Factors affecting Mental Health in Cairo, Egypt in 2007

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Abstract

Two related objectives are the concern in this article. The first is to suggest a conceptual framework for explaining the association between poverty and Common Mental Disorder (CMD) and the mediating factors. The second is to examine statistically the hypothesized role of poverty and other demographic, socioeconomic and behavioral risk factors on CMD. Data from the Urban Inequity Study Survey (UIS) that was conducted in Cairo in 2007 are used. About 2000 adult femalesand 2000 adult maleswere interviewed. Few percent of the study population has non/minimal depression (15% and 16% among males and females, respectively) One quarter of males and one thirdof females have mild depression and one third of each have moderate level. Females exceed males in mild and moderate depression (64.6% vs. 59.2%). About 20% of the females and one quarter of the males have severe depression.Level of depression significantly declines with education, marriage, and age. Sad events and other difficult life situations such as; divorce or widowhood or spinsterhood, and difficulty of carrying out the daily physical functions are strong risk factors. Neither poverty nor living in poor neighborhood is risk factor. Males, contrary to females, are significantly impacted by their work conditions.

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Introduction

Individual's health is defined by WHO as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." An important consequence of this definition is that mental health is an essential component of a person's general health. Mental health, as defined by WHO is "a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community" (WHO, 2011)[2].

About 450 million people suffer from mental disorders. One person in four will develop one or more mental or behavioral disorders during their lifetime (WHO, 2001). The levels of prevalence of mental and behavioral disorders are estimated to 10% among the adult population, 20% among teenagers (under the age of 18 years). Additionally, mental and neurological disorders account for 13% of the total Disability Adjusted Life Years (DALYs) lost due to all diseases and injuries in the world (WHO, 2004). Psychiatric conditions, including depression, alcohol use, schizophrenia and compulsive disorder occupy five of the top ten leading causes of disability worldwide (Murray & Lopez, 1996). Depression alone represents one of the most prevalent psychiatric disorders, affecting around 340 million people worldwide. In 2002 unipolar depression accounted for 4.5% of all DALYs (WHO 2004, p.39).

Mental illness is a major, although treatable, problem in developing countries. The social and economic costs of mental illness in developing countries are high, (Boyce, W. et al. 2009). Mental illness is not just a clinical issue but also a socioeconomic problem, (Boyce, W. et al. 2009).

In Egypt, neuropsychiatric conditions is the second-ranked in the top leading causes of total Disability Adjusted Life Years (DALYs) lost due to all diseases and injuries, they account for 15% of DALYs, just behind cardiovascular diseases, (Table 1). Among neuropsychiatric conditions, unipolar depression

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[2] WHO web site: www.who.int/ visited on Jan. 2013.

alone accounts for 30% of its total Disability Adjusted Life Years (DALYs) lost, (WHO, 2009).

Table 1. Age-standardized DALYs per 100,000 populations by top 10 causes, Egypt 2009

Rank*	Causes	DALYs (000)	% of total DALYs*
1.	Cardiovascular diseases	4,370	21.6
2.	Neuropsychiatric conditions	3,054	15.1
3.	Sense organ diseases	1,899	9.4
4.	Injuries	1,443	7.1
5.	Infectious and parasitic diseases	1,209	6.0
6.	Digestive diseases	1,190	5.9
7.	Perinatal Conditions	1,181	5.8
8.	Malignant neoplasm	1,043	5.1
9.	Respiratory diseases	885	4.4
10.	Respiratory Infections	678	3.3

Note: Total No. of DALYs(000) = 20,261
* Calculated by the author from WHO (2009).

The current mental health services in Egypt face immense problems. Mental health services are severely short of resources. The number of professionals specialized in mental health is far below international standards; one psychiatrist for 77,500 citizens. Total number of beds for psychiatric cases is around 12 per 100, 000 populations. Both facilities and staff tend to be unevenly distributed, clustering mainly in urban areas, (Okasha 2005; Ghanem, et al. 2009). Moreover, both patients and mental health staff providers are severely stigmatized. Psychological complaints are not as welcomed in Egypt's social and cultural sphere as physical complaints are. This is particularly exaggerated in case of children where their psychiatric disorders are completely overlooked.

Researchers and scientists in Egypt as well as many Arab countries suffer from remarkable lack of information about mental health problems. Negligence of the health policy makers and undervalue of mental health problems have lead to severe shortage of knowledge. Accordingly, several important questions are not fully answered; neither the common mental disorders (CMD), their prevalence, the area, gender, cultural, demographic and socio-economic correlates of the burden, nor the economic impacts on individuals, families and communities are known. In the United States, the estimated annual total cost related to mental

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disorders is about 147 billion US dollars, more than costs attributed to cancer or AIDS (Institute of Medicine 1998, cited in WHO 2004). Although the direct costs in Egypt is expected not to reach these levels because of the low availability, coverage, and quality and lack of treatment of mental health care services, the indirect costs is presumed to account for large portion of the overall costs (WHO 2004).

Few mental health epidemiological studies have been conducted in Egypt, the most systematic ones are those related to substance abuse. Periodic epidemiological studies related to Narcotics abuse were conducted among several groups of the Egypt populations; secondary school pupils, male and female university students, industrial workers, and farmers, (Soueifet al.1990).

In 2003 a National Survey of Prevalence of Mental Disorders was conducted in Egypt with the objective to provide estimate of the prevalence of common mental disorders (CMD) and to investigate socio-demographic factors associated with these disorders. The survey is conducted in 5 different Governorates in Egypt (Alexandria, Ismailia, Giza, Fayoum, and Qualiobia), with a sample size of 14,640 adults (18-64)[3], (Ghanem, et al. 2009).

Mental disorders were diagnosed using the Arabic version of MINI-Plus diagnostic interview[4]. All sections of the MINI-Plus were used except those relating to eating disorders, attention-deficit/hyperactivity disorder, and majordepressive episode with melancholic features, suicide and antisocial personality disorder. Overall prevalence was estimated to about 16.93% of the study population (Ghanem, et al. 2009).

The three most common disorders identified by the study included; mood disorders (6.43%), anxiety disorders (4.75%) and multiple disorders (4.72%). And the most common disorders detected in the sample were major depressive disorder (2.70%), (Ghanem, et al. 2009). Okasha (1999) estimated the prevalence of depression in two community samples from urban and rural populations. The estimated levels were 11.4% and 19.7%, respectively. Recently,

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[3] Military personnel, prisoners and those receiving long-term inpatient care are excluded.
[4] MINI-Plus is a brief structured interview for the major Axis psychiatric disorders in DSM-IV and ICD-10. Validation and reliability studies have been conducted comparing the MINI-Plus to the SCID-P and the CIDI, the most 2 widely used instruments.

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a large nation-wide survey has been conducted to estimate the prevalence and characteristics of mental health among youth "Survey of young people in Egypt" (SYPE 2010). The SYPE utilized The Self-Reporting Questionnaire (SRQ-20) that has been developed by World Health Organization to screen for common mental disorders. SRQ-20 was designed to cover neurotic disorders, and to detect probable cases of depression and anxiety-related or somatization disorders. The SRQ-20 is a group of twenty yes/no questions, and a respondent's score is the number of questions to which he or she answers "yes". The tool is designed on the basis that the higher the score, the more likely there is a mental disorder. The recommended cutoff value of 8 was used to conclude the presence of mental disorder. SRQ-20 questionnaire was administered to respondents in the age group 15-29. Results reveal that 16.3% of the youth population shows signs of mental disorder.

