

Original Article

Behavioral and Emotional Problems among Adolescent Students

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Abstract

Background & Objective(s): Emotional and behavioral problems among adolescents represent a considerable public health problem in developing countries. These problems are considered a source of stress for adolescents as well as their families, schools and community. Emotional health and well-being of young people have implications on their self-esteem, behavior, school attendance, educational achievement, social cohesion and future health and life chances. To estimate the prevalence of emotional and behavioral problems and to determine the association between these problems and socio-demographic variables among adolescent students in Assiut district.

Methods: A cross sectional study was conducted in randomly selected secondary schools (2 urban and 2 rural) in Assiut district, and 400 students were included in the study. Self-administered questionnaires were used to collect study data which included: personal data, socioeconomic status scale and self-reported version of Strengths and Difficulties Questionnaire (SDQ) (Arabic version) which included 25 items divided into 5 subscales (conduct problems, hyperactivity, emotional symptoms, peer problems and prosocial behavior)

Results: About 45 % of adolescents were identified with emotional and/or behavioral problems using the SDQ. These problems included conduct, emotional, peer problems, prosocial and hyperactivity difficulties (36.0%, 42.3%, 5.0%, 28.5% and 24.8% respectively). Emotional difficulties were significantly higher (p value= 0.02) among females (40.4%), while conduct difficulties were more prevalent among males (47.5%). The majority of students with emotional/ behavioral problems (90%) reported high negative impact of such problems that was significantly associated with female sex, rural residents, students of low socioeconomic level and whose mothers were housewives.

Conclusion: Screening secondary school adolescents in Assiut district revealed high prevalence of emotional and behavioral problems that was associated with perceived enormous negative impact. Further studies and intervention programs are greatly needed to address adolescent mental health needs.

Keywords: Emotional and behavioral problems, SDQ, school adolescents.

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INTRODUCTION

Adolescence is a transitional period between childhood and adulthood, from ages 10 to 19 years. In Egypt, 9.4% of population are aged 10-14 years and another 9.7% are aged 15-19 years.⁽¹⁻²⁾ During this period, adolescents experience major physical, psychological, social interactions and relationships changes.⁽¹⁻³⁾ Psychiatric epidemiology in adolescent is a relatively new research field and has become useful in the last three decades. However, epidemiological data on adolescent mental health problems in developing and Arab countries are limited.⁽⁴⁻⁵⁾ Adolescents' mental health

problems are wide range of emotional and behavioral problems that range from minor difficulties to more severe ones that fulfill diagnostic criteria of a psychiatric classification.⁽³⁾ They include depression, anxiety, adjustment, conduct, eating disorders and others. These disorders are sources of stress for adolescents as well as their families, school, community, and larger society in the short and long term. Adolescents with mental disorders face major challenges with stigma, isolation and discrimination, lack of access to health care and educational facilities as well as violation of their fundamental human rights.⁽⁵⁻⁶⁾ Moreover, emotional and behavioral problems have serious negative consequences

for adolescents' academic achievement and social development. These problems could be accompanied with chronic health problems or could intensify the existing medical problems, substance abuse and suicidal behaviors.⁽⁶⁻⁸⁾

Worldwide, the prevalence of mental health disorders among children and adolescents is estimated to be about 10-20%. The Global Burden of Disease (GBD) project reported that mental health and behavioral problems account for 23-24% of Disability-Adjusted Life Years (DALYs) among those aged 10-19 years.⁽⁸⁻⁹⁾ In developed countries emotional and behavioral disorders represents around 12% of the overall load of morbidity.⁽⁶⁾ In Saudi Arabia, the overall prevalence of psychiatric disorders was 48% (41% in males and 51% in females).⁽⁶⁾

In Egypt, a cross sectional study conducted among adolescent students reported that 18.5% of students had behavioral problems with the highest proportion had emotional problems (19.1%) followed by conduct problems (14.3%), hyperactivity problems (13.4%) and lastly peer relations problems (7.6%). Abnormal impact score of these problems was reported among 13.7% of studied students.⁽⁷⁾ Also, in a study conducted in Assiut governorate, 19.5% of adolescent students were positive for conduct disorders.⁽¹¹⁾

