Physical, mental, emotional and social health status of adolescents and youths in Benghazi, Libya

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الحالة الصحية البدنية والنفسية والعاطفية والاجتماعية للمراهقين والشباب في بنغازي، ليبيا

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الخلاصة: تمثِّل المراهقة والشباب مرحلتَيْن من مراحل الحياة الحافلة بالفرص الكبيرة التي يمكن اقتناصُها لتخفيف الاحتياجات الصحية المستقبلية. وقد أجرى الباحثون دراسة مستعرضة لتقييم الحالة الصحية البدنية والنفسية والعاطفية والاجتماعية للمراهقين والشباب الذين يَرْتادون جامعتين كبيرتين في مدينة بنغازي في ليبيا، وللتعرف على المتغيرات التي تصاحب أوضاعهم الصحية. وقد عَمَدَ الباحثون إلى الاعتيان أخذ العينات الطَبَقي لاختيار ثلاث مئة وثلاثة وثمانين طالباً وطالبة تتراوح أعمارهم بين 17 و24 عاماً، وتمَّ جَمْعُ المعطيات من خلال مقابلات أجروها مع الطلاب وجهاً لوجه، ومن خلال استبيانات تُستكمَل ذاتياً. وتبين أن المشكلات الصحية الرئيسية تتمثَّل في الاكتئاب، والقلق، والألم، والانزعاج، وأن مَنْ يُعاني منها من الإناث هنّ أكثر من الذكور. وتبين أيضاً أن الصحة النفسية لديهم هي في مرحلة انتقالية بحسب نظرية التطور العاطفي لداموروسكي (التفكك التلقائي المتعدد المستويات). وكان لدى الإناث مستويات أعلى من التطور العاطفي. كما تبيَّن للباحثين أن النشاط البدني المنتظم قد كان يمارَس من قِبَل 34.7٪ من إجمالي الطلبة المَدْروسين (25.8٪ من الإناث)، وأن 17.2٪ من العينة هم من المدخِّنين. وقد تَمَثَّل النشاط الاجتماعي الرئيسي في زيارة أفراد العائلة.

ABSTRACT Adolescence and youth are stages of life that offer great opportunities for reduction of future health needs. A cross-sectional study was carried out to assess the physical, mental, emotional and social health status of adolescents and youths attending 2 large universities in Benghazi city, Libya, and to determine variables associated with their health status. Stratified sampling was used to select 383 students aged 17–24 years and data were collected by face-to-face interview and self-administered questionnaires. Major health problems were depression/anxiety and pain/discomfort, and these were suffered by significantly more females than males. Mental health was at the transitional stage in Dabrowski's emotional development theory (spontaneous multilevel disintegration). Females had higher levels of emotional development. Regular physical activity was practised by 34.7% overall (25.8% of women) and 17.2% were smokers. The main social activity was visiting family members.

Santé physique, mentale, psychologique et sociale des adolescents et des jeunes à Benghazi (Libye)

RÉSUMÉ L'adolescence et la jeunesse sont des époques de la vie qui permettent de réduire de manière importante les futurs besoins en matière de santé. Une étude transversale a été menée pour évaluer la santé physique, mentale, psychologique et sociale des adolescents et des jeunes fréquentant deux grandes universités de la ville de Benghazi (Libye) et pour déterminer les variables associées à leur état de santé. Un échantillonnage stratifié a été utilisé pour sélectionner 383 étudiants âgés de 17 à 24 ans. Des données ont été collectées lors d'une entrevue individuelle et par auto-questionnaires. Les principaux problèmes de santé étaient la dépression/l'anxiété et la douleur/l'inconfort, et ces maux affectaient davantage les filles que les garçons. Leur santé mentale se situait à un stade de transition dans la théorie du développement de Dabrowski (désintégration multiniveaux spontanée). Le développement affectif était plus avancé chez les femmes. Parmi les participants, 34,7 % au total pratiquaient une activité physique (25,8 % des filles) et 17,2 % étaient fumeurs. L'activité sociale principale consistait à rendre visite aux membres de la famille.

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Introduction

Adolescence and youth are stages of life that offer great opportunities for health interventions that focus on influencing healthy attitudes and behaviours [1–6]. The 42nd World Health Assembly recognized the importance of targeting youth as a critical element for the health of future generations through their health actions, choices and behaviours [4]. Attending to the causes of future morbidity aims to reduce the preventable risks due to smoking, drug use, poor diet, low physical activity and factors leading to psychiatric morbidity [1]. Major transitions, such as habit formation, patterns of behaviour and relationships that develop during adolescence affect not only young people's current functioning and opportunities but also the quality of their adult lives [5].

