports that the number of sick is outpacing the number of psychiatric beds, and the number of day-care facilities is one-tenth of the global median. The result is that more than three-quarters of people in the region who need mental health care do not receive it. (5)

Stigmatisation

Stigmatisation of the mentally ill in any country does seem an ancient animalistic response to the suffering of others and it must surely be one of humanity’s more primitive responses based on ‘de-identification with the herd’ and the abandoning and killing of the weaker members of the herd, or society, in the case of humans. While this is a common streak in humans and causes wars and conflict in its own right, much work has been put into de-stigmatisation by medical professionals and NGOs worldwide and the public are now educated on the truth of organic mental illness - that is it is a medical defect similar to physical medical defects and disorders and usually can be treated pharmaceutically, surgically, or through psychiatry, psychoanalysis or psychotherapy. At the least it should be treated wisely and kindly.

Mental health stigma, defined as the “devaluing, disgracing, and disfavoring by the general public of individuals with mental illnesses”, is a common barrier to care globally, and is especially prevalent in the MENA region. (3, 6)

Additionally because of stigma, individuals suffering from mental illness and families of the mentally ill rarely access the help they need for fear of being judged and discriminated against. Mental illness is often associated with social shame, damaged reputation and diminished social status, leading many individuals to avoid help. (6)

Culture provides a set of rules and standards that are shared by members of a society. (7) These rules and standards shape and determine the range of appropriate behaviour. These culturally originating stigmas can and should be able to be avoided by proper societal education and debunking of the myths that surround mental illness.

Status of women

Worldwide, violence against, and subjugation of, women is at epidemic levels and when including issues of domestic violence, rape, murder, forced marriage, and sexual slavery, violence against women affects the majority of women in all countries of the world. Again such violence is a mental health problem that requires an encyclopaedic work in its own right. This paper will deal therefore with the smaller scale and local societal issues.

The higher number of female suicides in traditional societies compared to societies where females have full human rights and control over their own destiny is an important issue. Some but not all Middle East countries have recognised these concerns and now allow divorce due to marital breakdown, domestic violence (physical, sexual and psychological) and women now more often
Violence against women leads to mental health problems with suicide as an outcome in women pre-disposed to depression and despair, and those who see no way out of their desperate situation due to lack of property, lack of rights and no assistance or support from their original families. These are the key societal factors that lead desperate women to higher suicide rates in some countries of the Middle East.

Worldwide women have addressed these same issues in the same way over the march of time and women in the Middle East are now also facing them and are increasingly willing to face them and find their true identity and demand dignity, autonomy and respect.

In most countries the suicide rate is higher in males but in some traditional ME societies it is women who suicide in greater numbers, which confirms evidence that it is a religious, social and cultural phenomenon. In countries where women and children have full internationally accepted human rights such suicide problems disappear as well as many other problems in society.

The major psychological factors found to be associated with suicidal behaviour are depression, especially hopelessness, and psychological disturbance, anxiety, or emotional instability. Psychiatric disorder appears to increase the risk of suicide, with affective disorders and alcohol and drug abuse leading causes. (8)

Investigations into the cause of significantly higher depression rates in women as opposed to men in the Middle East and North Africa (MENA) region have indicated a number of contributing factors; many are psychosocial in origin, but most controversial is the role of Islam.(9)

In an examination of the hypothesis that Islamic beliefs and practices exacerbate stress and distress in women, evidence from the MENA region, has shown that changing roles for women, issues related to reproductive health factors as well as inherent methodological problems of gauging subjective feelings like depression, is considered. (9)

Some experts suggest that this new wind of change seen in the Arab Spring is indirectly, becoming an increasing source of stress for women. For example, Al-Lamky (10) has indicated that the rapid modernisation, made possible by economic development, has not been paralleled by an equally dramatic change in the cultural values concerning the structure or roles of the family. Hamid et al. (9) investigated the psychosocial aggregate of depression in their sample in Jordan. Among many variables associated

Key facts
- Violence against women - particularly intimate partner violence and sexual violence - are major public health problems and violations of women’s human rights.
- Global estimates published by WHO indicate that about 1 in 3 (35%) women worldwide have experienced either physical and/or sexual intimate partner violence or non-partner sexual violence in their lifetime.
- Most of this violence is intimate partner violence. Worldwide, almost one third (30%) of women who have been in a relationship report that they have experienced some form of physical and/or sexual violence by their intimate partner in their lifetime.
- Globally, as many as 38% of murders of women are committed by a male intimate partner.
- Violence can negatively affect women’s physical, mental, sexual and reproductive health, and may increase vulnerability to HIV.
- Situations of conflict, post conflict and displacement may exacerbate existing violence, such as by intimate partners, and present additional forms of violence against women.