Mental well-being is essential for better quality of life. Happy and confident adolescents are most likely to grow into happy and confident adults, who in turn will contribute to the health and well-being of nations. Emotional health and well-being among young people have implications for their self-esteem, behavior, school attendance, educational achievement, social cohesion, future health and life chances.⁽¹⁰⁾

Emotional and behavioral problems among adolescents represent a considerable public health problem in developing countries. Despite the high prevalence and the enormous burden of such problems, there is scarcity of epidemiological studies investigating the problem in Egypt.⁽⁷⁾

The aim of current study was to estimate the prevalence of emotional and behavioral problems and to determine the association between these problems and socio-demographic variables among adolescent students in Assiut district.

METHODS

Study setting and design: Across-sectional study was used. The study was conducted in general public secondary schools in both urban and rural areas, Assiut district. Data were collected two days weekly during the academic year 2016/2017.

Sampling technique: Based on a prevalence of behavioral problems among Egyptian adolescents of 18.5% in 2015⁽⁷⁾ the sample size was calculated using Epi/Info version 7 with 97% confidence level. The minimum required sample was found to be 276 students. A total of 400 students were included in the present study. A

stratified random sample was used to select schools from urban and rural areas. A total of two schools were chosen from rural areas and another two schools were chosen to represent urban areas. The sample size from each school was proportionate to the number of students in each school. Students were randomly selected by systematic random sampling from first secondary grade of selected schools. Their ages ranged from 15-17 years with a mean of 16.0 ± 0.3 . Students who were known to have any psychiatric problems and/or chronic diseases were excluded from the study.

Data collection methods and tools : A self-administered questionnaire and the self-reported version of Strengths and Difficulties Questionnaire (SDQ) were used to collect study data which included:

Tool (1): Personal characteristics of the students such as: name, age, sex, name of school, residence. Socioeconomic Status Scale designed by Abd-El-Tawab (2012)⁽¹²⁾ was used to assess the socioeconomic status of the family. It consists of 4 dimensions, parents' level of education, parents' occupation, total family monthly income, and life style of the family. Each item was given a score of one. According to the total score, the socioeconomic level was divided into three categories: high from 85-100%, moderate from 60-84% and low less than 60%.

Tool (2): The self-reported version of the Strengths and Difficulties Questionnaire (SDQ) Arabic version which was developed by Dr. Robert Goodman⁽¹³⁻¹⁴⁾ was used. The SDQ is a brief behavioral screening questionnaire that enquires about 25 attributes, some positive and others negative. The 25 items are divided between 5 scales of 5 items each, generating scores for conduct problems, hyperactivity, emotional symptoms, peer problems and prosocial behavior. The self-reported version of the SDQ is for self-completion by young people.⁽¹³⁾ The score for each of the five scales is generated by summing the scores for the five items that make up that scale. The measure is rated on a three-point Likert scale: 0 = "not true", 1 = "somewhat true" and 2 = "certainly true", thereby generating a scale score ranging from 0 to 10. Five items were negative so the score was reversed, not true = 2 and certainly true = 0. The scores for hyperactivity, emotional symptoms, conduct problems and peer problems can be summed to generate a total difficulties score ranging from 0-40 as 0-15 is normal, 16-19 is borderline and 20-40 is abnormal score. The prosocial score was not incorporated into the total difficulties score, since absence of prosocial behavior is conceptually different from the presence of psychological difficulties.⁽¹⁴⁻¹⁵⁾

The SDQ includes an impact supplement that enquires about the impact of the psychological attributes of the adolescent and a section with questions covering the duration of a child's symptoms and the types of impairment associated with these symptoms. It is a four-Likert scale: Not at all (0), a little (1), a medium amount (2), a great deal (3). The total impact difficulties score was ranging from 0 – 10, as five questions were included. The cut off point for abnormal total impact scores is 2 or more,

a score of 1 is borderline and a score 0 is normal⁽¹³⁾All scores can be used as a continuous variable; it is also convenient to classify them to normal, borderline and abnormal level. The Arabic version of the SDQ had previously been validated⁽¹⁴⁻¹⁶⁾ Other impact questions related to chronicity and burden on others are not included in the impact score.

