Prevalence of Mental Disorders among adolescents of secondary schools in Diwaniya governorate

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الخلاصة

أجريت دراسة مقطعية ، على 1048 تلميذا مراهقا بعمر 12-18 سنة (554 من الذكور، والإناث494)،في محافظة الديوانية،العراق خلال الفترة من الأول من أيار(مايو) إلى الثلاثين من تشرين الثاني(نوفمبر) 02010 وقد تم اختيار اثنتي عشرة من المدارس المتوسطة والثانوية في المحافظة ، وكانت على التوالي كإعداد دراسة (6 من مدينة الديوانية كمناطق حضرية ، 3 من الشامية ؛ و 3 من غماس كمناطق ريفية). واعتبرت جميع التلاميذ المختارين في استبيان التقارير الذاتية والمقابلة وجها لوجه ،من المجموع الكلي (1048) المقررة للمراهقين ، 183 كانوا يعانون من الاضطرابات النفسية الإيجابية ، مما يعني نسبة انتشار بمعدل 17.46 ٪. من بين التلاميذ المفحوصين ،(79) منهم كانوا مع تشخيص اضطرابات القلق والتي تمثل نحو 7.5 ٪ من مجموع المراهقين تحت الدراسة ، (41) مع اضطرابات الاكتئاب التي تمثل نحو 3.91 ٪ ، (36) مع تشخيص الاضطرابات السلوكية التي تمثل نحو 3.43 ٪ ، و (27) مع اضطراب عجز انتباه /شدة النشاط التي تمثل نحو 2.57 ٪ من مجموع المراهقين تحت الدراسة.

Abstract

- A cross-sectional study was conducted , on 1048 adolescent pupils(554 male &494 female) , in Al-Diwaniya Governorate , Iraq.

-Twelve intermediate and secondary schools were chosen consecutively as a study setting (6 from Diwaniya city as urban ; 3 from Shamiya &3 from Gammas as rural).

-All chosen pupils (aged 12–18years) were considered in the self reporting questionnaire & face to face interview during the period from the 1st of May to the 30th of November 2010.

-Out of 1048 adolescents assessed, 183 have positive mental disorders, giving a point prevalence of 17.46% .

-Among the examined pupils are (79) diagnosed with anxiety disorders which represent about 7.5% of the total adolescents under study, (41) with a depressive disorders which represent about 3.91% , (36) diagnosed with behavioral disorders which represent about 3.43% , and (27) with ADHD which represent about 2.57% of the total adolescents under study.

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Introduction

Adolescence is a critical period for mental, social, and emotional wellbeing and development. During adolescence, the brain undergoes significant developmental changes, establishing neural pathways and behavior patterns that will last into adulthood (1).

Like adults, adolescents can have mental health disorders that interfere with the way they think, feel, and act. When untreated, mental health disorders can lead to school failure, family conflicts, drug abuse, violence, and even suicide. Untreated mental health disorders can be very costly to families, communities, and the health care system(2)

Mental disorders are among the most common health problems all over the world. Global burden of disease estimates placed mental illness at the top three causes of years lost due to disability (WHO, 2004). They may replace infectious and communicable diseases as the leading cause for morbidity and mortality in future.(3).

An estimated four million Iraqis—nearly 15% of the total population have fled their homes, 50% of whom are children. Approximately 1.9 million people have sought refuge inside Iraq, and 2.2 million have crossed the border into neighboring countries (4).

Studies investigating the prevalence of mental disorders in Iraq reported a wide range of percentages from 14% to 26% in adolescent population (5).

Knowing the magnitude of mental disorders in the community is vital in order to develop appropriate mental health policies and to plan for service building and development(6).

Subjects and Methods

Selection and sampling:

The study covered a representative sample of the population, an intermediate & secondary school pupils, aged between 12 and 18 years.

A random sample of 12 schools was selected from total 208 schools. An attempt was made to interview all adolescent pupils aged between 12 and 18 years present in these 12 schools.

The study was set in one urban and two rural communities in Diwaniya Governorate. We randomly selected twelve schools , six in

Diwaniya, the largest city and commercial capital of the Governorate , and six in the rural areas (3 in Gammas &3 in Shamiya) ,involving both male &female schools.

The sample comprised all adolescent pupils aged 12–18years study in the selected schools. In the rural areas, we identified 436 eligible adolescents from intermediate& secondary schools selected there. In the urban areas, 612 adolescents identified from similar sources.