WHO Fact sheet
Updated November 2016
http://www.who.int/mediacentre/factsheets/fs239/
with depression, the contribution of marital status is considered.

Married women, in contrast to widowed or separated women, scored highest in the indices of depression. This implies that divorced women did not fare worse compared to married or single women. (9) This factor is true in all societies however, with married women and unmarried men having the highest mental health disorders and unmarried women and married men having better mental health. (11, 12)

**Depression**

There is however an increasing prevalence of suicide and depression in all global societies. It is predicted that depression will become the leading cause of disability for all populations by the year 2020. (9) This is likely mostly due to the general state of humanity and with better communications making it unavoidable for people to shield themselves from the facts of life and our planetary vulnerability to destruction by human and ecological means.

**Homosexuality (LGBTI) and gender ambiguity/ dysmorphia**

The stigma or illegality of homosexuality has caused anxiety, depression and suicide in those countries where it is still outlawed, unrecognised and shunned. A main outcome of this has been suicide, incorrect treatment, e.g. horrific surgical solutions to homosexuality that do not address the real issues, and migration of homosexual refugees to countries where their gender identity is more tolerated, in law and socially.

Several Middle Eastern countries have received strong international criticism for persecuting homosexuality and transsexuals by fines, imprisonment and death. However, some Middle Eastern countries have developed more tolerant social attitudes and taken some steps to protect LGBT people from discrimination and harassment.

Israel has, since the 1960s, gradually developed more social tolerance for LGBT people, and taken steps to recognize LGBT rights. Jordan, Bahrain and Iraq are some of the few Arab countries where homosexuality is not illegal. (13) (14)

In some other Middle Eastern nations, including Turkey and Lebanon, changes in social attitudes and laws have slowly come about as part of a larger campaign for greater tolerance, pluralist democracy and respect for human rights. (13) (14)

Some Middle Eastern nations do not allow a LGBT community or human rights movement to exist. Countries such as Saudi Arabia, Kuwait, United Arab Emirates criminalize same-sex sexuality, cross-dressing and any expressed support for LGBT rights. (13) (14)

Some Middle Eastern nations have some tolerance and legal protections for transsexual and transgender people, but not for homosexual or bisexual persons. (13) (14)

**Medical Education and Practice**

Within the Islamic community, mental illness is viewed by some as a crisis of faith or a trial from God, and thus in some ways a character defect. This and other stigmas around mental health are also issues, and may underlie the significant lack of mental healthcare professionals as well.

Despite the recent increase in mental health awareness at a national level in the Middle East, most individuals dealing with these problems have nowhere to go, no-one to talk to and do not know how to access care. (15)

Regional prevention and awareness campaigns are minimal with minor initiatives taking place in Jordan, the United Arab Emirates, Lebanon, and several other Arab countries. (15)

Most Arab countries have started to recognize mental health as an important part of their national health care plans and curricula. Unfortunately, it rarely translates into policy or planning for integrated action across the health sector, let alone at the population level, and capacity building for health professionals is limited.

Dr Ziad Kronfol, a well-renowned psychiatrist in the MENA region, advises psychiatry rotations in most Arab medical schools are basic, consisting of a few scattered lectures and occasional visits to clinics and/or wards. Clinical research and supervision are often non-existent. Even where services are available, the resources needed to provide quality services are often insufficient. (15)

A depression study conducted amongst focus groups in Jordan by Drs Laeth Nasir and Raeda Al-Qutob reported that the most prevalent theme among physicians was that they considered depression a diagnosis that they had neither the experience nor the time to treat. In addition, some physicians felt that because patients did not understand their illness they would not work towards the treatment. (15)

Besides the lack of availability of quality services, access to the limited existing services is also a common problem in many MENA countries. Obstacles can include personal financial constraints, limited services for women, insufficient local transportation and overly complicated referral processes.