A pilot study was carried out among ten students who were excluded from the study. The aim of this pilot study was to test the clarity of the tools and to determine the time required to complete the questionnaire. The questionnaire tools required about 20-25 minutes to be completed.

Statistical analysis

All data processes (entry, cleaning and recoding) were done using the Statistical Package for Social Science (SPSS Inc., Chicago, IL, USA) version 20. Statistical analysis of data was done using univariate descriptive analysis. Frequency and percentage for qualitative variables, mean \pm SD for quantitative variables. Bivariate analysis: χ^2 /Fisher's Exact test was used to compare frequencies. Statistical significance was considered when $p < 0.05$ in all tests.

Ethical considerations

Research proposal was approved by the institutional review board and the Ethical Committee of the Faculty of Nursing, Assiut University. An official approval letter was obtained from the Dean of the Faculty of Nursing, Assiut University to the undersecretary of Ministry of Education in Assiut Governorate to obtain a permission to carry out the study. The study was following common ethical principles for scientific research. Informed verbal consent was obtained from the students who were willing to participate in the study after explaining the nature and purpose of the study. Confidentiality and anonymity were assured. Students had the right to refuse to participate without any pressure on them. Positive cases were advised to seek specialized psychiatric advice.

RESULTS

Table 1 describes the socio-demographic characteristics of the study participants. Females constituted 60.0%, and rural residents were 55.2%. The mean age of participants

was 16.0 ± 0.3 years. Most participants (76.3%) were in the middle socio-economic class. More than half of students' mothers (58.0%) were housewives. The table also reveals that most of students' fathers (43.2%) were university educated or higher compared to 34.8% of students' mothers.

Table (1): Socio-demographic characteristics of adolescent students, Assiut 2017

Characteristics	Adolescent students (n=400)	
	No.	%
Sex		
Male	160	40.0
Female	240	60.0
Age (Mean\pmSD)	16.0 \pm 0.3 years (15- 17)	
Residence		
Rural	221	55.2
Urban	179	44.8
Socio-economic class		
Low	53	13.3
Middle	305	76.2
High	42	10.5
Mother working status		
Working	168	42.0
Housewife	232	58.0
Father education		
Illiterate / read & write	21	5.2
Primary/preparatory	67	16.8
Secondary education	139	34.8
University /higher	173	43.2
Mother education		
Illiterate / read & write	36	9.0
Primary/preparatory	83	20.7
Secondary education	142	35.5
University /higher	139	34.8

Regarding emotional and behavioral assessment, total difficult abnormal scores were recorded by 44.5% of the students. The highest rate of recorded abnormal scores were on conduct scale (42.3%), followed by emotional problems (36.0%), then peer problems (28.5%) and the least rate was for hyperactivity problems (5.0%). Concerning the impact of difficulties, half of the students (50.0%) had abnormal impact difficulty score and 6.9% were borderline (Table 2).

Table (2): Prevalence of emotional and behavioral problems among adolescent students, Assiut 2017

Subscale	Normal	Borderline	Abnormal	Total
	No. (%)	No. (%)	No. (%)	No. (%)
Emotional	218 (54.5)	38 (9.5)	144 (36.0)	400 (100)
Conduct	204 (51.0)	27 (6.7)	169 (42.3)	400 (100)
Hyperactivity	273 (68.3)	107 (26.7)	20 (5.0)	400 (100)
Peer problems	98 (24.5)	188 (47.0)	114 (28.5)	400 (100)
Prosocial Behavior	255 (63.7)	46 (11.5)	99 (24.8)	400 (100)
Total difficulties	164 (41.0)	58 (14.5)	178 (44.5)	400 (100)
Impact of difficulties	155 (43.1)	25 (6.9)	180 (50.0)	360 (90) [#]