Conceptual framework

In order to fill gaps in knowledge, two related objectives are the concern in this article. The first is to suggest a conceptual framework for explaining the association between poverty and CMD and the mediating factors. Such a framework should systematically specify and assess the influence of poverty on CMD taking into account the interrelationship and interaction of poverty with the several etiologic risk factors that are most noted in the literature and integrate them into a collective whole. The second objective is to examine statistically the hypothesized role of poverty and other demographic, socioeconomic and behavioral risk factors on CMD.

The CMD risk factors are classified into two groups; one is initiated on the macro/community level. It includes: war, displacement,lack of human rights, the political system of ruling governance, values and norms, discrimination against sex, race, religion, and ethnicity, level and quality of area infrastructures and public and private services. The second group of factors is originated on the individual/ family level. It includes; 1) biologically mediated demographic/behavioral factors; family history of mental illness, aging, and sex, 2) poverty, and 3) difficult life situations such as divorce, celibacy, death in the family, infertility, loss of job, work stress, reduction in income, chronic or acute disease, disability, drug and alcohol use and violence.

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GROUP 1: Macro/Community indirect causes of CMD

Intuitively, ceteris paribus, these factors contribute to ill mental health (create psychological reactions such as sadness, hopelessness, etc..), (Figure 1). We presume that the impact of these factors differs according to the individual/family status on the second group of the risk factors. The more the disadvantaged the individual, the more the severe the impact of events such as war, and discrimination, and the less likely he/she has the capability to overcoming the adverse effect of these factors. These factors lead to the different psychological reactions and its related behavioral outcomes as indicated in the Figure 1.
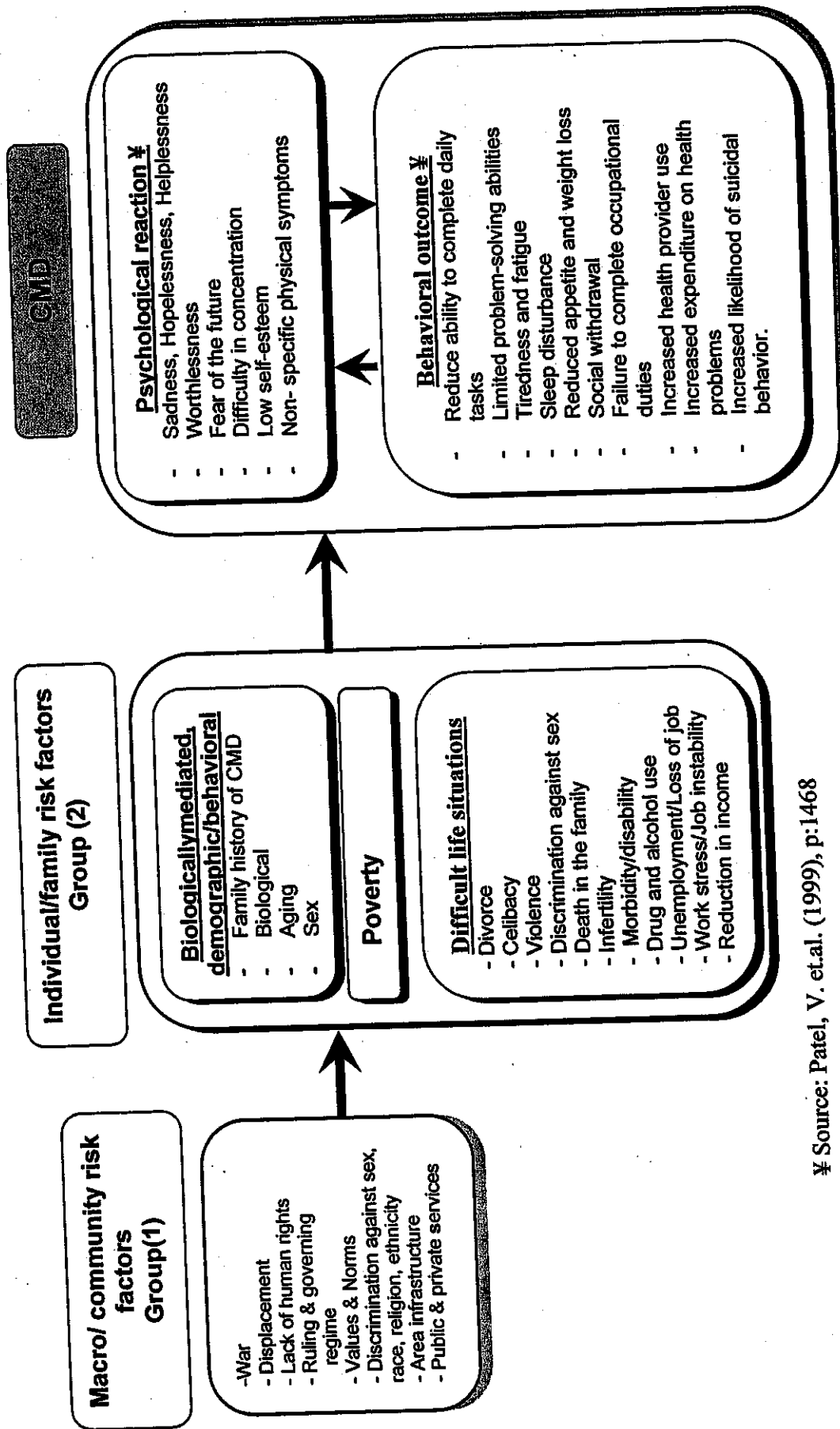
GROUPE 2: Individual/Family risk factors

Family history of mental illness: the existence of a family history of mental illness may be a risk factor. Egypt youth study SYPE revealed that 1.1% of the respondents reported a family history of mental illness; the mother (25.8%), father (21.6%), siblings (24.3%), Other sources include; paternal relatives (20.5%), maternal relatives (17.2%).

Age: Is the role of aging mainly a biological factor in its influence on mental illness or its influence is inflated through its correlation with the lifestyle of the individuals? Older people suffer from loneliness and economic hardships, especially after retiring age. They are more likely to suffer from co-morbidity, acute and chronic diseases, with its impact of increasing the elders' dependency on others and their inability to continue their daily activities. Moreover, the older is the person the more likely she experiences and is exposed to diverse difficult life situations. These circumstances are principal factors for increasing vulnerability to mental illness among elder people. Mirowsky and Reynolds (2000) find that depression increases with old age. Some researchers suggested a U-shape relationship between depression and age (Kessler et al. 1992), and others consider that the impact of age is artifactual (Feinson 1985).

Sex: numerous studies have shown that there are sex differences in health with women are likely to suffer from ill health including mental health more than men. Egypt study found that females' odds of having mental disorder is double the odds among males, (21.1% vs. 10.6%) and the age adjusted odds ratio is 2.24 (Ghanem, et al. 2009). Female youth (15-29) in the SYPE study has prevalence

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of CMD four times higher than among their male counterparts (26.8% vs. 6.3%, respectively), (Population Council 2010). In many developing societies, females bear the brunt of the adversities associated with poverty: less access to school, forced marriages, sexual trafficking, fewer job opportunities, and in some societies, limitation of their participation in activities outside the home. Women, in particular, face a combination of financial insecurity and financial and emotional responsibility for children, together with heavy workloads, exacted a heavy toll on women's emotional health.