These practical obstacles to accessing mental health services and treatment are further compounded by social barriers to care (stigmatization) (15). Specific barriers included beliefs, values, etiological perceptions and stigma. (16)

There are regions in the world where there is one psychiatrist for one million people. The situation in some poor Arab states is not much better. Primary care physicians need to be educated appropriately to detect and treat mental illness in their practice and know when to refer to psychiatric care.
Dealing with mental illness in the Middle East

Recommendations for Specific Initiatives in Mental Health Services and Training (17)
1. Upgrade the quality of mental health services
2. Encourage systematic efforts to upgrade the amount and quality of mental health training for workers at all levels, from medical students to graduate physicians, from nurses to community health workers.
3. Promote efforts to improve state gender policies, toward interdicting violence against women, and toward empowering women economically, and to make women central in policy planning and implementation of mental health services. Research should evaluate the mental health consequences of these programs for women, for children, and for men.
4. Encourage initiatives to attend to the causes and consequences of collective and interpersonal violence.
5. Direct efforts specific to primary prevention of mental disorders, and behavioural, psychosocial and neurological disorders.
Conclusion

Generally the Middle East along with many other countries is slowly responding to the issues of mental health in the general community and starting to address it on a country by country basis. The Middle East no doubt, has similar levels of organic/psychiatric illness as does the rest of the world.

It does however also have a greater proportion of mental health caused by social factors of violence and war, terrorism, occupation, and crimes against women and girls.

These are part of the need for greater social reforms and governments are to be encouraged to start implementing better medical education strategies, social planning, policies and education to provide a qualified workforce to treat these conditions, better public education to reduce stigmatisation born of medical ignorance and a legal and justice system that supports human rights for all.

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Background

By 2050, the world population is expected to reach 9.1 billion. The world’s elderly population is quickly growing, both in its absolute numbers and in its percentage relative to the younger population (1). It is estimated there will be more than 4.5 million hip fractures annually and more than 36 million patients with dementia, which are profoundly disabling conditions explaining the concerns of an imminent pandemic of frailty, co-morbidity, and disability (2). It is currently estimated that more than half (58%) of all people who are 65 years and older live in developing nations. The world’s older population experiences a net increase of 1.2 million each month, 80 percent of which occurs in Third World nations (1,2,3). It is projected that by the year 2025, the total elderly population will reach 976 million with 72% living in developing regions (2-5).

The continued improvement of health care delivery in the region will lead to rapidly aging populations within the next few decades. It is projected that the population will grow from 600 million to 1.1 billion by 2050. So the greater Middle East is one of the fastest growing regions in the world (2). It is evident that chronic noncommunicable diseases are now the major cause of death among older people in both the countries of MENA region and rest of the world. Given this dynamic of population demography, the political, economic, and social leadership of the countries of MENA region would need to re-define and update the policies and programs that will reduce the burden of aging populations on the society and its economy.

Policymakers must take two steps: Shift health-sector priorities to include a chronic-disease prevention approach; and invest in formal systems of old-age support.

More specifically, these countries should institute prevention planning and programming to delay the onset of chronic diseases, enhance care for the chronic diseases that plague elderly populations, and improve the functioning and daily life for the expanding elderly population (6-12).

Abstract

Middle Eastern countries have certain cultural, social and economic characteristics in common with similar aspirations. The percentage of elderly in the Middle East is expected to increase with improvement of the health care delivery in the area. The region, like other developing countries, needs to define the policies and programs that will reduce the burden of aging populations on the society and its economy. There is a need to ensure the availability of health and social services for older persons and promote their continuing participation in a socially and economically productive life. There is a recent increase in the number of Alzheimer’s patients in the region owing to increased longevity and awareness in addition to better diagnosis.
Socio-economic and Political Factors

Middle-Eastern culture ensures respect for the elderly and values highly the natural bonds of affection between all members of the family. The eldest members are a source of spiritual blessing, religious faith, wisdom and love. Despite the general feeling among most people in the region that sending an elderly parent to a nursing home violates our sense of sacred duty towards them, many individuals and groups are faced with situations, where they have no other alternative. Among such groups are those whose families are abroad, unmarried women, old people whose families cannot support them financially, and those who suffer from diseases where professional care is needed (13,14).

Elderly people in the area receive social and economic support from the informal sources of extended kin networks, and particularly from their own children. With smaller families being the trend, this will lead to fewer potentially supportive children available. Studies from developed countries reveal that where children are in a position to help their aged parents, the majority of them do so. However, traditional patterns of family responsibility will diminish with economic development (13,14).