Efforts are being made at national and international levels to address health issues of relevance to adolescent and youth populations and attempting to pave the way for a smooth transition to adulthood through strengthening social and health services to meet adolescents' health and development needs [7]. Little is known about the health status of young people in Libya. The current study was therefore carried out with the aim of assessing the health status (physical, mental, emotional and social) of adolescents and youths in Benghazi city, Libya and to determine variables relevant to their health status.

Methods

This cross-sectional study of a sample of students from 2 universities—Al Arab Medical and Garyounis (now a single university)—was conducted from January to February 2010.

Sample

Assuming that age distribution of the Benghazi population was similar to that of Libya as a whole, i.e. 16.5% aged 17–24 years, the population in Benghazi in this age range was estimated to be 111 367 (total population of Benghazi was 674 951 as of 2006 census) [8]. Nearly half of population of Benghazi aged 17–24 years were students of these 2 universities. Applying the sample size calculation for a margin of error acceptable as 5% with confidence level 95%, the minimum required sample size was 383 [9]. Garyounis and Al Arab Medical Universities had a total student population of 42 688. The sample of students was stratified according to faculty and sex and was selected through random sampling interval using random number tables. Respondents were selected from the campus (outside classrooms) during working days.

Tools

The health status of adolescents and youths in this study was assessed from the perspectives of physical and mental, emotional and social health.

Physical and mental health

After collecting general socioeconomic data, physical and mental health status was assessed by 3 subscales. The first section covered self-perceived health, diseases in the last year, hospitalizations in the last year (both clinical and psychiatric), current use of medication or undergoing treatments and medical history and a self-rating of general health (4-point scale: excellent, very good, good and poor). The second was respondents' experience of current health complaints (yes/no) and the type. The third was health status today, which was measured using a standardized tool, the health status index questionnaire [10] covering self-perceptions about 5 health indicators: mobility, self-care, usual activities, pain/discomfort and anxiety/depression), each scored on a 3-point scale. In addition, the respondents were asked to rate their health status today on a scale ranging from 0–100. The EQ-5D tool [10] was translated into Arabic language for this study.

Emotional health

Emotional health was assessed and described according to Dabrowski's emotional development scale that describes stages of integration and disintegration [11,12]. This scale has 5 levels of positive disintegration of emotions: primary integration; unilevel disintegration; spontaneous multilevel disintegration; organized multilevel disintegration; and secondary integration. This 26-item scale was divided into 2 parts: emotional functions; and emotional–cognitive functions. The total emotional score was calculated by adding scores of all the 26 items, both emotional functions and emotional cognitive functions [11]. Since the total score ranged from 26–130, it was assumed that a person scoring a maximum of 26 remained at primary integration level; between 27–52, unilevel disintegration level; between 53–78, spontaneous multilevel disintegration level; between 79–104, organized multilevel disintegration level and 105–130, secondary integration level.

Social health

Respondents' lifestyles were assessed in 4 dimensions: physical activity; eating habits; social activities; and substance use. A tool with open-ended questions was developed to collect relevant information on physical activities, food habits (primary meals, secondary meals, eating out and usual drinks), social activities and habits (smoking, alcohol and drugs).

Data collection

Data collection was carried out privately after assuring respondents about confidentiality of the information collected. Information on health status and socioeconomic background were collected through face-to-face interviews by researchers at the student campuses of these universities. The Health Status Index and Emotional Development Scale were supplied as self-administered questionnaires. Respondents were

