



Unmet Health Needs among Sohag University Students

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Abstract

Background: The gap between the amount of healthcare services believed to be required to treat a particular medical problem and the services actually received is referred to as unmet health needs. **Objectives:** This study aimed at studying the unmet health needs among university students and their causes: either problems of service availability or accessibility or acceptability. **Method:** it is a cross-sectional study including 435 university students in Sohag University, the University students were randomly chosen by a stratified random sample from randomly selected 4 faculties. The study was done using a questionnaire in the academic year 2023. **Results:** This study was performed on 435 university students, of whom (44.1%) reported unmet health needs. As regard causes of unmet health needs, 70.8% of those who had unmet health needs reported acceptability problems, while 68.2% reported service availability problems. **Conclusions:** The highest percentage of the studied population who had unmet health needs reported that there were service acceptability problems and then, the availability problems.

Key words: Unmet health needs, availability, accessibility, acceptability problems

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Introduction:

The concept of unmet health needs is the gap between the amount of healthcare services believed to be required to treat a particular medical problem and the services actually received. ⁽¹⁾

Unmet health care needs are those of an individual who has felt the need for medical services but has not received them. Limited access to healthcare services when and where they were needed may lead to unmet health care needs. It may also be brought on by accessibility issues, like money or transportation, or acceptability issues, such attitudes toward and knowledge of health care. ⁽²⁾

We could define health need as the potential for benefit in health care. An efficient intervention should be made accessible to address any recognized health needs and enhance health. If an intervention is ineffective or there are insufficient resources, there will be no benefits. ⁽³⁾

However, demand is what clients request, and what the majority of doctors deal with. Waiting lists operate as a proxy marker and effect on this demand, and general practitioners play a crucial role as gatekeepers in managing it. Patients' demand for a service may be influenced by their individual qualities or by media interest in the service. Supply can also influence demand; for example, geographical variation in hospital admission rates is better explained by the availability of hospital beds than by indicators of mortality, and general practitioners' referral rates are more influenced by the characteristics of specific doctors than by the general state of their respective populations. ⁽⁴⁾

The number of people reporting unmet needs has increased over the last few years. According to Statistics Canada, reports of unmet needs have risen across the country from 4% in 1994-1995 to

6% in 1998-1999 and to 13% in 2000-2001 to 18% in 2004. ⁽¹⁾

In United States, the prevalence of unmet varied from 25% in 1999 to 7% among insured population and 18 % among uninsured population in 2001. ⁽⁵⁾

In Egypt, the prevalence of unmet health needs among clients from outpatient clinic of Ain shams university hospital was 44.8% in 2013. ⁽⁶⁾

Therefore, to assess unmet health care needs, it is important to understand the barriers associated with them.^(7,8)

Rationale of the work: The university students are part of our young people. Our young people, as the next generation, shape the future of our country. Young people deserve to be supported and empowered to reach their full potential and improve their health. Having healthy young people ensures a healthier society for our country, both now and in the future. Youth health and wellbeing focuses on the healthy development of young people aged 18-24. So that, their health needs must be met ⁽⁹⁾

Aim of the study:

- 1- the aim was to study if there were any unmet health needs of Sohag university students.
- 2- If yes, detect the causes.
- 3- Also, predict factors affecting these causes.

Methodology:

Study type: It is a cross sectional study.

Study setting: The study was carried out in Sohag University.

Study population: The study targeted Sohag University students of both sexes from four faculties which were selected randomly (two theoretical; faculty of education, specific education and two practical faculties; faculty of medicine, pharmacy).

Inclusion criteria: Students (who are ≥ 18 years old) that approved to participate in the study.

Exclusion criteria: Students who refused to participate in the study or who were <18 years old.

Sample size: According to EPI info program version 3, the sample size was calculated to be 377 then 15% was added to be 435 to compensate for non-response and incomplete forms (confidence level was 95%, the prevalence of unmet health needs or the value of P was taken as

(44.8%) and the total number of students in Sohag University was 44000).^(6, 10)

Sampling technique: In order to have a representative sample, a multi-stage sampling technique was done, firstly two theoretical (faculty of education and specific education) and two practical (faculty of medicine and faculty of pharmacy) were chosen randomly, then the second stage: randomly select one section for each grade, then the last stage: simple random sample was taken from each section.

Data collection & procedure: Data was collected from Sohag University students through a self-administered questionnaire after explanation of the purpose of the study and their informed consent to participate in the study. It took about 10-15 minutes to answer the questionnaire.