Governments of the area are still assuming that families will take care of their own elderly. The changing economic and shifting migration patterns lead to the projection that the provision of long-term care will be an important part of health care planning (1,6-12).

The epidemiology of psychiatric disorders in the elderly

Psychiatric morbidity in the Arab world is underestimated. This is due to the fact that few epidemiological studies have been done in the field. Screening of representative samples of primary health care patients in Saudi Arabia and the United Arab Emirates (UAE) demonstrated psychiatric morbidity of 26 and 27.6 % respectively (13,14).

Unofficial data in different nursing home facilities in Lebanon revealed a 25 to 30 percent of depression among residents and 10 to 15 percent of dementia. At Ain WaZein elderly care centre the prevalence of dementia is almost 20 percent of the residents and depression is currently at 25 percent. Behavioural disturbances affect around 20 to 30 percent of residents in long term stay in Lebanon. Al-Ain Community study in the UAE revealed a prevalence of 2.6% memory problem in patients above the age of 60 years.

The Status of the elderly in the Arab Culture

Arab culture ensures respect for the elderly and values highly the natural bonds of affection between all members of the family. The eldest members are a source of spiritual blessing as well as models of piety, religious faith, wisdom and love. In his book entitled The Arab World: Society, Culture and State, Halim Barakat asserts that in Arab societies, “children change from being “iyal” (dependent kids) to “sanad” (supporters) once their parents reach old age. This explains why parents in some parts of the Arab world may refer to a child as “sanadi” (my support).

The recent cultural changes

The family has always been the mainstay of the frail elderly in the Arab world, but events are gradually eroding this support system. Factors such as youth migration for employment and educational gaps between family members account for the erosion of the family support system. (13,14). Families face great difficulties in supporting their dependent elderly. Morbidity patterns have changed and lead to prolonged states of chronic disease, psychiatric illnesses, dependency and loss of autonomy for growing numbers of Arabic elderly. Women, who traditionally bear the main responsibilities for providing family care, enter the labour force for reasons of personal choice and economic necessity and are no longer available to care for aged relatives (1).

It is important to achieve a balance of care between community and institutional services, both for humanitarian and economic reasons. Given the growth of the aging population in the Arab World, especially the oldest, with expected multiple chronic illnesses, the need for intermittent or continuous long term care services will undoubtedly grow including nursing facilities and home or community-based long term care.

How prevalent is Alzheimer’s in the Middle East?

In 2008, the World Health Organization (WHO) declared dementia as a priority Condition through the Mental Health Gap Action Programme (15). Dementia, including Alzheimer’s disease, is one of the biggest global public health challenges facing our generation. Today, over 35 million people worldwide currently live with the condition and this number is expected to double by 2030 and more than triple by 2050 to 115 million. As a relatively young population, there is low awareness of Alzheimer’s disease in the Middle East. It is a devastating disease and the region will eventually have to face the increasing burden of Alzheimer’s as the population naturally ages. There are few statistics about the disease in the Middle East but we do see early incidence (up to 10 years earlier than in the West) of other age related diseases such as stroke and heart disease in Egypt, where statistics are available. Unfortunately, this suggests that the Middle East may face the burden of Alzheimer’s disease and related dementias much earlier than in the West.

In the Middle East the population is aging gradually and the percentage of elderly will double in the coming ten years. There are no clear estimates in the region of the estimate of Alzheimer disease although we believe that the prevalence is similar to other developed countries but there are no major studies in the area on Alzheimer. There
are very few sources of Alzheimer’s statistics in the Middle East. None of the health authorities in the region release public figures on the numbers of people with dementia or Alzheimer’s and there are no Alzheimer’s associations or advocacy groups collecting data. The WHO dementia report says the Middle East and North Africa will see a 125 per cent increase in cases by 2050 and estimates that almost 6 per cent of those over 60 suffer from it.

However, a pilot study in Dubai revealed last year that the prevalence there was closer to 14 per cent, says Dr Mohammed Gamal Elnoamani, a senior geriatrician and head of medical affairs at Dubai’s Family Gathering Centre, which runs a monthly support group for caregivers of Alzheimer’s and dementia patients. A more worrying finding was that only about 12 per cent of people with the disease are receiving treatment.

In the Region Alzheimer disease does not get much attention owing to the fact that not a lot of people are aware of the disease in addition to the lack of the knowledge among the health care team how to deal adequately with the disease owing to the lack of training in the field. In addition in the Region there is lack of enough geriatricians (physicians specialized in the field of elderly care) and there is absence of geriatric teams within hospital and health center sboth at the governmental and private level. There is a need to raise awareness about the disease among the public and to train the existing health professionals in the field.