#: 40 students reported no impact

Table 3 shows that emotional difficulties were significantly higher ($p= 0.02$) among females compared to males (40.4% versus 29.4%). Although statistically insignificant ($p= 0.14$), conduct difficulties were more prevalent among males (47.5% versus 38.8%). Concerning residence, conduct difficulties, peer problems, prosocial and total difficulties were significantly higher ($p < 0.001$) among urban adolescents compared to rural students

whereas the reverse was true for hyperactivity ($p < 0.001$) among rural adolescents. The middle socioeconomic stratum showed significantly highest rates of ($p < 0.001$, $p < 0.001$, $p = 0.006$, $p = 0.002$ respectively) conduct difficulties, peer problems, prosocial and total difficulties. Regarding mothers' work, adolescents of working mothers had significantly higher conduct and peer problems ($p = 0.0002$)

Table (3): Distribution of studied adolescent students according to their emotional and behavioral problems and their socio- demographic characteristics, Assiut 2017

Socio-demographic characteristics	Emotional (n=144)	Conduct (n=196)	Hyperactivity (n=20)	Peer problems (n=114)	Prosocial behavior (n=99)	Total difficulties (n=178)
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Sex						
Male (n=160)	47 (29.4)	76 (47.5)	4 (2.5)	52 (32.5)	46 (28.8)	73 (45.6)
Female (n=240)	97 (40.4)	93 (38.8)	16 (6.7)	62 (25.8)	53 (22.1)	105 (43.8)
<i>p</i> value	0.02	0.14	0.09	0.2	0.3	0.9
Residence						
Rural (n=221)	76 (34.4)	56 (25.3)	18 (8.1)	43 (19.5)	28 (12.7)	73 (33.0)
Urban (n=179)	68 (38.0)	113 (63.1)	2 (1.1)	71 (39.7)	71 (39.7)	105 (58.7)
<i>p</i> value	0.5	<0.001	<0.001	<0.001	<0.001	<0.001
Socio-economic Level						
Low (n=53)	20 (37.7)	5 (9.4)	6 (11.3)	9 (17.0)	6 (11.3)	14 (26.4)
Middle (n=305)	111 (36.4)	151 (49.5)	12 (3.9)	96 (31.5)	84 (27.5)	151 (49.5)
High (n=42)	13 (31.0)	13 (31.0)	2 (4.8)	9 (21.4)	9 (21.4)	13 (31.0)
<i>p</i> value	0.9	<0.001	0.05	<0.001	0.006	0.002
Mothers' working status						
Working (n=168)	59 (35.1)	88 (52.4)	5 (3.0)	54 (32.1)	48 (28.6)	83 (49.4)
Housewife (n=232)	85 (36.6)	81 (34.9)	15 (6.5)	60 (25.9)	51 (22.0)	95 (40.9)
<i>p</i> value	0.9	0.002	0.2	0.002	0.06	0.2

Regarding the impact of perceived difficulties, table 4 shows that females, rural residents, students with low socioeconomic level and those whose mothers were

housewives recorded significantly higher rates of abnormal impact scores (p values= 0.03, <0.001, 0.002, 0.01 respectively).

Table (4): Distribution of studied adolescent students according to the impact of strengths and difficulties and their socio-aphic characteristics, Assiut 2017

Variable	Impact of the strengths and difficulties			χ^2	<i>p</i>
	Normal	Borderline	Abnormal		
Sex					
Male (n=150)	75 (50.0)	6 (4.0)	69 (46.0)	6.9	0.03
Female (n=210)	80 (38.1)	19 (9.0)	111 (52.9)		
Residence					
Rural (n=181)	52 (28.7)	19 (10.5)	110 (60.8)	32.4	<0.001
Urban (n=179)	103 (57.5)	6 (3.4)	70 (39.1)		
Socio-economic level					
Low (n=41)	8 (19.5)	3 (7.3)	30 (73.2)	16.6	0.002
Middle (n=280)	133 (47.5)	16 (5.7)	131 (46.8)		
High (n=39)	14 (35.9)	6 (15.4)	19 (48.7)		
Mother working status					
Working (n=154)	78 (50.7)	13 (8.4)	63 (40.9)	8.9	0.01
Housewife (n=206)	77 (37.4)	12 (5.8)	117 (56.8)		