Table 1 Basic characteristics of respondents

Characteristic	Males (*n* = 154)		Females (*n* = 229)		Total (*n* = 383)	
	No.	%	No.	%	No.	%
Age (years)						
17–19	46	29.9	71	31.0	117	30.5
20–24	108	70.1	158	69.0	266	69.5
Year of study						
1–2	105	68.2	159	69.4	264	68.9
3+	49	31.8	69	30.1	118	30.8
No answer	0	–	1	0.4	1	0.3
Father's education						
Primary	10	6.5	11	4.8	21	5.5
Middle	17	11.0	36	15.7	53	13.8
Intermediate	39	25.3	54	23.6	93	24.3
University	88	57.1	128	55.9	216	56.4
Mother's education						
Primary	29	18.8	35	15.3	64	16.7
Middle	25	16.2	43	18.8	68	17.8
Intermediate	55	35.7	68	29.7	123	32.1
University	45	29.2	82	35.8	127	33.2
No answer	0	–	1	0.4	1	0.3
Father's occupation						
Teacher in school	9	5.8	11	4.8	20	5.2
University teacher	4	2.6	1	0.4	5	1.3
Engineer	12	7.8	15	6.6	27	7.0
Physician	5	3.2	8	3.5	13	3.4
Police	8	5.2	16	7.0	24	6.3
Clerical and lower grades	52	33.8	80	34.9	132	34.5
Lawyer	2	1.3	2	0.9	4	1.0
Business	35	22.7	60	26.2	95	24.8
Other work	3	1.9	6	2.6	9	2.3
Retired	18	11.7	25	10.9	43	11.2
Unemployed	5	3.2	3	1.3	8	2.1
No answer	1	0.6	2	0.8	3	0.8
Mother's occupation						
Teacher school	34	22.1	48	21.0	82	21.4
University teacher	1	0.6	0	–	1	0.3
Doctor	1	0.6	4	1.7	5	1.3
Other government job	4	2.6	3	1.3	7	1.8
Lawyer	2	1.3	3	1.3	5	1.3
Other work	1	0.6	3	1.3	4	1.0
Retired	–		1	0.4	1	0.3
Housewife	110	71.4	165	72.1	275	71.8
No answer	1	0.6	2	0.9	3	0.8
No. of earning members at home						
≤ 2	94	61.0	160	69.9	254	66.3
3–6	54	35.1	64	27.9	118	30.8
7+	6	3.9	5	2.2	11	2.9

Table 1 **Basic characteristics of respondents (*concluded*)**

Characteristic	Males (*n* = 154)		Females (*n* = 229)		Total (*n* = 383)	
	No.	%	No.	%	No.	%
Residential area						
Urban area	22	14.3	55	24.0	77	20.1
Suburban area	106	68.8	148	64.6	254	66.3
Outside Benghazi	26	16.9	25	10.9	51	13.3
Type of residence						
Modern villa	61	39.6	84	36.7	145	37.9
Apartment	26	16.9	55	24.0	81	21.1
Traditional house	67	43.5	89	38.9	156	40.7
No answer	0	–	1	0.4	1	0.3
Type of family						
Nuclear	92	59.7	160	69.9	252	65.8
Joint	62	40.3	69	30.1	131	34.2

selected by random skipping, using the right hand rule.

Data processing and analysis

Survey monitoring and data quality assurance process had progressed through scrutinizing, field editing and centralized editing. Analyses were carried out through frequencies and cross-tabulations and mean and standard deviation (SD). The chi-squared and Student *t*-tests (independent sample) were used to analyse the significance of differences.

Results

Sample profile

The total sample was 383 students: 154 (40.2%) males and 229 (59.8%) females. Adolescents (17–19 years) were 30.5% of the total. A majority of the sample (68.9%) were in the earlier years of university education (years 1–2) (Table 1).

Parental educational status showed that more than half of the fathers were educated up to university level (56.4%) compared with only 33.2% of mothers. Fathers of male students were more educated than fathers of female students (57.1% versus 55.9%). Proportionately a majority of fathers were in government jobs (clerical grade or lower). The major occupation of mothers was teaching in schools.

More of the students resided in suburban areas (66.3%) than urban areas (20.1%) or nearby towns (13.3%). A majority had 3–6 brothers (53.0%) and ≤ 2 sisters (48.0%). Types of residence were villa (37.9%), apartment (21.1%) or house (40.7%). The number of the wage-earning members at home was ≤ 2 for 66.3% of the sample. A nuclear family (one or two generations) was the most common (65.8%) type of family.

Physical and mental health status

Most students self-rated their general health as excellent (43.9%) or very good (39.4%); fewer rated it as only good (13.8%) or poor (2.3%) (Table 2). More males rated their health as excellent than did females (47.4% versus 41.5%), while fewer females rated their health as poor than did males (1.3% versus 3.9%). However, these sex differences were not statistically significant, even when comparing the combined categories excellent/very good versus good/poor.

Age was significantly associated with self-rated health (categorized as excellent/very good versus good/poor); 92.3% of those aged 17–19 years had excellent/very good health versus 79.9% of those aged 20–24 years (χ^2 = 9.12, P = 0.003).

Of the total sample 17.8% reported having current health complaints, and there was no significant difference between males and females (18.2% versus 17.5%). Among the problems, the most common were digestive problems (19.1%), flu (13.2%) and noncommunicable diseases, e.g. high or low blood pressure and diabetes (13.2%). The major problems among females were digestive problems (22.5%) and influenza (17.5%), while among males it was accidents (21.4%).

There was a significant difference between the sexes in terms of the timing of their last complaint, comparing episodes in the previous 1 month versus more than 1 month and for those who had had an episode of illness in the previous year (Table 2). More females had health problems in the previous month compared with males (χ^2 = 7.6, P = 0.006).