How can we help the caregivers

In the Middle East, there is an additional public health concern, one affecting caregivers. The World Alzheimer Report 2013 sent a very clear message about the future of Alzheimer’s: “The traditional system of ‘informal’ care by family, friends, and community will require much greater support.” This is particularly pertinent in this part of the world where residential care homes are few and far between, and the onus on caring for the elderly falls to the family.

Most often, spouses and other family members provide the day-to-day care for people with AD. As the disease gets worse, people often need more and more care. This can be hard for caregivers and can affect their physical and mental health, family life, job, and finances. There are not enough support groups, services, research centers, getting involved in studies, and publications about AD, in the region

Special Training programs in the Region

In an attempt to cover the gap, the Middle East Academy for Medicine of Ageing was founded to stimulate the development of health care services for older people in the region. It was established by a number of professors and teachers from the Middle East and Europe. The first postgraduate course took place between 2003 and 2005, whereas the second course between 2007-2009, and the third course is running now between 2010-2012. The course has been built up with 4 sessions, on each of 4 days, that cover important topics of health-related problems in older people (16). This intensive study course composed of four sessions is directed towards physicians, nurses, social workers, and health care officers, responsible for the health care of older people.

Special Organisations

The Middle East Association on Aging and Alzheimer’s (MEAAA)
In attempt to answer some of the deficit in the region, the MEAAA was established in order to support various activities in the field of aging and Alzheimer’s disease. MEAAA helped in co-organizing the first and the second Middle East Congress on Aging in Istanbul and Tripoli.

The Middle East Journal of Age and Ageing (ME-JAA)
The Middle-Eastern Journal of Age and Ageing started in July 2004. The Mission of the Journal is to promote geriatric medicine, gerontology and ageing related issues in the Middle-East.

The Middle East Journal of Pyschiatry and Alzheimer’s
The Middle East Network on Aging research (MENAR)

Despite the fact that 93% of potential years of life lost are in developing countries, only 5% of research dollars are spent on health problems of developing countries (1). There is a substantial research need in the ageing field in the Middle-East.

**Conclusion**

The demographic changes and social and economic developments in the Region have created new realities in an unprecedented growth of the elderly population. Trends, such as rapid urbanisation, a move from extended families to nuclear families, and technological developments make the problem of aging in the Middle East an acute one. Inappropriate application of costly technology could easily result, accompanied by diversion of resources from existing primary-care services in deterioration of the existing health care system. Many of the most effective measures promoting independence and autonomy promise to result from environmental changes and community organisations, e.g., transportation and physical adaptations for those with impaired mobility, provision of appropriate technology for the hearing or visually impaired, encouragement of mutual help groups. What is essential is to ensure the best possible quality of life for the greatest possible number of our aged.

The governements need to promote basic competency among physicians and other healthcare professionals in early detection of dementia in primary care services. There is a need to create networks of specialist diagnostic entrets to confirm early-stage dementia diagnosis and formulate care management plans, in addition to increasing awareness about the availability of evidence-based interventions that are effective in improving cognitive function, treating depression, improving caregiver mood and delaying institutionalisation.

**References**

Academicianship

Mehmet Rami Helvaci (1)
Orhan Ayyildiz (1)
Orhan Ekrem Muftuoglu (1)
Mustafa Yaprak (2)
Abdulrazak Abyad (3)
Lesley Pocock (4)

(1) Professor of Internal Medicine, MD
(2) Assistant Professor of Internal Medicine, MD
(3) Middle-East Academy for Medicine of Aging, Chairman, MD, MPH, MBA, AGSF
(4) Medi-WORLD International

Abstract

Academicianship is a lifestyle that requires thinking not on several, but just on particular fields, such as to perform observation and experiments, follow up patients, educate students, produce new ideas and products, and write all of the results necessarily into the literature. Its duration takes the whole lifespan and it usually does not terminate with earning copious money.

Key words: Academicianship

What is academicianship? What does an academician do? Why do academicians take money from the taxes of citizens? What is the need of academicians for the society? What is the necessity of academicians? All citizens have the right to ask these questions of academicians. If we define some borders for academicianship, answers to the above questions will be given.