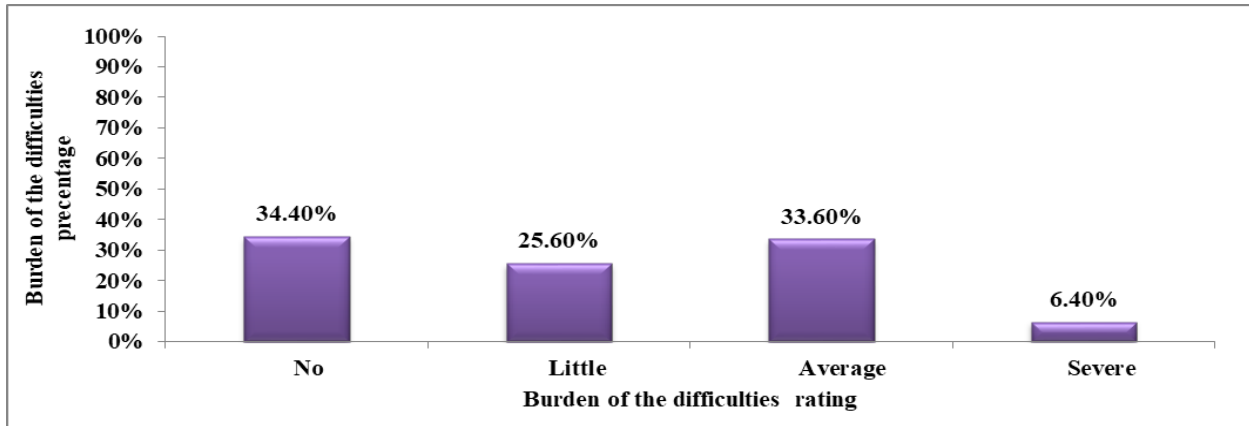


Figure 1: Burden of the difficulties on others as reported by adolescent students, Assiut, 2017

Regarding the burden of difficulties on others (family/friends/teachers), figure 1 indicates that 34.4 % of students reported that their difficulties did not represent a burden on others while 65.6% reported that their burden on others ranged from little, average to severe (25.6%, 33.6%, 6.4% respectively). As regards chronicity of the impact,

figure 2 shows that nearly one fifth of those who experienced emotional/ behavioral difficulty (19.4%) were complaining for more than one year and one third were complaining for 6-12 months. Regarding psychological pain experienced due to emotional/ behavioral problems, it was reported by 39.4% (Figure 3).

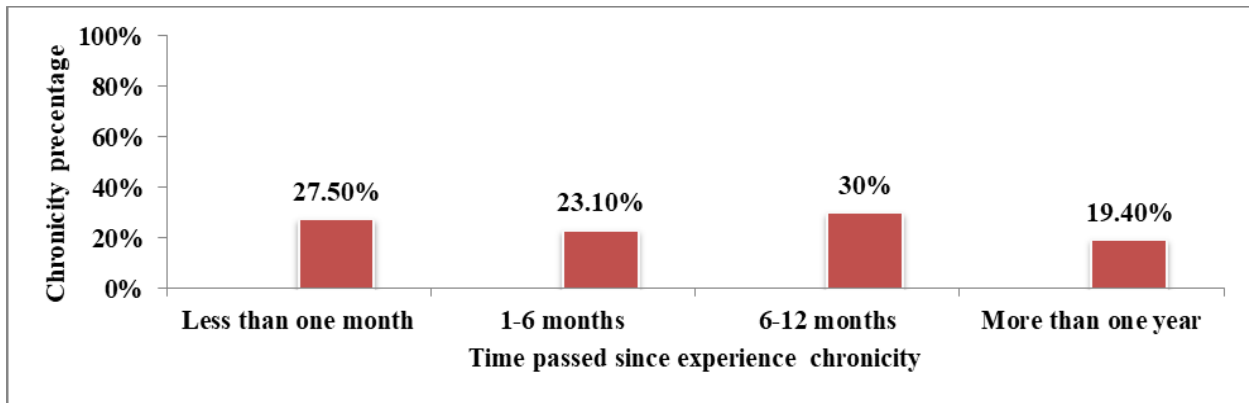


Figure 2: Chronicity of the emotional/ behavioral difficulties as reported by adolescent students, Assiut 2017