In the assessment of health status today the most commonly reported concern among the 5 domains was anxiety or depression (described as extreme by 12.5% of respondents); this rate was much higher among females (17.0%) than males (5.8%) (χ^2 = 19.3, P < 0.001) (Table 3). Even though few

Table 2 Health status of students in Benghazi

Characteristic	Males (*n* = 154)		Females *n* = 229)		Total (*n* = 383)		χ^2-value	*P*-value
	No.	%	No.	%	No.	%		
Self-rating of health								
Excellent	73	47.4	95	41.5	168	43.9	2.087	0.149[b]
Very good	50	32.5	101	44.1	151	39.4		
Good	24	15.6	29	12.7	53	13.8		
Poor	6	3.9	3	1.3	9	2.3		
No answer	1	0.6	1	0.4	2	0.5		
Health complaints at present								
Yes	28	18.2	40	17.5	68	17.8	0.04	0.842
No	124	80.5	187	81.7	311	81.2		
No answer	2	1.2	2	0.9	4	1.1		
Total	154	100.0	229	100.0	383	100.0		
Diseases at present[a]								
Digestive problem	4	14.3	9	22.5	13	19.1	2.60	0.107[c]
Influenza	2	7.1	7	17.5	9	13.2		
NCD	3	10.7	6	15.0	9	13.2		
Migraine	4	14.3	4	10.0	8	11.8		
Sensory complaint	4	14.3	4	10.0	8	11.8		
Accident	6	21.4	1	2.5	7	10.3		
Epilepsy	1	3.6	2	5.0	3	4.4		
Depression	0	0.0	2	5.0	2	2.9		
Respiratory problem	1	3.6	1	2.5	2	2.9		
Other	1	3.6	0	0.0	1	1.5		
No answer	2	7.1	4	10.0	6	8.9		
Total	28	100.0	40	100.0	68	100.0		
Time of last complaint								
Previous month	36	34.6	81	51.9	117	45.0	7.6	0.006
Other	68	65.4	75	48.1	143	55.0		
Total	104	100.0	156	100.0	260	100.0		

[a]Percentages were calculated out of total diseases reported. [b]Excellent/very good vs good/poor; [c]Digestive problem/influenza vs all others.
NCD = noncommunicable disease, e.g. blood pressure, diabetes.

students reported having extreme pain or discomfort, a large proportion reported moderate pain/discomfort (47.3%) and this was significantly higher among females (53.7%) than males (37.7%) ($\chi^2 = 9.59$, $P = 0.008$).

The total mean score for perceived health status today was 72.8 (SD 19.6) (Table 4). Males had significantly better health status than females (75.3 versus 71.2) ($t = 2.0$, $P = 0.042$). Younger students (aged 17–19 years) had better health status than those aged 20–24 years (75.3 versus 71.8), but the difference was not significant. Health status varied across the faculties. Students in the education faculty scored significantly lower than those in the faculties of pharmacy ($t = 2.8$, $P = 0.009$), engineering ($t = 2.1$, $P = 0.043$), economics ($t = 2.3$, $P = 0.023$), arts ($t = 2.0$, $P = 0.052$) and law ($t = 2.4$, $P = 0.022$). Paternal education positively affected health status; with an increase in educational level there was an increase in health status ($t = -2.4$, $P = 0.017$) (Table 4). Mothers' education did not show any significant effect. Similarly, children of professionally employed parents (doctors, engineers, schoolteachers, police etc.), both fathers and mothers, had better health status. Those who resided in the city were found to have a lower health status (70.0) than those in suburban areas (73.1) or outside the city (75.6), although this difference was not significant. Family type did not affect health status score.

Emotional health status

A majority of the sample were in the advanced levels of Dabrowski's theory of emotional functioning (i.e. organized multilevel disintegration), especially the domains of excitation, suggestibility, joy, crying and enthusiasm (more than 30% of students fell