An academician is not a routine officer working between 08:00 a.m. and 17:00 p.m. As a scientist, an academician studies the whole day, the whole week, the whole month, the whole year, and the whole lifespan. While a farmer thinks about his plants, a herder about his animals, and a trader about his trade, a scientist thinks about his project during the 24 hours of the day, even for years. Ending of the thinking, observation, experiments, and follow up of patients about the projects actually means death of the scientist, since retirement is usually impossible in the process. Actually, a scientist cannot produce something new if he or she does not study for 24 hours of day in his or her mind. ‘What is the value of a person? The value is the person’s aim in their life’. The proverb can actually define the significance of a scientist for us. An academician is a hunter. He or she always looks for new ideas, projects, and products for the human being and this process may take his or her whole lifespan since the new ideas and products are usually results of intensive thinking processes. ‘Most people run after money or a comfortable life but scientists run after knowledge.’ ‘God gives money to who God wants but God gives knowledge to who wants by himself or herself’. These proverbs may also define the significance of academicianship.
If we can see significant differences between today and one hundred years before in the science, be sure about that there will be significant differences between today and one hundred years later again and the main actors of the process will be the scientists and academicians. But an academician does not mean a person living in his or her private world alone. Actually, academicianships means sharing of his or her knowledge, findings, and results with the students, colleagues, and population. Actually, knowledge does not have importance if it is not shared with others. On the other hand, scientists who are not sharing their knowledge with surroundings are not liked by students, colleagues, and society. Additionally, such scientists will not be able to produce significant ideas and products at the end of their whole lifespan since everybody knows that knowledge does not decrease instead increases with sharing. The scientists can see their mistakes, deficiencies, and misunderstandings by sharing their knowledge. In another definition, the scientists actually need students, colleagues, and patients to increase their knowledge, experience, and products.

Academicianship does not mean education alone. There must be some additional properties that are not found merely with teachers. Giving lectures, following up patients, performing experiments, and thinking on particular fields are found to be among some of the responsibilities of the academicians. Academicians have to improve themselves in their particular fields all the time. In other words, academicianship is an active process requiring a continuous improvement. Degrees in academicianship such as doctor, assistant professor, associated professor, and professor are given not by aging but by scientific products. So a person can be a professor via a hard studying process in their very early years of life with many scientific products.

Writing ability is found among the major properties of the scientists. Writing has a significant role in development of human experience. Academicians must have the ability to write. An academician without the ability to write an original article, a case report, a letter to the editor, a review, a chapter, or a book about his or her interest field looks like a car without wheels. Both of them can not go further. Therefore academicians have to think about particular subjects, produce new ideas, educate students, follow up patients, and perform experiments but eventually they have to write all of their results as new papers in the literature. Without writing, all of the findings will go to the grave without any benefit for human beings. So a long lifespan of a professor will be meaningless without writing at the end. On the other hand, writing a paper about a particular issue may reveal several. In another definition, writing in a particular fields is the most effective way of improving issues. So writing is a necessity for development in science. ‘Do not look at the talk instead just look at the products of an individual’. This proverb can summarize what we hope to explain.

An academician means a scientist who has new ideas, not on several, but just on particular fields. Actually the ability of production of new ideas may even require a lifelong thinking process on that issue. Thinking on a particular issue, following up patients, and performing experiments will eventually bring new ideas and products in front of us. A scientist can produce a limited number of products if he studies several fields but can produce a wider range of products if he studies a particular field alone. ‘A person cannot be an expert on several issues but can be just on some issues’. The proverb explains to us that the short lifespan of a human being will not be enough to be an expert in several fields.

The aim of academicians cannot be earning copious money. Academicians usually cannot earn even enough money for their normal lives everywhere in the world since usually earning large amounts of money is another ability of human beings needing several lifetime s to work on it. Actually, thinking about earning large amounts of money will break apart scientists’ studies. So scientists will not be able to follow up patients, perform experiments, and think on the particular field during 24 hours of their day. Earning a large amount of money therefore and finding new products for human beings cannot be found at the same time, by the same mind since both of them need different ways of working and these cannot be achieved by the same individual at the same time. For example, Edison did not develop the light bulb to be rich or to earn much money.

As a conclusion, academicianship is a lifestyle that needs to devote thinking not on several but just on particular fields, and to perform observations and experiments, follow up patients, educate students, produce new ideas and products, and write all of the results into the literature. Its duration takes a whole lifespan and it usually does not terminate with earning copious money.