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Figure 1: Theoretical framework of risk factors for common mental disorders (CMD)

Macro/ community risk factors Group(1)

- War
- Displacement
- Lack of human rights
- Ruling & governing regime
- Values & Norms
- Discrimination against sex, race, religion, ethnicity
- Area infrastructure
- Public & private services

Individual/family risk factors Group (2)

Biologicallymediated, demographic/behavioral
- Family history of CMD
- Biological
- Aging
- Sex

Poverty

Difficult life situations
- Divorce
- Celibacy
- Violence
- Discrimination against sex
- Death in the family
- Infertility
- Morbidity/disability
- Drug and alcohol use
- Unemployment/Loss of job
- Work stress/Job instability
- Reduction in income

CMD

Psychological reaction ¥
- Sadness, Hopelessness, Helplessness
- Worthlessness
- Fear of the future
- Difficulty in concentration
- Low self-esteem
- Non- specific physical symptoms

Behavioral outcome ¥
- Reduce ability to complete daily tasks
- Limited problem-solving abilities
- Tiredness and fatigue
- Sleep disturbance
- Reduced appetite and weight loss
- Social withdrawal
- Failure to complete occupational duties
- Increased health provider use
- Increased expenditure on health problems
- Increased likelihood of suicidal behavior.

¥ Source: Patel, V. et.al. (1999), p:1468

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Furthermore, data on domestic violence in many developing as well as developed countries showed that female family members are most vulnerable to abuse, and males in the family are the most common perpetrators. In Egypt, nearly one-fifth of ever-married women have ever exposed to some forms of physical violence, sometimes (14.5%) or often (6%), by their current or most recent husband in the past 12 months (El-Zanaty et al. 2006).Close to three out of ten Egyptian women who had ever exposed to intimate partner violence (IPV) reported a score of more than seven on the SRQ and 2.6% of them reported attempting suicide (Vizcarra, b. et al., 2004)[5]. Intimate partner violence (IPV) has found to have enormous impact on women's lives. It has been associated with numerous forms of physical and psychological harm, and on-going health problems such as substance abuse, depression and anxiety disorder, post-traumatic stress disorders and sexual dysfunction. IPV reduces women's autonomy and decreases their quality of life; it affects their ability to care for themselves and their families and diminishes their productivity, (Vizcarra, b. et al., 2004,p. 126)[6].

Poverty: the association between relative poverty and absolute income poverty and health are among the most commonly reported correlates in the scientific literature. Income poverty and the material and social deprivation associated with it are primary causes of poor health. Income poverty is associated with inability to secure stable income; with its outcome of financial strain, inability to secure basic food necessities and the resultant mal-nutrition, poor housing, lack of material possessions, poor clothing, crowding, inability to invest in education and human capital. Poverty is strongly correlated with low skill levels, unemployment and unstable jobs, low levels of education, poor health, and considerable co-morbidity and disability. The psychological reactions and behavioral outcome of living in poverty include; (Figure 1), growing feel of insecurity and vulnerability when conditions worsen, learned helplessness and hopelessness, feel of shame,

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[5] The events of violence are under-reported. As noted by Vizcarra et al. (2004) women are reluctant to admit being beaten unless they were severely beaten.
[6] In some instances mental illness antecedent IPV. Women with mental disorder may be at greater risk of abuse,(Vizcarra et al. 2004).

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stigma, and humiliation, etc. Moreover, the psychological impact of living in poverty is mediated by shame, stigma, and the humiliation of poverty[7].

Poverty, low education and poor health interact with one another in setting up a vicious cycle of poverty, poor mental and physical health and low education.

Numerous studies suggest that the association between poverty and CMD is a universal one, occurring in all societies irrespective of their levels of development. There is an apparent association between indicators of poverty and the risk of mental disorders, with the most consistent association being with low levels of education, (Patel and Kleinman, 2003). Factors consequential from poverty such as insecurity, hopelessness, poor physical health, and limited opportunities as a result of less education may provoke the risk of suffering from mental disorders. Most previous studies from developed as well as developing countries found a higher prevalence of CMD among most socially disadvantaged groups, defined according to a variety of socio-economic indicators. Lower education and lower levels of education of the head of the household, especially women, lower income, relative poverty or the perception that one is worse off than one's neighbors in addition to absolute poverty, being in debt, recent income decrease, the economic and social costs of losing job (self-esteem loss from unemployment) and poor housing are risk factors for mental disorders, (Araya et al. 2003; Ludermir and Lewis 2001; Patel et al. 1999).

Education: lack of education is perceived or objectively represents a more sensitive indicator of lack of opportunity and low social position. The social consequences of poor education are obvious. Lack of education represents limited or diminished opportunities for persons to access resources to improve their situation. Most studies showed an association between the risk of common mental disorders and low levels of education; many studies also showed a relationship with other indicators of poverty such as housing, or low income. The association between relative or absolute income and health is among the most

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[7]Reverse causality can be a consideration because CMD are known to produce disability and increased health care costs. The cross sectional design of this study precludes us from reaching any conclusions about the direction of causality.

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commonly reported in the scientific literature. However, several recent studies have found that this association is weakened or disappear when controlling for other socio-economic variables, especially education, (Araya, R. et al. 2003). Poor education could be a marker for childhood adversity, which could hypothetically be more common among Egyptians children and play a fundamental part in determining susceptibility to depression or other diseases later in life.

Difficult life situations: include events such as divorce, spinsterhood, death in the family, infertility, work related problems (e.g., loss of job, work stress, reduction in income), chronic or acute disease, disability, discrimination against sex, drug and alcohol use and violence. Clearly, experiencing difficult life situations leads to psychological reactions such as sadness, hopelessness, fear of the future, etc.,(Figure 1).

The interrelationship between experiencing difficult life situations and living in poverty is such that they are enforcing each other. The impact of experiencing difficult life situations on mental health is exacerbated by living in poverty. On the other hand, poverty may cause some of the difficult life situations. it is well known that morbidity is more among the poor. Divorce, violence, disability are more likely to occur among the poor. Infant and child mortality is more likely to occur for poor families. Poor individuals are more likely to suffer from job instability and/ or reduction in their income.

Chronic disease and disability: literature reveals contradictory evidence with regard to the influence of chronic illness on elevating mental illness. Number of studies have found that the odds for mental disorder (mostly depression) increases for patients with cancer, heart disease, arthritis, high blood pressure, kidney disease, liver disease, chronic lung diseases, neurological disease, diabetes, and migraine, (Ghanem, et al., 2009; see for literature cited in Verhaak et al., 2005). Others argue that it is not the presence of chronic illness that causes mental disorder rather its several generic characteristics and consequences (including: severity, duration, life-threatening disease, somatic, e.g., limited physical functioning, pain, changes in physical appearance, and a course of illness that is episodic or progressive, as well as its stressful consequences and accompanying social/relational/material problems, (Verhaaket

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al. 2005). Heart and cancer diseases are life threatening. Rheumatoid arthritis ,osteoarthritis and migraine cause progressive deterioration, pain and physical disability but are not life threatening. Diabetes is considered controllable, not painful and without physical limitations. Sensing disability especially sight and hearing, injuries related disabilities are expected to significantly linked to more mental distress. The association between chronic diseases and mental disorders (after adjusting for socio-demographic variables such as sex, education and marital status) remained significant, (Ghanem, et al. 2009).