Table 3 Self-perceived health status today of students in Benghazi

Characteristic	Males (*n* = 154)		Females (*n* = 229)		Total (*n* = 383)		χ^2-value	*P*-value
	No.	%	No.	%	No.	%		
Mobility								
No problems	124	80.5	171	74.7	295	77.0		
Some problems	20	13.0	29	12.7	49	12.8	3.86	0.145
Confined to bed	10	6.5	29	12.7	39	10.2		
Self-care								
No problems	143	92.9	216	94.3	359	93.7		
Some problems	9	5.8	13	5.7	22	5.7	3.00	0.223
Incapable	2	1.3	0	0.0	2	0.5		
Usual activities								
No problems	100	64.9	145	63.3	245	64.0		
Some problems	47	30.5	70	30.6	117	30.5	0.45	0.798
Unable	7	4.5	14	6.1	21	5.5		
Pain or discomfort								
None	88	57.1	96	41.9	184	48.0		
Moderate	58	37.7	123	53.7	181	47.3	9.59	0.008
Extreme	8	5.2	10	4.4	18	4.7		
Anxiety or depression								
None	75	48.7	68	29.7	143	37.3		
Moderate	70	45.5	122	53.3	192	50.1	19.3	< 0.001
Extreme	9	5.8	39	17.0	48	12.5		

into these domains) and secondary integration, especially the domain of unpleasure (43.3%) (Table 5). Fewer students were in the lower levels of emotional state (i.e. primary integration and unilevel disintegration), although at primary integration level 35.5% were in the domain of suicide and at the unilevel disintegration level 47.8% and 38.4% fell into the domains of attitude to death and affective memory respectively. More than 30% of students were in a moderate or confused state of emotion (i.e. spontaneous multilevel disintegration), in the domains of sadness, solitude and suicide.

In emotional–cognitive functioning (Table 5), the primary integration, unilevel disintegration and spontaneous multilevel disintegration levels predominated. More than 30% of the sample were in the domains of morality and criticism at the primary integration level whereas more than 30% were in the domains of religious attitude and uncertainty in the unilevel disintegration level. More than 30% of students were in the reality and success domains at the spontaneous multilevel disintegration level.

The mean total score was 77.8 (SD 7.3) on emotional status, suggesting that the sample in general remained at the spontaneous multilevel disintegration level (scores between 53 and 78), reflecting a period of transition from lower to higher levels (Table 6). There was no significant difference in mean scores by sex or age. However, there were differences in mean scores among faculties; e.g. medicine students scored higher than law students (t = 1.9, P = 0.057), economics students scored higher than dental (t = 1.8, P = 0.080), IT (t = 1.8, P = 0.079) and law students (t = 2.7, P = 0.009); arts students scored higher than law students (t = 1.8; P = 0.082); education students scored higher than law students (t = 1.84, P = 0.070). Parental education had no significant effect on emotional development except for those with middle level educated fathers and university educated fathers (t = –1.87; P = 0.063). Students living in the city area had lower scores than those in suburban areas (t = 1.75; P = 0.082).

Social health status

Physical activities

Physical activity was reported by only 34.7% of the sample, significantly more among males (48.1%) than females (25.8%) (χ^2 = 19.9, P < 0.001) (Table 7). Physical activities included playing football or any other games (47.3%), regular walking or jogging (36.8%), weight lifting (7.5%), swimming (6.7%), kung fu or karate (5.2%), horse riding (4.5%) and dancing (3.0%).

Eating habits

A majority of the sample ate the typical Libyan meal pattern of 3 main meals per day (59.0%) rather than only 2 per day (25.3%); a few students consumed 4 or more meals (Table 7). A 3-meal system was more prevalent among males, whereas a 2-meal system was

Table 4 Mean scores on self-perceived health status today index of students in Benghazi (*n* = 383)

Characteristic	No.	Mean score (SD)
Sex		
Male	154	75.3 (18.1)
Female	229	71.2 (20.4)
Age (years)		
17–19	117	75.3 (17.7)
20–24	266	71.8 (20.3)
Year of study		
1–2	264	73.5 (19.6)
3+	118	71.4 (19.7)
No answer	1	70.0 (19.6)
Faculty		
Medicine	40	72.0 (18.8)
Dentistry	16	75.5 (15.3)
Pharmacy	15	82.3 (13.3)
Public health	10	77.0 (14.9)
Nursing	3	43.3 (45.0)
Engineering	41	74.6 (18.1)
Science	63	70.6 (21.1)
Economics	88	74.5 (18.6)
Arts	59	72.7 (16.8)
Education	18	62.7 (24.4)
Law	22	78.4 (16.7)
IT	8	58.7 (34.8)
Father's education		
Primary	21	69.7 (20.8)
Middle	53	71.7 (17.4)
Intermediate	93	69.1 (21.5)
University	216	75.0 (18.9)
Mother's education		
Primary	64	70.0 (23.2)
Middle	68	72.2 (20.0)
Intermediate	123	73.5 (18.4)
University	127	73.8 (18.7)
No answer	1	80.0 (–)
Father's occupation		
Teacher in school	20	74.5 (19.5)
University teacher	5	70.0 (23.4)
Engineer	27	76.4 (18.1)
Physician	13	80.7 (11.1)
Police	24	77.2 (13.9)
Other government job	132	69.7 (21.1)
Lawyer	4	62.5 (22.1)
Business	95	74.3 (20.1)
Other work	9	71.1 (16.1)
Retired	43	71.7 (20.3)
Unemployed	8	78.7 (13.5)
No answer	3	76.0 (7.0)
Mother's occupation		
School teacher	82	74.8 (17.8)
University teacher	1	50.0 (–)
Doctor	5	81.0 (11.4)
Other government job	7	65.7 (13.9)
Lawyer	5	86.0 (11.4)
Other work	4	65.0 (17.3)
Retired	1	50.0 (–)
Unemployed	275	72.4 (20.3)
No answer	3	65.0 (7.0)
Place of residence		
City area	77	70.0 (19.4)
Suburban area	254	73.1 (19.7)
Outside Benghazi	51	75.6 (19.0)
No answer	1	70.0 (–)
Total	383	72.8 (19.6)
Type of family		
Nuclear	252	72.5 (20.5)
Joint	131	73.4 (17.9)
Total	383	72.8 (19.6)