Most of the world’s great advances in the sciences and medicine during the last two centuries have been through academic endeavour. Political leadership has been patchy in advancing civilisation, at best, but academia, divorced from the politics and the pecuniary interests of each generation has continued to lead humankind toward a brighter and more equitable future.
CME Case

Jonah is 48 and runs his own automotive parts business, which has been experiencing tough times.

He has been under considerable stress at work in the last 12 months and presents because he has developed symptoms of shaking, sweating, dizziness and peripheral numbness and is worried that his health is making him unable to cope.

During the year he has developed numerous symptoms that he has attributed to his stress:

<table>
<thead>
<tr>
<th>Indigestion</th>
<th>bad in the mornings and relieved by an antacid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor sleeping</td>
<td>worries abut the business and has difficulty getting to sleep.</td>
</tr>
<tr>
<td>Forgetfulness</td>
<td>which irritates his secretary and his wife.</td>
</tr>
<tr>
<td>Anxiety</td>
<td>and 2 days ago he spent several hours alone in a nearby park.</td>
</tr>
</tbody>
</table>

Question 1
What aspects of the history and examination may indicate alcohol as a contributing factor?
(Select up to 8 then refer to answers on next page)

1. Anxiety
2. Hyperventilation
3. Elevated BP
4. Poor sleep pattern
5. Age
6. Increased stress
7. Difficulty in coping
8. Recurrent indigestion
9. Deteriorating family relationships
10. Deteriorating work relationships
11. Morning nausea
Question 2
What strategies will help you to establish whether alcohol is a factor?
(Select up to 7 then refer to answers on next page)

1. Take an accurate alcohol history.
2. Establish quantity and frequency of alcohol consumption.
3. Be direct and challenging about his consumption.
4. Take the last 7 day’s history of alcohol intake.
5. Ask Jeff if this history is typical of his usual consumption.
6. Ask about drinking habits when the patient is intoxicated.
7. Be judgmental in your approach.
8. Provide a context or rationale for asking about alcohol consumption.
9. Pay attention to container size.
10. Ask whether the drink is high or low alcohol content.
11. Use terms like ‘social drinker’ or ‘binge drinker’.
Question 3
Which of the following are indicative of alcohol dependence?
(Select up to 8 then refer to answers on next page)

1. Cirrhosis
2. Pancreatitis
3. Hangovers
4. Domestic disputes
5. Oesophageal varices
6. Peripheral neuritis
7. Alcohol tolerance
8. Withdrawal symptoms
9. Memory loss
10. Anxiety, depression
11. Male >10 drinks/day
12. Female >5 drinks/day
13. Weight gain
14. Gastritis
Answer 3

Correct answers ticked

- 1. Cirrhosis
- 2. Pancreatitis
- 3. Hangovers
- 4. Domestic disputes
- 5. Oesophageal varices
- 6. Peripheral neuritis
- 7. Alcohol tolerance
- 8. Withdrawal symptoms
- 10. Anxiety, depression
- 11. Male >10 drinks/day
- 12. Female >5 drinks/day
- 13. Weight gain
- 14. Gastritis

Detailed explanations

Aspects of the history and examination may indicate alcohol as a contributing factor:
- Anxiety with symptoms associated with hyperventilation;
- Elevated BP;
- Poor sleep pattern;
- Increased stress associated with difficulty coping;
- Recurrent indigestion and morning nausea.

Strategies include taking an accurate alcohol history. This is often done poorly. The old adage of asking the patient how much they drink and doubling it is inappropriate and a poor substitute for taking an accurate history. You need to ask about quantity and frequency. It is also important to pay attention to both the context and normal variability associated with drinking. This is best done by reviewing the patient's consumption over the last 7 days, starting with yesterday. When this is established ask the patient if this is typical of usual consumption. Several factors are associated with a less accurate history: asking about drinking habits when the patient is intoxicated; being judgmental in your approach; not providing a context or rationale for asking about alcohol; failing to ask about quantity and frequency. Pay attention to container size, non-standard drinks and whether the drink is high or low alcohol content. Terms like 'binge drinker' and 'social drinker' are not helpful.

(continued next page)
The following are indicative of alcohol dependence:

cirrhosis;
pancreatitis;
hangovers;
oesophageal varices;
peripheral neuritis;
tolerance,
withdrawal symptoms;
anxiety,
depression;
male >10 drinks/day

(End of Case)