Data Sources

This study used data set that is made available by the Urban Inequity Study Survey (UIS) that was conducted in Cairo in 2007 by the Social Research Center at the American University in Cairo. The survey instrument includes three questionnaires; household questionnaire, adult male questionnaire and adult female questionnaire. About 2000 adult females (20 years or above) and 2000 adult males (20 years or more) were interviewed using the respective questionnaires. The survey made available wealth information on health and health seeking behavior of the household's members. For the two separate adult males and females sub-samples the following health information are made available; self-perceived health at the time of the survey and at the time before reaching age 15, reported chronic disease, function of daily activities, mental health and health seeking behavior.

For measuring the burden of mental health the survey UIS2007 provided means to estimate level of depression and to examine the plausible relationship with many micro; individual/family level factors including poverty, i.e., Group 2 risk factors (Figure 1). The female and male questionnaires include a battery of questions about depression, using the Arabic version of Beck Depression Inventory (BDI-I) items[8].

The Beck Depression Inventory (BDI-I) was developed by Beck, Streer and Brown (1979), for the assessment of symptoms corresponding to criteria for diagnosing depression disorders listed in the American Psychiatric Association's

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[8]Ghareeb, A.G. (1999). Manual of Arabic BDI-II.Alongo Press. Cairo Inventory: The author's twenty –five years of evaluation. Clinical Psychology Review, 8,77-100.

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Diagnostic and Statistical Manual (DSM) of Mental Disorders. It allows for a quick assessment of depression based on self-report. The BDI measures the presence and severity of depression in psychiatrically diagnosed patients and in normal populations of both adolescents and adults (Beck et al., 1988). The Arabic version of the BDI-II as well as of the BDI-I (shortened version of BDI-I) was developed by Ghareeb (1999). Content validity of the BDI-I has been assessed by empirical evaluation of item response data based on the correspondence between item content and depression according to the symptom characteristics in the DSM-II. Ghareeb set out the following score categories of depression for Egyptian adult population, (Table 2)

Table 2. Depression categories of Beck Depression Inventory (BDI-I), the Arabic version,by sex

Levels of depression	Males	Females
Non/minimal	0-6	0-8
Mild	7-12	9-14
Moderate	13-18	15-20
Severe	19+	21+

Source: Ghareeb, 1999, p:32-33

The wording of the depression inventory questions that have been addressed in UISrefers to the respondent's feeling in general at time of the interview[9]. The respondent was asked the following question; "I will now ask you about your feelings, in general, and please tell me if you feel this way a lot, most of the time, sometimes, or never."

Prevalence of depression among adult population In Cairo
According to UIS data, the mean score for males is 13.8 with std. deviation 6.29 and for females is 15.2 and std. deviation 6.40, Table 3, (below)[10]. It is remarkable to find that few percent of the study population has non/minimal depression (15% and 16% among males and females, respectively) . Almost one

[9]Beck depression inventory's reference period is the week prior to the time of interview including the date of interview
[10]The estimated level of severe depression among the study population is quite high. It is higher than the estimated level of common mental disorder on the national level, and six to eight times higher the national average of the level of major depressive disorder as depicted by Ghanem et al. (2009). Using different tools and changes in the questions may hold responsible for such differences. Further, as UIS survey is conducted in the Cairo, the Capital of Egypt, one of the most crowded mega cities in the world.

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quarter of males to below one thirdof females have mild depression and additional one third of each have moderate. Females exceed males in mild and moderate (64.6% vs. 59.2%) depression level of. Close to 20% of the female population (18.9%) and about one quarter of the males have severedepression. (26% vs. 19%) and the difference between females and males are statistically significant at p-value less than 0.05[11].

Table 3: Percent distribution of sample population according to Beck Depression Inventory (BDI-I) by sex, UIS 2007

BDI-I	Males	Females
Non/minimal	15.0	16.2
Mild	25.9	29.3
Moderate	33.2	35.7
Severe	26.0	18.9
Mean score (Std. deviation)	13.8 (6.29)	15.2 (6.40)
Total N %	1990 100	2002 100

Respondents were asked the following question: "In the past 3 months, can you tell me if you generally have felt very happy, happy, somewhat happy (on and off), or not happy." As table 4 reveals, feeling of happiness goes in opposite direction with level of depression. More than one-half of both females and males who are not depressed, has non/minimal depression, are happy. Almost none of them (very few percent; 1.2% and 1.4%, respectively)isnot happy. Another important result is that among those who suffer from severe depression, thirty six percent of the females and half the level among males (17.1 %) are unhappy. Close to the majority of females and males alike are feeling somewhat happy "in-between".

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[11]Ghanem et al. (2009) found that the prevalence of mental disorder (including depression) among female is two times higher than that among males. Also, the YSPE's female youth (15-29) has prevalence of CMD four times higher than among their male counterparts (26.8% vs. 6.3%, respectively)(Population Council 2010).

Table 4: Percent distribution of sample population according to level of happiness, level of BDI-I and sex, UIS 2007

BDI	Females			Males		
	Happy	In-between	Unhappy	Happy	In-between	Unhappy
Non/minimal	57.3	41.5	1.2	69.8	28.8	1.4
Mild	44.5	51.2	4.3	46.8	48.9	4.3
Moderate	31.5	57.0	11.5	38.4	54.5	7.1
Severe	16.4	47.1	36.6	32.2	50.8	17.1

Pearson correlations are statistically significant for females and males at p-values less than 0.01.

Age: as expected, mental disorder increases with age. Figure 2 provides mean score of depressionfor both males and females according to age (5-year age groups). As apparent, level of depression increases with age. Further, females' mean score is, in general, above their males counterparts, particularly for the older age groups.

Consistently, severe depression increases with age, especially among female respondents, (Table5.)Results show no clear age pattern among those suffer from mild and moderate. Furthermore, very few percentage of females of young age have no or minimal depression. The age pattern of BDI-I among males is not as clear as that among females,