Tools of the study: Chen and Hou questionnaire, (2002) to assess the unmet health needs. ⁽¹¹⁾

It includes the following items:

- 1- **Socio- demographic characteristics as:** age, faculty, grade...etc.
- 2- **Factors that might influence the unmet health care needs, which include:** (Perception of self-reported health, presence of a chronic condition and presence of a chronic pain).
- 3- **Presence of distress:** It's based on answers to some questions as: During the past month, how often did you feel? Sad, nervous and Restless?...etc. The answers choices: all of the time, most of the time, some of the time, a little of the time, and none of the time were weighted of 4, 3, 2, 1 and 0, respectively. The score ranges from 0 to 24. Those whose score was 7 or more were classified as distressed. Those whose score was less than 7 were considered as not distressed.
- 4- **Consultations** with specialist or general practitioners during the last year.
- 5- **Causes of unmet health care needs:** there are three groups of causes, causes due to: service availability (service not available when or where required); accessibility (cost or transportation), or acceptability (the remaining reasons, which concern attitudes and competing responsibilities).
- 6- **Attitude towards doctor authority and self-care:** was based on three statements: "I prefer doctors who give me choices or options and let me decide for myself what to do", "Patients

should never challenge the authority of the doctor” and” I prefer that the doctor assume all of the responsibility for my medical care.”.

Attitude toward self-care based on responses to two statements: “Except for serious illness, it is generally better to take care of your own health than to go to a doctor” and “It is better to go to a doctor than to try to treat yourself”. For each statement, respondents asked if they strongly agreed, agreed, neither agreed nor disagreed, disagreed, or strongly disagreed. The respective scores were 4, 3, 2, 1, and 0. The values for the first doctor authority statement and the second self-care statement reversed. The two variables constructed by taking the mean score of the answers to the questions. The scores for attitude toward doctors authority could range from 0 to 4, with higher scores representing a greater tendency to trust doctors; The scores for attitude toward self-care could range from 0 to 4, with a higher score representing a greater tendency to rely on self-care; The scores were classified into three levels: high for a score one standard deviation above the mean, low for a score one standard deviation below the mean, and middle for a score in between.

Period of the study: During the academic year 2022/ 2023, the work was started in July 2022 till June 2023.

Pilot study was done to assess translation of the questionnaire, time of interview and manner of asking. It was done in September 2022 before conducting practical fieldwork on 50 randomly selected university students from the four randomly selected faculties. No modifications

were made based on the pilot study, as there were no difficulties in the questionnaire.

Statistical analysis: Data entry and analysis was done using SPSS version 20 (statistical package for social science). Also, Excel 2010 was used for the graphs. Quantitative variables were expressed as means, standard deviation, median and range. Qualitative variables were described as frequencies (percentages). Chi- square test was used to compare between groups of qualitative data, Fisher`s exact test was used for Correction of chi-square when less than 20% of the cells have expected count less than 5. Independent T-test was used to compare means of normally distributed quantitative data. Binary logistic regression tests were done to identify predictors of the causes of unmet health needs (availability, accessibility, acceptability). (P value was significant if ≤ 0.05).

Results:

The studied sample was 435 students, we divided them into two groups (group1 who had unmet health needs and group2 hadn`t) according to the answer to the question: (during the past 12 months, was there ever a time when you needed health care but you didn`t receive it?). 192 (44.1%) of the students had unmet health needs, (25%) of them were at grade1, (32.8%) were from faculty of education, (52.6%) were females, (56.2%) were from rural residence, (70.8%) lived with their families, (91.1%) weren`t working and (98.4%) were single. (Table 1)

Table 1: socio-demographic characteristics and self-rated health of the studied students:

Variable		Group 1 (Had unmet needs) N=192 Freq. (%)	Group 2 (no unmet needs) N=243 Freq. (%)	Total	p-value
Age		Mean ± SD 20.72±1.28 Median 21 Range (min-max) 6 (18-24)	Mean ± SD 20.92±1.52 Median 21 Range (min-max) 7 (18-25)	Mean ± SD 20.83±1.42 Median 21 Range (min-max) 7 (18-25)	0.15 \neq
Grades	1 st Grade	48 (25%)	53 (21.8%)	101 (23.2%)	0.32*
	2 nd Grade	47 (24.5%)	56 (23%)	103 (23.7%)	
	3 rd Grade	46 (23.9%)	56 (23%)	102 (23.4%)	
	4 th Grade	33 (17.2%)	36 (14.8%)	69 (15.9%)	
	5 th Grade	12 (6.25%)	28 (11.5%)	40 (9.2%)	
	6 th Grade	6 (3.1%)	14 (5.76%)	20 (4.6%)	
Faculty	Medicine	34 (17.7%)	86 (35.4%)	120 (27.6%)	0.000#*
	Pharmacy	39 (20.3%)	61 (25.1%)	100 (22.9%)	
	Education	63 (32.8%)	52 (21.4%)	115 (26.4%)	
	Specific education	56 (29.2%)	44 (18.1%)	100 (22.9%)	
Gender	Male	91 (47.4%)	122 (50.2%)	213 (48.9%)	0.56**
	Female	101 (52.6%)	121 (49.8%)	222 (51%)	
Family residence	Rural	108 (56.2%)	114 (46.9%)	222 (51%)	0.053#**
	Urban	84 (43.8%)	129 (53.1%)	213 (48.9%)	
Current residence	With family	136 (70.8%)	172 (70.8%)	308 (70.8%)	0.82*
	University housing	26 (13.5%)	37 (15.2%)	63 (14.5%)	
	Expatriate outside university housing	30 (15.6%)	34 (14%)	64 (14.7%)	
Work	working	17 (9.8%)	12 (4.9%)	29 (6.7%)	0.10**
Marital status	Single	189 (98.4%)	241 (99.2%)	430 (98.9%)	0.47**
	Married	3 (1.6%)	2 (0.8%)	5 (1.1%)	
Describe your health	Poor	60 (31.2%)	39 (16%)	99 (22.8%)	0.000#**
	Good	132 (68.83%)	204 (84%)	336 (77.2%)	
Have chronic disease		45 (23.4%)	24 (9.9%)	69 (15.9%)	0.000#**
Feel pain for >6months		45 (23.4%)	13 (5.3%)	58 (13.3%)	0.000#**