Questionnaire

Self Reporting Questionnaire (SRQ 20):

The shorter version of the Self-Reporting Questionnaire (SRQ 20) was used as a practical screening research tool for the detection of psychiatric morbidity across adolescent pupils (12-18 years old).

The purpose was to use it as screening instrument to identify mental disorders in a community. For each of the settings in which the SRQ 20 is used, there is need to develop the cut-off point based on local studies ,which was 7. This cut-off point can be used to categorize "potential psychiatric cases" and more generally persons with significant psychological distress.

Composite International Diagnostic Interview (CIDI):

The CIDI (version 3.0) was the version considered for this survey. The CIDI is a comprehensive, fully-structured interview designed to be used by trained interviewers for the assessment of mental disorders according to the definitions and criteria of ICD-10 and DSM IV. It is intended for use in epidemiological and cross-cultural studies as well as for clinical and research purposes (7).

Ethical agreement:

Prior to data collection, official written permission was obtained from the ethical and scientific committee of the Directorate of Education (DoE) of Diwaniya .All participants joined voluntarily after giving verbal informed consent and were free to withdraw from the study at any point.

Pilot Survey:

The pilot survey was implemented in the field between April and May 2010. The pilot survey covered the whole governorate, involving one

school in each town under study with about 150-200 pupils in each school.

Implementation of the study:

Sample design: The governorate was divided into two domains:

1st: Metropolitan or the governorate capital, as urban.

2nd: Shamiya &Gammas, as rural areas.

A sample of 1084 adolescents completed SRQ 20 and the same were selected for the CIDI interview. 1048 out of the 1084 agreed to be interviewed and all of them CIDI interviews were completed.

Data Management

Data entry and preparation for statistical processing was initiated during May 2011, and data preparation for statistical processing also went through several stages and the final step was completed in June 2011. A concentrated work for ten days to complete the final preparation of data for processing.

Statistical Methods:

Data entry and statistical analysis was carried out using the SPSS package version 12. Chi-square was used to find statistical association of difference. For the presence or absence of significance, a p-value < 0.05 was considered to be significant throughout the study analysis.

Results

In the current study (17.46%) of the adolescent pupils surveyed had mental disorders (183 adolescents). The prevalence in boys was more as compared to girls (17.88% vs. 17.01%, p =0.003) , and also more in Urban adolescents compared with rural (18.2% vs. 16.6%).

According to father occupation, the siblings of retired fathers were have the higher percent of mental disorders (25.8%) .

Also we found that monthly income of the family has an important role in the prevalence of mental disorders among adolescent pupils being higher in those with >500,000-1000,000 ID monthly income (22.1%) , and the least percent was among those with < 250000 ID monthly.

Prevalence among adolescents whose mothers were highly educated (13 years & more) was (7.7%) .

According to age ,the prevalence in individuals with 17 years old was

the highest 37.7% , while the least being at age 15 years (12%) only, (Table 6).

The most common disorders were anxiety disorders (*n* 79, 43.1%), depressive disorders (*n*=41, 22.4%), behavioral disorders (*n*=36, 19.7%) and attention-deficit hyperactive disorders (ADHD; *n*=27, 14.7%).

Table (1) :The prevalence of mental disorders with some demographic characters:

Character		Total	Normal	Percent	+ve Mencenttal disorder	Percent	Significant x&P-value
Age	12	237	195	82.2	42	17.8	X ²= 37.006 P=0.000
	13	127	109	85.8	18	14.2	
	14	134	115	85.8	19	14.2	
	15	290	261	90	29	12	
	16	115	83	72.1	32	27.9	
	17	101	63	62.3	38	37.7	
	18	44	39	88.6	5	11.4	
Gender	Male	554	455	82.12	99	17.88	X ²= 20.064 P=0.003
	Female	494	410	82.99	84	17.01	
Father occupation	Unemployed	399	334	83.7	65	16.3	X ²= 6.836 P:0.145
	Worker or farmer	216	175	81	41	19	
	Governmental	134	113	84.3	21	15.7	
	Military	194	165	85	29	15	
	Retired	105	78	74.2	27	25.8	
Family income(monthly)	<250000 ID	75	68	90.6	7	9.4	X ²= 10.025 P=0.040
	>250000-500000ID	238	206	86.5	32	13.5	
	>500000-1000000ID	236	184	77.9	52	22.1	
	>1000000-3000000ID	479	390	81.4	89	18.6	
	>3000000ID	20	17	85	3	15	
Mother Education	Illiterate	386	311	80.5	75	19.5	X ²= 25.891 P=0.000 001
	1-6 years	268	205	76.4	63	23.6	
	7-12 years	132	107	81	25	19	
	13- and more	262	242	92.3	20	7.7	
Residence	Urban	612	501	81,8	111	18.2	X ²= 17.942 P= 0.001
	Rural	436	364	83.4	72	16.6	