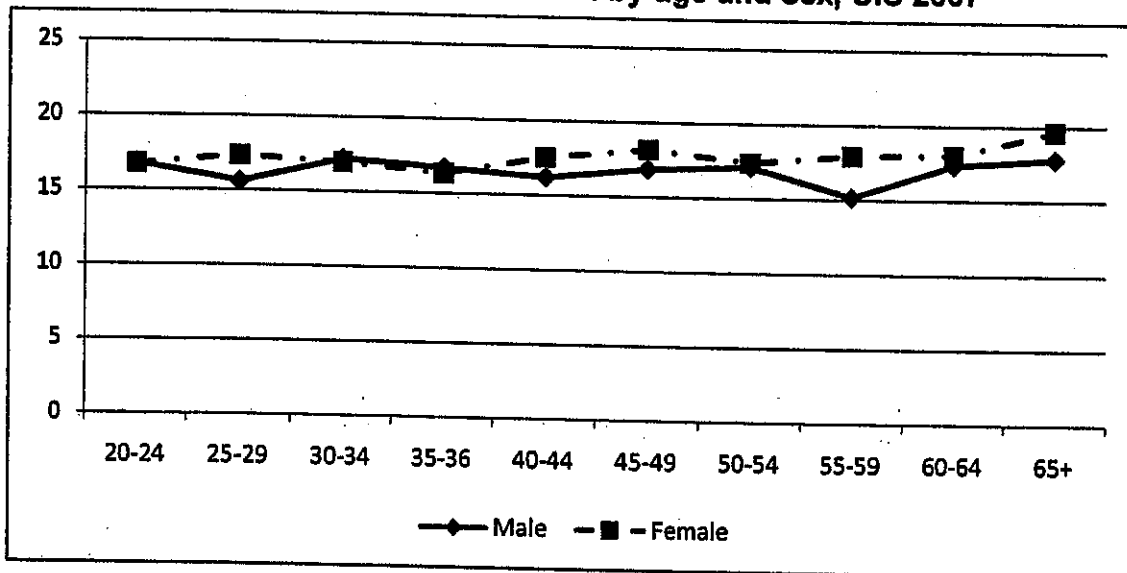**Figure 2: Mean score of BDI-I by age and sex, UIS 2007**

Table 5: Percent distribution of sample population according to BDI-I, sex and age, UIS 2007

Age groups	BDI-I				Total
	Non/minimal	Mild	Moderate	Severe	(%)
Females					
20-34	15.7	26.8	38.7	18.8	100
35-49	17.2	28.8	35.3	18.6	100
50-64	19.3	32.7	28.7	19.3	100
65+	7.5	30.7	42.9	18.9	100
Males					
20-34	12.8	22.1	40.2	24.9	100
35-49	9.6	33.7	31.6	25.1	100
50-64	21.4	25.5	24.0	29.1	100
65+	19.2	21.8	34.3	24.7	100

Pearson correlation is statistically significant at p-values less than 0.01 and 0.05 for females and males, respectively.

Poverty: for the purpose of estimating the association between poverty and mental health, we estimated the wealth index. The UIS survey data allow measuring household's standard of living through gathering information on household's possession of consumer and durable goods, household's assets and housing conditions. We constructed an index for wealth based on applying factor analysis technique. The scores on the first factor are considered for the wealth index.The distribution of the sampled households is divided into five quintiles according to level of wealth index. On general, as expected, level of depression declines as the level of family's wealth increases which is true for both females and males. As data reveals, Table 6, feeling of non/minimal depression is the least among the poor (poorest and poorer), whiles moderate and severe depression is the highly prevalent among them (70.3% and 68.9% among poor females and 59% and 75.6 % among poor males). Though prevalence of moderate and severe depression decline as the individual's family wealth increases, yet it is still of high level of magnitude; 40% and 47.9% among richest females and males respectively.

Table 6: Percent distribution of sample population according to BDI-I, sex and level of wealth Index, UIS 2007

Age groups	BDI-I				Total (%)
	Non/minimal	Mild	Moderate	Severe	
Females					
Poorest	5.8	23.9	42.7	27.6	100
Poorer	9.2	21.9	44.4	24.5	100
Middle	10.6	42.0	37.2	10.3	100
Rich	21.9	22.1	32.0	24.0	100
Richest	25.1	34.7	26.5	13.7	100
Males					
Poorest	9.9	31.1	33.8	25.2	100
Poorer	8.2	16.1	46.3	29.3	100
Middle	10.0	21.9	42.9	25.1	100
Rich	11.7	35.4	30.9	22.0	100
Richest	26.8	25.3	20.8	27.1	100

Pearson correlation is statistically significant at p-values less than 0.01 for females and males.

Difficult life situations

This section deals with the relationship between experiencing difficult life situations and   risk of having depression. Respondents were asked the following general question: "In the past 3 months, has anything happened that has made you feel depressed?." We additionally examined the relationship between depression and some other difficult life events that causes sadness and may contribute to depression as indicated in Figure1.[12]

Experience of any events that caused feeling of depression during the past three months prior to the survey: results of Tables 7 and 8, show that slightly lower than one-third of both females and males who had ever experienced events causing acute depression had severe depression. The percent severely depressed is lower among the comparable males and females how had not suffered from distressful events, with gap among females is widerthan that

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[12] We could not examine the effect of drug and alcohol use nor reduction in income because very few cases reported using drug and/or alcohol. Additionally the survey provides no information on individual's income nor salary.

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among males. Additionally, nearly forty percent of the study population had moderate depression regardless of the experience of distressful events, (35.5% and 41.1 % for females and males, respectively). The estimated Pearson correlation is statistically significant for both females and males at p-value less than 0.01.

Marital disruption: We estimated level of depression among the singles and currently married to compare and examine in depth the impact of events of divorce, widowhood, and spinsterhood on mental health.

Marital disruption, either by divorce or the death of the spouse, is considered one of the saddest events in individual's life. Results reveal that the prevalence of severe depression is highest among the divorced, both females and males, followed by the widowed, with level of prevalence among males is much higher than that among their female counterparts, Tables, 7 and 8. Married females and males are the least to suffer from depression (severe depression) if compared with other marital categories. It seems that males are impacted by divorce and widowhood much more than females. The estimated Pearson correlation is statistically significant for females and males at p-value less than 0.01.

Females headed household[13] have level of depression (moderate and severe) comparable to their widowed counterparts. The level is 10% higher than the average level among the currently married and is 8% higher than the overall average. The estimated Pearson correlation is statistically significant at p-value less than 0.01.

Spinsterhood in our Arab societies, particularly Egypt, where marriage is universal, spinsterhood represents one of the problems that young Egyptian females face. Females' roles different from being a wife and mother are overlooked and are inferior to their roles within marriage[14]. Results show that one out of four single females of age 45 or more have severe depression, a six percent points higher than the level among single females of age less than 45

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[13] Some female headed households are married.
[14] Furthermore, their sexual desires could not be fulfilled without marriage.

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(24.2% vs. 18.0%). Results also show that celibacy is not a threat to females' and males' mental health as is divorce or widowhood or repeating marriage[15].

Marital Instability: as apparent, Tables 7 and 8, marital instability or repeating marriage brings about stress on women. Women who married more than once have prevalence of severe depression much higher than that among those who married only once. Repeating marriage among males, Table 8, does pose threats to their mental health as well. The estimated Pearson correlation is statistically significant for females at p-value less than 0.05 and is not statistically significant among Egyptian males.

Violence: available data showthat nearly 30% of currently marries females had been subjected to domestic violence, physical (8.3%) or psychological (23%) during the last three months prior to the survey. This level of violence among female population in Cairo is remarkably higher than the national level (20%) that has been reported in Egypt DHS 2005, (El-Zanaty et al., 2006). Women exposed to violence "often or always", especially from psychological violence, by their husbands greatly suffer from severe depression. The estimated Pearson correlation is statistically significant at p-value less than 0.01.

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[15] Results should be regarded with caution for the number of cases is few.