#significant, *chi-square test, ** Fisher's Exact Test, \neq independent t-test

As regard self-reported health, (68.83%) of those who had unmet health needs, had good health, (76.6%) had neither chronic diseases nor chronic pain. (Table 1) Also, (11.5%) had depression

(Figure 1) and the most important unmet health needs among youth reported to be psychological needs cited by (68.5%) (Figure 2).

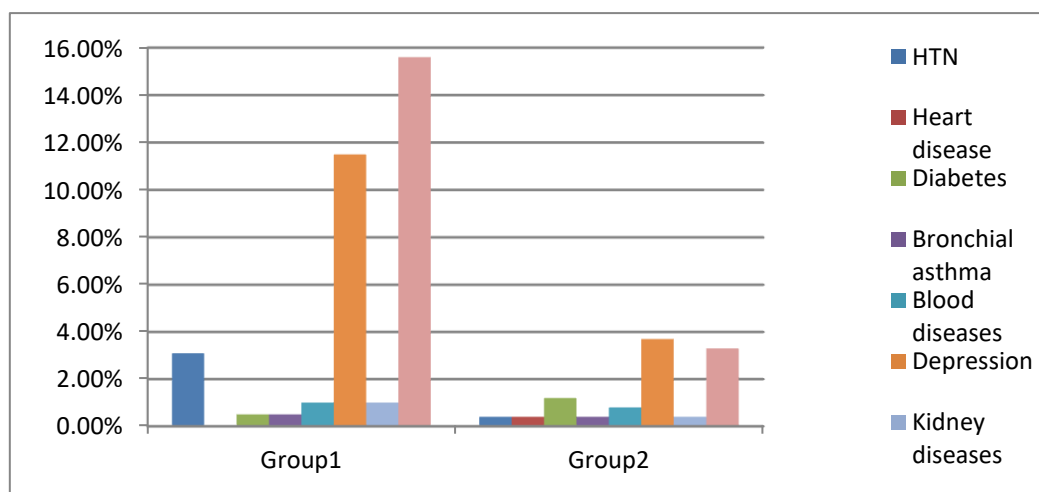


Figure (1): Comparison between the two groups as regard the chronic illness.

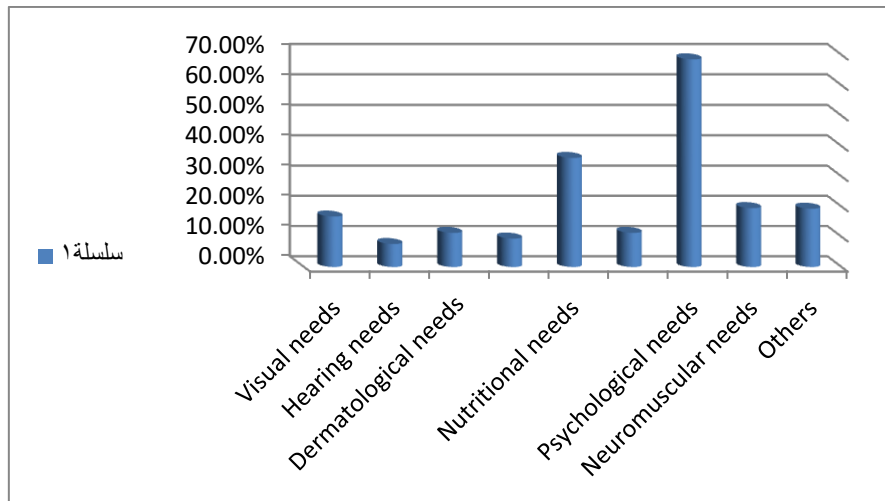


Figure (2): Bar chart shows the most important unmet health needs among students.