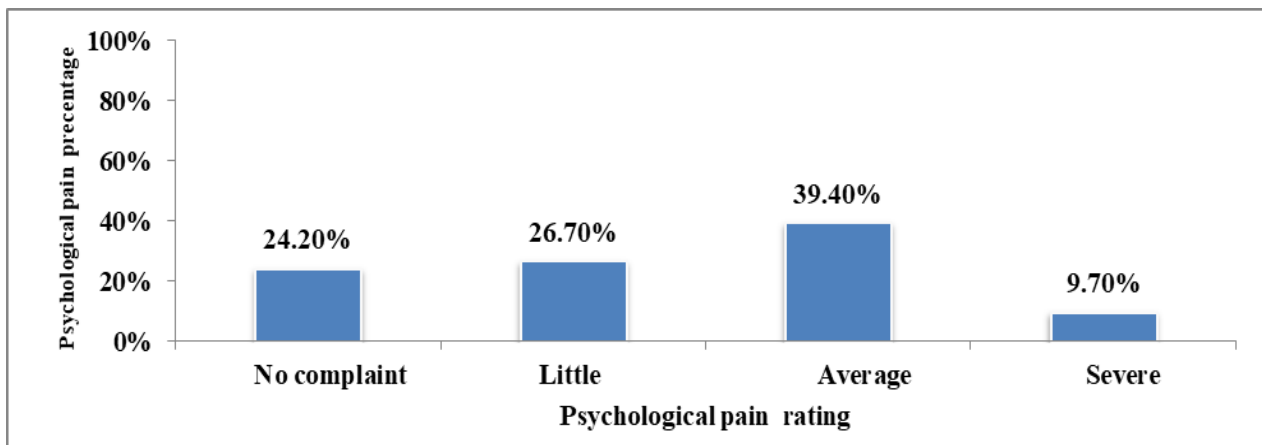


Figure 3: Psychological pain experienced due to emotional/ behavioral problems as reported by adolescent students, Assiut 2017

DISCUSSION

Screening for emotional and behavioral problems in adolescents is of significant importance for public health professionals and researchers as it is a new field. Use of self-report tools is a cost-effective screening strategy for early detection of cases as well as for epidemiological research. Moreover, it helps the policy makers to create prevention and intervention strategies.⁽¹⁷⁻²⁰⁾

Using SDQ, the current study revealed that 44.5% of the adolescent students in Assiut district had emotional/behavioral problems. This was in agreement with the finding of a study conducted among Malaysian University Students.⁽²¹⁾

As regards subscales, more than two fifths of the students had conduct problem, more than one third had emotional symptoms, whereas more than and nearly one quarter complained of peer problems and prosocial difficulties respectively and only five percent had hyperactivity symptoms. These results agreed with Reddy et al.⁽²²⁾ who reported that the most common abnormal scores were for the conduct and emotional problems subscales.

El Keshky and Alahmadi⁽²³⁾ determined that the total difficulty score was reported among more than three fifths of the sample, whereas the most prevalent mental health problems included peer, conduct, emotional symptoms, prosocial behavior and hyperactivity disorders respectively. Abdul Kadir et al.⁽²⁴⁾ reported that conduct and peer problems were the most prevalent emotional and behavioral difficulties experienced by adolescents. In Egypt, Abd Elhamid et al.,⁽²⁵⁾ reported that abnormal total difficulties scores were reported among more than one third of studied children and the highest proportion was for conduct problems. On the other hand, Grealley et al.,⁽²⁶⁾ reported that hyperactivity and conduct problems represented the highest percent in their study and only 0.3% of the total adolescents scored abnormally on the prosocial subscale. Moreover, Mowafy et al.,⁽⁷⁾ mentioned that less than one fifth of secondary schools' students had abnormal total score and the highest percent of abnormal scores were for emotional followed by conduct problems, hyperactivity problems and lastly peer relations. This may be due to the culture, social and economic diversity among different countries. These diversities will make differences in the prevalence, causes and types of mental health problems and the use of different methodological variables.