As shown in table (2) below, of the 79 individuals diagnosed with anxiety disorders which represent about 7.5% of the total adolescents under study, (19) had social phobia , (17) had panic disorder with

agoraphobia, (19)had compulsive disorder, (17) also had a post-traumatic stress disorder, and (7) had generalized anxiety disorder .

Of the (41) individuals with a depressive disorder, (22) had major depressive disorder and (19) had a 'depressive disorder not otherwise specified.

Of the (36) individuals diagnosed with behavioral disorders, (12) had conduct disorder, (6) had oppositional defiant disorder and (18) had 'disruptive behavior disorder, not otherwise specified. Of the (27) individuals with ADHD, (17) had the combined type and (10) had the predominantly inattentive type.

Table (2):The distribution of mental disorders among adolescents:

Diagnosis	Frequency	Percent
1.ANXIETY DISORDERS	79	43.16
Social phobia	19	10.4
Obsessive-compulsive	19	10.4
Panic disorder& agoraphobia	17	9.2
PTSD	17	9.2
Generalized anxiety	7	3.8
2.DEPRESSIVE DISORDERS	41	22.4
Major depression	22	12.02
Depressive disorders not specified	19	10.4
3.BEHAVIORAL DISORDERS	36	19.67
Disruptive behavior	18	9.8
Conduct disorder	12	6.5
Oppositional defiant	6	3.2
4.ADHD	27	14.75
Combined ADHD	17	9.2
Inattentive ADHD	10	5.5

Among those with any mental disorder, 22.24% expressed suicidal ideas.

-According to age the prevalence was higher among respondents aged 16 years 37%, and the lowest was at age 12years, 4%.

-According to gender of respondents, it was higher among girls, 67% of the total and the remainder 33% were boys.

-According to residence, most of respondents who suffer from suicidal ideas were live in urban areas 65% ,and those who live in rural areas only 35% of the total having suicide ideas .
-According to the level of education of respondents mothers , the highest prevalence of suicide ideas were among those whose mothers were illiterate , which was 45% , and the lowest was among respondents with their mothers schooling > 13 years which was only 9%.
-According to father occupation, it is found mostly in adolescents whose fathers working in military 37% , & the lowest was in those whose fathers working in governmental which was only 7.1%.
-According to monthly family income, the highest was among those with < 250,000 ID monthly, which was 45%, & the lowest was among adolescents with monthly family income> 500,000-1000 ,000 ID monthly which was 4.9% only .

Discussion

In the present study , the prevalence of lifetime mental disorders among adolescent pupils was 17.46% , while the prevalence of these disorders among similar group of population in a study carried out in Oslo was 47.7% (8). Also, the rate in the National Co-morbidity Study in the USA was 52% (9).

Although the two study samples were taken from the general population, they used the Composite International Diagnostic Interview and DSM-III-R criteria. This difference may be based on the instrument and method used in their studies , and might be due to good co-operation of participants and no social stigma in their communities .

Data from a cross-sectional study in the city of Mosul, in the northern part of Iraq, revealed that mental disorders were found among 37.4% of children and adolescent patients attending primary health care (PHC) facilities (10), which is much higher (about double) than what we find ,this might be due to difference in the sample they used to study the prevalence of mental disorders, which was involve both adolescents & children , in addition to the fact that they were come to the health centers seeking for treatment which might increase the chance of being sick more than our sample.

The highest estimated prevalence of mental disorders in the current study , was found among respondents with the lowest level of maternal educational attainment. This is in accordance with results of six of the seven surveys of the cross national study (Canada, USA, Brazil, Mexico, Germany, Netherlands, and Turkey) , Germany was the exception (with an insignificant relationship) (11).

The study's findings of higher rates of mental disorders among respondents with low maternal educational level and among those with unemployed fathers also reported by Naderi ,2002(12).

Conclusions

*The pattern of prevalence of mental disorders in Iraqi adolescents is similar to the other Arab countries and other neighbor countries like Iran, but it seems that the prevalence of these disorders in our study may be slightly higher than these countries.