Table 7: Percent distribution of female sample population according to BDI-I and difficult life situations, UIS 2007

Difficult life situations	Females				
	Non/ minimal	Mild	Moderate	Severe	Total
Experienced any event that caused feeling of depression					
Yes	10.9	21.3	35.5	32.2	676
No	18.8	33.4	35.8	12.0	1321
Current marital status					
Single	19.1	17.7	45.2	18.0	345
Married	17.1	34.5	31.8	16.5	1191
Divorced	17.8	10.0	38.9	33.3	90
Widowed	9.8	28.2	38.6	23.4	376
Spinsterhood	(10.3)	(31.0)	(34.5)	(24.1)	29
Female headed household (yes)	10.7	22.6	39.8	27.0	337
Number of marriages					
Once	16.1	32.0	33.7	18.1	1562
More than one	6.7	28.9	33.3	31.1	90
Violence (Psychological)					
No/little	18.2	37.8	31.9	12.2	913
Sometimes	19.3	26.7	27.8	26.2	187
Often/always	2.3	17.4	37.2	43.0	86
Violence (Physical)					
No/little	18.3	34.0	32.7	15.0	1087
Sometimes	3.7	40.7	11.1	44.4	54
Often/always	4.7	41.9	30.2	23.3	45
Violence (any type)					
No/little	18.6	37.0	31.8	12.5	853
Sometimes	15.7	28.1	33.1	23.0	178
Often/always	10.4	28.6	28.6	32.5	154
Ever had had infant and child mortality					
Yes	5.2	28.4	38.7	27.8	388
No	18.8	31.9	32.7	16.6	1148
Ever had had pregnancy loss					
Yes	10.2	33.8	30.9	25.2	551
No	18.4	30.9	34.7	16.6	1098
Infertile					
Yes	19.1	42.6	24.3	13.9	115
No	15.3	31.0	34.2	19.5	1536
Overall level	16.2	29.3	35.7	18.9	2002

( ) Parentheses are for cases less than 30.

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Table 8: Percent distribution of male sample population according to BDI-I and different life situations, UIS 2007

Difficult life situations	Males				
	Non/ minimal	Mild	Moderate	Severe	Total
Experienced any event that caused feeling of depression					
Yes	4.8	22.2	41.1	32.0	582
No	19.0	27.4	30.1	23.5	1404
Current marital status					
Single	13.8	20.0	38.9	27.3	579
Married	15.6	28.8	30.7	25.0	1318
Divorced	9.1	15.2	18.2	57.6	33
Widowed	16.7	23.3	41.7	18.3	60
Spinsterhood	(25.0)	(5.0)	(40.0)	(30.0)	20
Number of marriages					
Once	15.9	27.8	31.8	24.5	1256
More than one	11.6	32.3	23.2	32.9	155
Ever had had infant and child mortality					
Yes	7.3	30.6	39.1	23.0	248
No	16.0	28.7	28.7	26.6	1065
Infertile					
Yes	38.7	18.7	17.3	25.3	75
No	14.3	29.1	30.7	25.9	1313
Overall level	15.0	25.9	33.2	26.0	1990

( ) Parentheses are for cases less than 30.

Infant and child mortality: results show that infant and child mortality strongly impacts women's mental health. Three out of ten women who ever suffered from infant and child mortality is suffering from severe depression. In contrary, about seventeen percent of those who never had child mortality had severe depression. Males' mental health seemsnot impacted by child mortality.

Pregnancy loss: results reveal that suffering from pregnancy loss impacts women's mental health. As Table 7 shows, about one quarter of women who ever had had pregnancy loss are suffering from severe depression. It is little higher than the percent among those who never suffered from pregnancy loss (25.2% vs. 16.6%). Suffering from pregnancy losses impacts women's mental

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health less than child loss does. The estimated Pearson correlation, however, is statistically insignificant.

Infertility represents one of the most stressful life situations that the married Egyptian couples face. The Egyptian culture strongly value children. Parents feel that their lives have a meaning only when they have children. Furthermore, one or two children are not the prevailing ideal number in Egypt. Inability to bear a child is strong threat to marriage stability. Data of UIS, however,show insignificant correlation among infertility and depression, neither among females nor males.

Morbidity and disability: numerous studies found that self-perception of health significantly contributes to the prediction of mortality. Others, (Verhaak et al., 2005) found that perceived health contributes to the prediction of mental disorder. Results, Table 9, shows that quarter of females who feel pad health suffer from severe depression, and among those who feel that their general health are very good/ excellent about less than one fifth suffer from depression while forty percent feel moderate depression. Females who suffer from two or more diseases are more likely to suffer from severe depression.

Table 9: Percent distribution of sample population according to BDI-I,some health indicators and sex, UIS 2007

Some health indicators	Non/ minimal	Mild	Moderate	Severe	Total
Females					
Self reported health status					
Weak	12.1	26.6	39.1	22.2	627
Good	18.9	33.9	29.1	18.1	756
Very good/excellent	16.9	26.3	40.5	16.3	615
Number of chronic diseases					
No	18.3	30.9	35.0	15.8	903
One	14.2	30.6	37.8	17.4	598
Two or more	14.8	24.8	34.3	26.1	501
Males					
Self reported health status					
Weak	13.8	23.1	38.2	25.0	516
Good	15.5	24.9	38.9	20.7	691
Very good/excellent	15.4	28.2	25.1	31.3	777
Number of chronic diseases					
No	13.9	26.8	34.3	24.9	1367
One	19.5	20.3	33.7	26.6	395
Two or more	13.6	29.8	25.4	31.1	228

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In contrast, males who perceived that their general health is very good/excellent have prevalence of depression higher than those feel that their general health is weak, Table 9. The estimated Pearson correlation is statistically significant for both females and males at p-value less than 0.01. Additionally, those who suffer from two or more chronic disease are more likely to have sever depression. However, the estimated Pearson correlation is statistically significant for both of them at p-value less than 0.01.

Daily physical functions: have been considered a satisfactory indicator for the impact of burden of diseases on quality of life. It has been measured in UIS by 16 items. Adult females have median score about 3.5, i.e., about fifty percent of the female population can perform daily functions without difficulties or with little difficulties. Males have better health than females, as their median is very close to 4 "with no difficulties". We found about 80 percent of the male sample have scores below 23. Then we used score of 23 as a cutoff point. We applied the same cutoff point for females, although about 45 percent of them (much larger than males) have scores above that level. Results show that the prevalence of severe depression is higher among those who suffer from difficulties in performing daily physical activities.

Table 10. Percent distribution of sample population according to BDI-I, the ability to perform the daily physical activities and sex, UIS 2007

Ability to perform daily activities	Non/ minimal	Mild	Moderate	Severe	Total
Females					
With no or little difficulty	18.6	29.1	36.3	15.9	100.0%
With major difficulty or unable to do it	12.8	29.5	34.8	22.9	100.0%
Males					
With no or little difficulty	15.6	27.1	33.7	23.6	100.0%
With major difficulty or unable to do it	11.9	20.2	31.0	36.8	100.0%

Pearson correlation is statistically significant at p-values less than 0.01 for females and males.

Work status and conditions: work for men is a life necessity. Unemployment represents one of the most difficult life situation males encounter during their lifetime. Data provide consistent pattern of increasing level of severe depression among the unemployed males if compared to those who are working. There is no remarkable difference nor noticeable pattern of association between women's participation in the labor market and suffering from depression and its level, Table 11.