SD = standard deviation.

more prevalent among females. Eating out in restaurants was a common practice among the sample (63.2%). Fresh juice was the preferred drink, followed by soft drinks and coffee.

Social activities

Visiting relatives was the main social activity among 77.8% of students, more commonly among females (81.2%) than males (72.7%) (Table 7). Of the males 11.7% had no social activities and 11.0% reported just wandering around as their main activity.

Substance use

More than one-third of the males in the sample reported that they smoked (36.4%) compared with 4.4% of the females. A few students admitted to alcohol (5.0%) and narcotic drug use (4.2%).

Discussion

The current study explored the physical, social and mental health status of a sample of students aged 17–24 years which was drawn from 2 universities located in the city of Benghazi. Attempts were made to link some of the independent variables with health status variables.

Table 5 Emotional health of students in Benghazi according to levels of Dabrowski's theory of emotional functioning (n = 383)

Indicator	Primary integration		Unilevel disintegration		Spontaneous multilevel disintegration		Organized multilevel disintegration		Secondary integration		No answer	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Emotional functions												
Excitation	64	16.7	54	14.1	39	10.2	127	33.2	99	25.8	1	0.3
Suggestibility	94	4.5	58	15.1	57	14.9	138	36.0	36	9.4	1	0.3
Unpleasure	31	8.1	45	11.7	49	12.8	91	23.8	166	43.3	2	0.5
Joy	49	12.8	55	14.4	84	21.9	123	32.1	71	18.5	2	0.5
Sadness	34	8.9	93	24.3	192	50.1	37	9.7	25	6.5	1	0.3
Crying	57	14.9	28	7.3	57	14.9	152	39.7	87	22.7	1	0.3
Anger	77	20.1	97	25.3	14	3.7	104	27.2	90	23.5	1	0.3
Fear/anxious	81	21.1	30	7.8	105	27.4	109	28.5	58	15.1	1	0.3
Enthusiasm	98	25.6	40	10.4	45	11.7	164	42.8	36	9.4	1	0.3
Affective memory	73	19.1	147	38.4	48	12.5	47	12.3	68	17.8	1	0.3
Frustration	86	22.5	96	25.1	55	14.4	62	16.2	84	21.9	1	0.3
Emotional ties	70	18.3	82	21.4	43	11.2	98	25.6	89	23.2	1	0.3
Solitude	80	20.9	18	4.7	126	32.9	113	29.5	46	12.0	0	–
Attitude to death	38	9.9	183	47.8	30	7.8	95	24.8	36	9.4	1	0.3
Suicide	136	35.5	56	14.6	133	34.7	4	1.0	53	13.8	0	–
Emotional cognitive functions												
Reality	75	19.6	66	17.2	131	34.2	59	15.4	52	13.6	0	–
Success	45	11.7	78	20.4	136	35.5	52	13.6	72	18.8	0	–
Justice	36	9.4	114	29.8	100	26.1	30	7.8	103	26.9	0	–
Immorality	119	31.1	42	11.0	64	16.7	75	19.6	82	21.4	0	–
Religious attitude	107	27.9	130	33.9	28	7.3	58	15.1	59	15.4	0	–
Aesthetic attitude	91	23.8	50	13.1	60	15.7	57	14.9	124	32.4	0	–
Cognition	47	12.3	72	18.8	87	22.7	88	23.0	89	23.2	0	–
Intuition	107	27.9	96	25.1	59	15.4	71	18.5	49	12.8	0	–
Criticism	150	39.2	59	15.4	36	9.4	84	21.9	54	14.1	0	–
Uncertainty	45	11.7	143	37.3	58	15.1	80	20.9	57	14.9	0	–
Awareness	78	20.4	68	17.8	67	17.5	132	34.5	37	9.0	0	–