*A high prevalence of post-traumatic stress disorder raised questions about traumatic events affecting this population of adolescents living in urban areas under precarious conditions.

*Low maternal educational level along with retired and unemployed fathers had more types of psychiatric disorders, mandating a necessity to plan programs in prevention and treatment of these disorders.

Recommendations

*Periodic mental health surveys in adolescents are proposed to identify pupils in need of counseling or treatment to improve their coping skills and problem-solving abilities.

*Improved provision of accessibility to modern school health care, having a good referral system and free provision of allopathic services by the government to the Iraqi population

*Public education on mental health, involving families and communities in decision-making on policies, programs and services.

References

1.National Research Council and Institute of Medicine. 2007. *Challenges in Adolescent Health Care Workshop Report*, The National Academies Press, p. 21.

2.Beatty, A. &Chalk, R. 2007. A Study of Interactions: Emerging Issues in the Science of Adolescence. Program Committee for a Workshop on the Synthesis of Research on Adolescent Health and Development. 3.Noorbala, A. A., Mohammad, K., Yasamy, M.T., *et al* (2004) A View of Mental Health in Iran. Tehran: Iranian Red Crescent Society Publications

4.Human Right Watch,2006. The New Iraq? Torture and Ill Treatment of Detainees in Iraqi Custody. New York: HRW. Available at www.hrw.org/ reports/iraq0105/ (accessed 03/07/2007).

5.Razoki AH, Taha IK, Taib NI, Sadik S,& Al Gasseer N.,2006. Mental health of Iraqi children. Lancet; 368:838–839.

6. Iraq Mental Health Survey 2006/7 Report.

7.World Health Organization. 2004. ICD-10: International statistical classification of diseases and related health problems. 10th rev 2nd ed. Geneva: WHO. 1208 p.

8.Labnan CJ, Gernaat HB, Komproe IH, Schreuders BA, &De Jong JTVM,2004. Impact of a long asylum procedure on the prevalence of psychiatric disorders in Iraqi asylum seekers in the Netherlands. *J Nerv Ment Dis* :843-851.

9.American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, (DSM-IV-TR, revised text). 2nd edition. Washington DC: American Psychiatric Association; 2000:54-86.

10. Al-Jawadi, A. A. & Abdul-Rhman, S. (2007). Prevalence of childhood and early adolescence mental disorders among children attending primary health care centers in Mosul, Iraq: a cross-sectional study. BMC Public Health. Open access article. Available from http://www.biomedcentral.com/1471-2458/7/274

11.Report of the Surgeon General's Conference on Children's Mental Health: A National Action Agenda. Rockville, MD: US Department of Health and Human Services ,2001.

12.Naderi B.,2002. Mental health and psychosocial demands of high school adolescents in Zanjan. Research project(un published).Zanjan University of Medical Sciences.

13.AlObaidi, A. K., AlYaseen, N. ,AlAni, W. (2009). Iraqi Association for Child Mental Health; Vision to promote child and adolescent

mental health in Iraq. *IACAPAP Bulletin*: February 2009, issue xxii:, 4-5.

14. Awqati, A. N., Ali, M. M., Al-Ward, J. N., Majed, 36A. F., Salman, K., Al-Alak, M. (2009). Causes and differentials of childhood mortality in Iraq. MCPediatrics.
15. Burnham G, Lafta R, Doocy S et al,2006. Mortality after the 2003 invasion of Iraq: a cross-sectional cluster sample survey. Lancet; 368:1421-8.
16. Christie KA. Burke JDJ. Regier DA, et al,1988. Epidemiologic evidence for early onset of mental disorders and higher risk of drug-abuse in young-adults. *Am J Psychiatry*. 145:971–975.
17. Daud A, Skoglund E, Rydelius P-A,2005: Children in families of torture victims: Transgenerational transmission of parents' traumatic experiences to their children. *International Journal of Social Welfare* , 14:23-32. 35.
18. De Silva MJ, McKenzie K, Harpham T,Huttly SR,2005. Social capital and mental illness: a systematic review. J Epidemiol Community Health ; 59: 619-627.
19. Elster AB& Marcell AV,2003. Health care of adolescent males: overview, rationale, and recommendations. *Adolesc Med* ; 14: 525 – 40.
20. Goldstein S& Brooks RB,2006: Handbook of Resilience in Childhood. New York: Springer Science and Business Media, Inc.