Work on the private sector (including informal sector) in Egypt is, on general, more strenuous and demanding with little pay and few amenities (if any), if compared with work in the governmental and public sector. Consistent with what we expected, the governmental sector is the favorite employer for females in Egypt, it seems that it provides work conditions less stressful than the private sector provides from them.

Being in good employment is protective of health. Results provide strong association between work conditions and level of depression. Employees who work in poor quality jobs often work in conditions that are harmful to health. Many are trapped in cycle of low-paid, poor quality work and unstable/unemployment. Insecure and poor quality jobs are also associated with increased risks of poor physical and mental health.Job instability and the resultant "social insecurity" of having continued unemployment is extremely harsh socioeconomic environment that may contribute significantly in poor mental health. Securing jobs in many developing countries, however, is complicated by the fact that many jobs are seasonal or informal. Results demonstrate that seasonality of the job is associated with noticeable moderate and severe depression among the employees if compared with permanent jobs. Furthermore, individuals who feel unhappy with their work are more likely to suffer from severe depression. This is true for both females and males.

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Table 11: Percent distribution of sample population according to BDI-I , work conditions and sex, UIS 2007

Work conditions	Non/ Minimal	Mild	Moderate	Severe	Total
Females					
Working at time of the survey¥					
Yes	22.1	22.5	36.3	19.1	471
No	14.4	31.4	35.4	18.8	1532
Sector of employment					
Government .	24.5	28.6	31.1	15.8	196
Private	18.1	19.2	40.4	22.3	260
Others	27.8	8.3	55.6	8.3	36
Occupation					
Legislator, administrator & managerial	35.5	32.3	22.6	9.7	(31)
Professional	24.9	25.4	29.6	20.1	189
Technician & Professional assistant	22.1	20.8	44.2	13.0	77
Unskilled	9.6	20.0	53.9	16.5	115
Other	25.3	13.3	33.3	28.0	75
Satisfaction in work					
Happy	27.5	24.6	33.9	14.0	171
Neutral	21.9	21.5	38.3	18.4	256
Unhappy	0.0	20.0	32.5	47.5	40
Males					
Working at time of the survey¥					
Yes	15.3	28.0	32.4	24.3	1421
No	14.1	20.4	35.2	30.3	568
Sector of employment					
Government	19.0	28.0	33.2	19.8	389
Private	13.9	28.8	32.2	25.1	949
Others	11.8	19.3	37.8	31.1	119
Occupation					
Legislator, administrator & managerial	26.3	25.8	24.7	23.2	195
Professional	23.4	35.6	25.9	15.1	236
Technician & Professional assistant	19.5	21.2	31.9	27.4	113
Unskilled	10.8	20.3	41.3	27.6	463
Other	7.1	31.1	38.3	23.5	196
Stability of work					
Permanent	27.6	27.6	32.4	23.6	1237
Seasonal	11.6	11.6	42.9	39.3	111
Temporary	49.5	49.5	28.7	13.9	101
Satisfaction in work					
Happy	23.2	30.2	30.4	16.2	629
Neutral	9.6	28.4	32.9	29.1	705
Unhappy	1.2	9.4	44.7	44.2	85

¥ Reference period for work status is the past 6 months prior the interview.

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Education: It is quite important to notice that severity of level of depression declines with rising level of education among the female population. In contrast, there is no clear pattern of association between males' level of educational attainment and both the mild and moderate levels of depression, Table 12.

Table 12: Percent distribution of sample population according to BDI-I, education and sex, UIS 2007

Level of education	Non/ Minimal	Mild	Moderate	Severe	Total
Females					
Didn't go to school	9.7	26.2	40.6	23.4	320
Primary	8.5	22.8	45.9	22.8	355
Preparatory	9.6	28.2	43.5	18.6	177
Secondary	15.4	37.6	28.1	18.9	487
University or above	25.3	28.6	31.5	14.7	661
Males					
Didn't go to school	3.6	32.4	38.8	25.2	138
Primary	6.2	28.7	43.3	21.8	390
Preparatory	7.6	24.4	43.6	24.4	173
Secondary	14.4	24.7	32.0	28.9	478
University or above	23.0	24.4	25.9	26.7	810

Area's level of physical deprivation: Communities of Cairo are classified into three main categories with regard to the level of Physical deprivation index, namely; Highly deprived areas (low), moderately deprived areas (medium), and low deprived areas (high) (Khadr et al. 2007).Results show no consistent association between the level of communities' physical deprivation and prevalence of depression among its residence.This is true for both females and males, Table 13. And the estimated Pearson correlation is statistically insignificant for both females and males.

Table 13: Percent distribution of sample population according to BDI-I, areas' level of physical deprivation index and sex, UIS 2007

BDI-I	Females			Males		
	Level of Area			Level of Area		
	Low	Medium	High	Low	Medium	High
Non/ minimal	14.8	11.2	26.2	13.6	8.0	27.5
Mild	30.5	29.1	27.3	29.4	25.1	21.0
Moderate	33.7	43.6	27.0	32.3	39.4	25.6
Severe	20.9	16.1	19.5	24.7	27.5	26.0
Total (N)	822	714	466	823	690	477
(%)	100	100	100	100	100	100

Logistic model of the risk of depression among adult females and males residents of Cairo

The aim of this section is to provide robust statistical assessment of the role of the factors that are hypothesized to affect the risk of moderate / severe depression and to estimate the magnitude in which each factor exerts its influence on the likelihood of suffering such levels of depression among adult females and males, respectively. The factors include; feeling of general health, experiencing events that caused sadness during the three months preceding the survey, ability to carry out the daily physical activities, number of reported diseases, age, marital status, level of education, work conditions, level of wealth and the neighborhood's level of physical deprivation. We examined several models: for all females and all males (of age 20 +) to test and to estimate the influence of divorce, widowhood, and spinsterhood along with the other factors, on the probability of suffering from depression, Tables 14 and 15, respectively.We estimated models for ever-married women and ever-married men who have marriage duration two or more years to examine the effect of specific sad events including, pregnancy loss, infant andchild mortality, orinfertility.Lastly, we estimated logistic models for currently married women, as information on violence was made available only for the currently married women, to examine the impact of violence on the likelihood of suffering from depression.