Table 6 Means score on emotional development index of students in Benghazi (*n* = 383)

Variable	No.	Mean score (SD)
Sex		
Male	154	77.7 (7.2)
Female	229	77. 8 (7.3)
Age (years)		
17–19	117	77.3 (7.3)
20–24	266	78.0 (7.3)
Year of study		
1–2	264	77.7 (7.4)
3+	118	77.9 (7.0)
No answer	1	78.0 (–)
Faculty		
Medicine	40	78.1 (5.9)
Dentistry	16	75.8 (7.5)
Pharmacy	15	76.2 (7.2)
Public health	10	77.5 (8.0)
Nursing	3	77.0 (14.4)
Engineering	41	78.1 (8.2)
Science	63	77.5 (7.7)
Economics	88	79.1 (6.8)
Arts	59	77.7 (6.5)
Education	18	79.3 (7.8)
Law	22	74.6 (8.2)
IT	8	74.6 (7.6)
Place of residence		
City area	77	76.4 (7.5)
Suburban area	254	78.1 (7.2)
Outside Benghazi	51	77.9 (7.1)
No answer	1	92.0 (–)
Father's occupation		
School teacher	20	79.4 (8.2)
University teacher	5	76.8 (8.0)
Engineer	27	78.0 (5.8)
Physician	13	72.5 (3.9)
Police	95	79.0 (7.5)
Other government job	24	78.7 (8.1)
Lawyer	132	77.6 (7.6)
Business	43	75.8 (6.3)
Other work	8	73.9 (7.4)
Retired	4	77.2 (6.7)
Unemployed	9	79.2 (4.7)
No answer	3	84.0 (1.4)
Mother's occupation		
School teacher	82	77.6 (7.3)
University teacher	1	73.0 (–)
Physician	5	72.0 (7.3)
Other government job	7	79.4 (6.5)
Lawyer	1	77.0 (–)
Other work	275	77.8 (7.3)
Retired	5	78.8 (8.6)
Unemployed	4	80.0 (8.4)
No answer	3	80.5 (7.8)
Type of family		
Nuclear	252	77.3 (7.3)
Joint	131	78.6 (7.2)
Total	383	77.8 (7.3)

SD = standard deviation.

Profile of sample

Proportionate sampling meant that there were more females than males in the sample. This was not only proportional to the existing sex composition at these universities but also of medical universities in nearby Arab countries [13,14]. Parental profile showed that a large majority were from the upper middle class group with highly educated fathers and mothers in addition to higher parental occupational levels. The higher socioeconomic status of university level students has been demonstrated elsewhere in the Eastern Mediterranean region [13,14]. More students resided in suburban areas, which might be because of the emergence of new residential areas as a result of increasing urbanization in Benghazi [8]. They were mostly from moderate family backgrounds in terms of family size, type of housing and type of family and this agrees with the profile of students of other countries [6,7,13].

General health status

Health as a "state of complete physical, mental and social well being and not merely the absence of disease or infirmity" [15] was examined in this study from 3 dimensions. Physically and mentally, this group had moderately high rating of their own health. Self-rating of health and self-reports of present complaints/diseases did not vary significantly by sex or by age. Similarities in health complaints between males and females and between adolescents and youths have been shown before [1,16]. Although the types of illnesses did not vary between the sexes the frequency of illness episodes, however, had an association with sex. Among females, a higher proportion had health problems in the previous month compared with males. Sex differences in physical functioning among adolescents have been shown before [17].

Variables developed to assess health status today brought similar results for males and females in terms of mobility,