The present study reported no significant difference in the total difficulties score regarding participants' sex. This agrees with El Keshky and Alahmadi⁽²³⁾ and Black et al.,⁽²⁷⁾ while it is in contrary to Reddy et al.⁽²²⁾ and Grealley et al.,⁽²⁶⁾ who reported that abnormal SDQ scores were more common among females. Abd Elhamid et al.,⁽²⁵⁾ who measured the prevalence of emotional and behavioral problems among 6-12 years old children in Egypt, reported that male sex was associated with higher total difficulty

scores. However, Kovess-Masfety et al.,⁽²⁸⁾ reported that no sex differences were observed regarding internalizing disorders whereas male sex was among the socio-demographic factors consistently associated with hyperactivity and conduct disorders.

The current study showed that emotional difficulties were significantly higher among females. This is conformed to Abdul Kadir et al.,⁽²⁴⁾ Al-Naggar and Al-Naggar⁽²¹⁾ and Black et al.,⁽²⁷⁾ It is well known that puberty is a time of emotional and biological changes. These changes affect both boys and girls, but girls are more emotionally labile than boys and they are easily influenced by all surrounding stresses. On the other hand, Pastor et al.,⁽¹⁸⁾ who included wider range of ages (4-17 years), reported higher percent of emotional and behavioral problems among males.

As regards the socioeconomic level, the present study reported higher prevalence of conduct, peer, prosocial and total difficulties among high and middle socioeconomic level adolescents than those in the low socioeconomic strata. This is not conformed to the finding of Pastor et al.,⁽¹⁸⁾ who reported a negative association between family income and prevalence of difficulties. But they used only the family income as an independent factor affecting difficulties. Furthermore, cross-national comparisons should carefully consider the role of socio-economic variables in the prevalence of disorders considering the presence of high, middle and low-income countries.⁽²⁹⁾

In Egypt, Abd Elhamid et al. and co-workers⁽²⁵⁾ reported that lower paternal and maternal educational attainment, and low status paternal and maternal occupation were associated with higher difficulty scores. Further studies are needed to fill gaps in our knowledge concerning psychosocial determinants of adolescent emotional and behavioral problems as adolescent-parent relationship, marital status of parents, type of relation between adolescents and their parents, time spent with family members, ...etc.) to give a complete idea about social correlates of difficulties among adolescents.

Kovess-Masfety et al.,⁽²⁸⁾ declared that familial interactions and parental attitudes may be responsible for the SDQ results. This is because assessment of children was done using the parent form of the questionnaire and the present study used the youth self-report form. Future studies should investigate parenting behaviors and how they relate to prevalence estimates of child mental health problems and using of parents form.

In the present study, most students reported impact of the difficulties they are facing and half of those who reported impact had abnormal impact score. Mowafy et al.,⁽⁷⁾ reported much lower percent of abnormal impact score in their study. Regarding the relation between the impact of difficulties and socio-demographic characteristics, females, those from rural areas, those in the low socioeconomic level and those whose mothers were housewives reported significantly higher impact. The present study showed that in spite of recording

significantly higher total difficulties among urban students, the impact of these difficulties was lower than that reported among rural students who may face other social, financial and psychological problems that could aggravate the impact of the difficulties on them. Also, lack of recreational facilities and closed communities especially in rural Upper Egypt could play a role that increases the impact of the difficulties.

This is in the same line with Liu et al.,⁽⁴⁾ who reported that females reported a higher negative impact of difficulties. On the contrary, Mowafy et al.,⁽⁷⁾ reported that there was higher significant impact of difficulties among students who had a working mother.

CONCLUSION & RECOMMENDATIONS

The present study concluded that screening secondary school adolescents in Assiut district revealed high prevalence of emotional and behavioral problems that was associated with perceived enormous negative impact. Further studies and intervention programs are greatly needed to address adolescent mental health needs. Routine screening for emotional and behavioral problems should be conducted to assess adolescents' mental health. Mental health education for adolescents with creative training materials should be implemented to increase their awareness about the mental health needs and disorders. There is a need to increase the awareness of school health personnel as doctors and nurses by conducting educative training programs about the adolescents' mental health. Further studies and surveys among large samples, are needed to address adolescent mental health needs and disorders.

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