For females, we tried three models. In Model I we examined the impact of the variables; feeling of general health, experiencing events that caused sadness during the three months preceding the survey, ability to carry out the daily physical activities, number of reported diseases, age, marital status, work conditions, level of wealth and the neighborhood's level of physical deprivation. In Model I, the variables;experiencing events that caused sadness during the three months preceding the survey, ability to carry out the daily physical activities, age, marital status, and level of wealth are statistically significant with p-value less than 0.01and assume the expected signs except age. Contrary to our assumption, the model reveals that the likelihood of suffering from depression declines with rising age. Feeling of general health, number of diseases, work conditions, and neighborhood's level of physical deprivationarestatistically insignificant. When we added the variable level of education, in Model II, level of wealth turned out to be insignificant whiles level of education is statistically significant at p-value less than 0.01.This in agreement with Patel and Kleinman (2003) who find that low level of education not poverty has the most consistent association with mental

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disorders. Thus, in Model III, we examined the influence of all the variables but level of wealth. As apparent from Model III, the variables; experiencing events that caused sadness during the three months preceding the survey, ability to carry out the daily physical activities, age, marital status, and level of education are statistically significant with p-value less than 0.01and assume the expected signs except age. Furthermore, the two variables; feeling of general health and work conditions turned out to be statistically significant at p-value less than 0.05.As Model III reveals,females who did not passthrough sad events during the last three months prior to the survey are less likely to suffer fromModerate/severe depression than other women. Females who feel that their general health is weak or fair compared to their peers are more likely to suffering from depression. Females who find difficulty to carry out their daily physical functions are more likely to suffer from depression. It is apparent that marriage secure more favorable environment for mental health than divorce or widowhood or spinsterhood or being single. Results provide evidence that rising level of education significantly lower the probability of suffering from depression. Age has, contrary to our assumption, negative impact on depression. This is in agreement with Feinson (1985) who finds that the impact of age is artifactual. As the majority of women in Egypt do not participate in the labor market, participating in labor force do not provide positive environment for good mental health.

For ever married women, infertility, pregnancy loss or infant and child mortality are statistically insignificant. Age, education, marital status, and experiencing difficult life events are statistically significant. Among currently married women, results provide evidence that intimate partner violence strongly impact their mental health[16].

Similarly, for adult males we examined several models to estimate the influence of the hypothesized variables on the likelihood of suffering moderate /severe depression, Table 15. As results reveal, males' mental health is significantly influenced by experiencing sad events as well as by marital disruption (caused either by divorce or widowhood) and celibacy. Rising level of education beyond basic education significantly reduces the likelihood of suffering from depression.

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[16] Tables available upon request.

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Table 14:Estimated odds ratios of the Logistic model of the risk of depression among adult females, UIS 2007

Explanatory variables	Adult females		
	Model I Odds ratios	Model II Odds ratios	Model III Odds ratios
Feeling of general health (weak/fair)	1.237	1.259	1.267*
Sad events (No)	0.487**	0.496**	0.489**
Daily activities	1.433**	1.478**	1.423**
Number of diseases			
Zero	0.910	0.906	0.937
One	0.947	0.952	0.954
Age (45 +)	0.636**	0.685**	0.640**
Marital status			
Single	0.818	0.676	0.866
Currently married	0.685**	0.663**	0.696**
Education			
Basic	0.803	-----	0.745*
High school	0.727*		0.638**
University or more	0.530**		0.422**
Work conditions			
Do not work	0.468	0.500	0.425*
Satisfied in her work	0.551	0.538	0.499
Wealth			
Poorer	0.865	0.819	
Middle	0.836	0.722*	-----
Rich	0.805	0.635**	
Richest	0.620	0.434**	
Area's level of physical deprivation			
Medium	1.324	1.247	1.250
High	1.629*	1.487	1.943
Constant	7.919**	6.764**	7.733**
-2 Log likelihood	2475.016	2491.041	2559.137

Reference groups; feeling of general health (good, very good, or excellent), sad events (yes), number of diseases (2+), age (20-40), marital status (divorced, widowed, and spinster), education (illiterate), work conditions (not satisfied in her work), wealth (poorest), and area's level of physical deprivation (low).

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Furthermore, results show, similar to females, that depression declines with age. Contrary to females, males' mental health is influenced by work conditions. Workers who feel unsatisfied in their jobs are more likely to suffer from depression than those feel satisfaction in their work and than those who do not work at the time of the survey. Neither wealth nor neighborhood level of physical deprivation is statistically significant.

Table 15:Estimated odds ratios of the Logistic model of the risk of depression among adult males, UIS 2007

Explanatory variables	Adult males		
	Model I Odds ratios	Model II Odds ratios	Model III Odds ratios
Feeling of general health (weak/fair)	1.261	1.257	1.248
Sad events (yes)	2.080**	2.048**	2.107**
Daily activities	1.730**	1.785*	1.700**
Number of diseases			
Zero	0.995	0.993	1.013
One	1.042	1.014	1.093
Age (45 +)	0.663	0.699**	0.624**
Marital status			
Single	0.727	0.730	0.668
Currently married	0.668	0.683	0.618*
Education			
Basic	0.870	-----	0.882
High school	0.762		0.730*
University or more	0.753		0.620**
Work conditions			
Do not work	0.533**	0.529	0.553**
Satisfied in his work	0.483**	0.483	0.484**
Wealth			
Poorer	1.000	0.931	
Middle	0.988	0.869	-----
Rich	0.955	0.816	
Richest	0.614	0.500**	
Area's level of physical deprivation			
Medium	1.053	1.050	0.971
High	1.189	1.179	1.041

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Constant	4.394**	3.961**	4.570**
-2 Log likelihood	1857.015	2454.736	2517.792

Reference groups; feeling of general health (good, very good, or excellent), sad events (no), number of diseases (2+), age (20-40), marital status (divorced, widowed, and spinster), education (illiterate), work conditions (not satisfied in his work), wealth (poorest), and area's level of physical deprivation (low).

All other sad events that we examined (pregnancy loss, infant and child mortality, infertility) similar to ever married females, are not statistically significant.

In sum, level of depression significantly declines with education, marriage, and age. Experiencing sad events and other difficult life situations such as; spinsterhood, disruption of the family either by divorce or widowhood, and difficulty of carrying out the daily physical functions are strong factors in suffering from depression. Neither poverty, living in poor neighborhood is risk factor for suffering from depression. Males, contrary to females, are significantly impacted by their work conditions.

Conclusion

Close to 20% of the females and close to 30% of males have severe levels of depression. The estimated level of severe depression among the study population is quite high. Cairo, Egypt's Capital, has levels of overcrowding among the greatest in the world. And, its residents suffer from high level of air and hearing, and sight pollution. Considerable fraction of its population lives in slums and suffers from insecurity. Further, its population suffers from harsh economic inequity. The social, economic, health environment in Cairo causes stresses and frustrations among its residents. As mental health issue is neither on the policy maker's agenda nor on the researchers', we have limited information that would enable us to assess levels in other areas of Egypt. We cannot claim that Cairo's data are generalizable.

Males have prevalence of severe depression higher than that prevailing among females. The difference between females and males is statistically significant at p-value less than 0.05. In contrast, the percent of females who have non/minimal level of depression is seven times higher than the percent of males

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Level of depression among females significantly declines with education, age. Experiencing sad events and other difficult life situation, such as spinsterhood, disruption of the family either by divorce or widowhood, are strong factors inducing depression.Other events; pregnancy loss, childmortality, and infertility are not statistically significant.Exposure to violence by the husbandis statistically significant. Similarly, males' mental health is significantly influenced by experiencing sad events as well as by marital disruption (caused either by divorce or widowhood) and celibacy. Further, males' mental health declines with rising level of education and with rising age.Contrary to females, males' mental health is influenced by work conditions.

We recommend that more research and studies on mental health problems in Egypt are urgently needed.Several important questions on the national level necessitate to be answered; neither the common mental disorders (CMD), their prevalence, the area, gender, cultural, demographic and socio-economic correlates of the burden, nor the economic impacts on individuals, families and communities are known.

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