Table 7 Lifestyle variables of students in Benghazi

Variable	Males (*n* = 154)		Females (*n* = 229)		Total (*n* = 383)	
	No.	%	No.	%	No.	%
Physical activity						
Yes	74	48.1	59	25.8	133	34.7
No	80	51.9	169	73.8	249	65.0
No answer	0	–	1	0.4	1	0.3
No. of primary meals/day						
1	4	2.6	12	5.2	16	4.2
2	33	21.4	64	27.9	97	25.3
3	100	64.9	126	55.0	226	59.0
4+	17	11.0	27	11.7	44	11.5
Meals from restaurants/day						
0	57	37.0	84	36.7	141	36.8
1	77	50.0	122	53.3	199	52.0
2	18	11.7	17	7.4	35	9.1
3+	2	1.3	6	2.6	8	2.0
Usual drinks						
Coffee	45	29.2	56	24.5	101	26.4
Tea	14	9.1	13	5.7	27	7.0
Soft drinks	45	29.2	58	25.3	103	26.9
Fresh juice	50	32.5	100	43.7	150	39.2
No answer	0	–	2	0.9	2	0.5
Usual social activities						
None	18	11.7	4	1.7	22	5.7
Wandering around	17	11.0	17	7.4	34	8.9
Charity work	0	–	3	1.3	3	0.8
Visiting relatives	112	72.7	186	81.2	298	77.8
No answer	7	4.5	19	8.3	26	6.8
Smoking						
Yes	56	36.4	10	4.4	66	17.2
No	98	63.6	219	95.6	317	82.8
Alcohol use						
Yes	18	11.7	1	0.4	19	5.0
No	136	88.3	227	99.1	363	94.8
No answer	0	–	1	0.4	1	0.3
Narcotic drug use[a]						
Yes	2	7.8	4	1.7	16	4.2
No	142	92.2	224	97.8	366	95.6
No answer	0	–	1	0.4	1	0.3

[a] *Includes chewing drugs (marijuana, khat, hashish) and injecting drugs.*

self-care and usual activities, with a large majority having no inabilities or problems. In the areas of pain/discomfort and anxiety/depression, however, there was a significant difference between the sexes, with females reporting these more frequently. This imbalance against females is an area for further investigation and intervention [16,18,19]. At higher ages there was higher self-reported disability on both the variables of mobility and pain/discomfort. Age differentials in perceived health have been shown previously [10] and studies have found depression among school children [18].

The mean scores for health status today also revealed that the population as a whole had good perceived health

and that males had better self-perceived health than females. While age or university or year of study did not show much variation there were differences in perceived health score across faculty. It might be assumed that the faculty to which students belong represents social class differences. Parental education influenced the students' perceived health. Children of fathers of intermediate and university level had significantly better perceived health status but mothers' education did not produce any significant difference. These findings contradict the popular notion that maternal education is more important in family health [10,16,20]. There were no differentials in perceived health levels between rural and urban residence or nuclear versus joint family, again contradicting other findings [10,16].

Emotional health, as measured according to Dabrowski's emotional development theory, showed that the students were going through a transitional stage from the primary to secondary levels. A majority of the group were going through the transitional stage of spontaneous multilevel disintegration in terms of both emotional functions and emotional–cognitive functions. Both males and females followed similar patterns of emotional development, which was in agreement with other research hypotheses [10,11]. Neither sex nor age group made a significant difference to overall emotional levels. Faculty of study was a distinguishing variable in terms of emotional health, perhaps because faculties represent varying levels of socioeconomic status. This draws attention to the need to consider adolescents' and youth's issues separately by considering their heterogeneity [20,21], offering space for achievement of emotional independence, attaining economic independence, coming in terms with sexuality and achievement of ego identity [22]. Parental education had no significant effect on emotional development, except for students with middle level educated fathers and university educated fathers. Students living in the city area differed significantly from those from suburban areas.

Social health, explored through a number of variables such as physical activities, eating habits, social engagements and substance abuse, revealed inactivity by a large proportion of students, over-eating by some, no social engagements by a few and substance use by very few. More females than males were physically inactive. Libyan society has close family ties and for more than three-fifths of students family visits were the major social activity. One-fifth of males had no social activities and or reported "wandering around" as an activity. Cigarettes are widely available and smoking is socially acceptable in Libyan society, especially for males. There was an early age at onset of smoking habit. Alcohol is not socially sanctioned and only 5.0% of students (all except 1 were males) reported drinking and slightly fewer were narcotic drug users.

There were some limitations of the current study. It was carried out in only 2 universities in Benghazi, which limits the results to a certain social strata. The study used tools that were developed in other cultural contexts, which is also a limitation.

Conclusions

The study highlights some concerns about physical health status in terms of mobility, self-care, inability to conduct usual activities and mental health in terms of depression and anxiety, especially among women. Emotional health was at a transitional stage. Lifestyle variables showed that smoking and low levels of physical activity, especially among women, need to be addressed. Education programmes are needed for young people at university level in Libya on balanced nutrition and lifestyle modifications. Counselling programmes may be useful to equip students with better life coping skills to deal with stressful situations.

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Correction

E. Alkhasawneh, L. Ismayilova, H. Olimat and N. El-Bassel. Social and behavioural HIV/AIDS research in Jordan: a systematic review. *Eastern Mediterranean Health Journal*, 2012, 18(5):487–494. The name of the author H. Olimat in Arabic should read: عليمات وليس غليمات.