As regard causes of unmet health needs, (70.8%) of those who had unmet health needs, reported acceptability problems, (68.2%, 54.2%) reported availability and accessibility problems

respectively. However, the high cost was the most common reported reason for an unmet health needs, cited by (49.5%) and waiting too long cited by (47.4%). (Table 2)

Table 2: causes of unmet health needs:

Variable	Group 1 (Had unmet needs) N=192 Freq. (%)	Group 2 (No unmet needs) N=243 Freq. (%)	Total	P-value
Availability problems				
Wait too long	91 (47.4%)	108 (44.4%)	199 (45.7%)	0.56**
No available when required	78 (40.6%)	98 (40.3%)	176 (40.5%)	1.00**
Not available where you live	53 (27.6%)	66 (27.2%)	119 (27.4%)	0.91**
Accessibility problems				
Cost	95 (49.5%)	82 (33.7%)	177 (40.7%)	0.001#**
Transportation	36 (18.8%)	49 (20.2%)	85 (19.5%)	0.81**
Acceptability problems				
Too busy	41 (21.4%)	50 (20.6%)	91 (20.9%)	0.91**
Didn't bother	54 (28.1%)	44 (18.1%)	98 (22.5%)	0.01#**
Felt it would be inadequate	53 (27.6%)	60 (24.7%)	113 (25.9%)	0.51**
Decided not to seek medical advice	40 (20.8%)	35 (14.4%)	75 (17.2%)	0.09**
Didn't know where to go	34 (17.7%)	31 (12.8)	65 (14.9%)	0.15**
Dislike doctors/afraid	27 (14.1%)	28 (11.5%)	55 (12.6%)	0.47**
Had personal responsibilities	33 (17.2%)	20 (8.2%)	53 (12.2%)	0.005#**
Others	48 (25%)	46 (18.9%)	94 (21.6%)	0.13**

#significant, ** Fisher's Exact Test

As regard the final logistic regression for analysis of factors predicting availability problems, there was a significant association between students who visited the doctor (>10) times and the availability problems, OR was (0.10) also, there was a significant association between students who thought that health services didn't meet the needs and service availability problems, OR (85.01). There was a significant association between stud-

ents who a low doctor's authority score and the availability problems with OR (23.82), also There was a significant association between students who had a low and moderate self-care score and the availability problems, OR (68.35, 12.49) respectively. (Table 3)

As regard the final logistic regression of factors predicting accessibility problems, There was a significant association between the university

housing as a current resident and the accessibility problems, OR was (2.49), also, a significant association between those thought that health service didn't meet the needs and the accessibility problems, OR was (10.05). The p-value of both is <0.05. (Table 3)

As regard the final logistic regression of factors predicting acceptability problems, There was a significant association between those who thought that health service didn't meet the needs and acceptability problems, OR was (16.17). (Table 3)

Table 3: Final logistic regression of factors predicting the availability, accessibility and acceptability service problems:

Variable	Availability problems			Accessibility problems			Acceptability problems		
	OR	Lower CI	Upper CI	OR	Lower CI	Upper CI	OR	Lower CI	Upper CI
Current residence: *With family *University housing *expatriate outside university housing(R)				1.06 2.49	0.60 1.15	1.89 5.43			
How often: (1-5)times(R) (6-10)times (>10)times	6.55 0.10	0.01 0.02	3.62 0.63						
Health service meet the needs: No Yes(R)	85.01	13.04	553.99	10.05	5.35	18.89	16.17	8.99	29.09
Doctor's authority score: Low Middle High(R)	23.82 1.83	1.36 0.29	418.43 11.18						
Self-care score: Low Middle High(R)	68.35 12.49	4.52 2.13	1.03 73.41						

(CI) Confidence interval, (R) Reference group

As regard the final logistic regression model of factors predicting having unmet health needs, There was a significant association between being in the faculty of medicine and having unmet health needs, the OR was (0.37), also, there was a highly significant association between those who hadn't chronic pain and having unmet health needs, OR (0.20). (Table 4)

Table 4: Final logistic regression model of factors predicting having unmet health needs:

Variable	Multivariable			P-value
	OR	95% CI for EXP(B)		
		Lower	Upper	
Faculty : Medicine Pharmacy Education Specific education (R)	0.37 0.62 1.12	0.21 0.35 0.62	0.67 1.12 1.98	0.001# 0.11 0.77
Chronic pain: No Yes(R)	0.20	0.11	0.40	0.000#

#significant, (R): reference group

As regard the consequences of unmet health needs among young people, "deteriorating health" was the most common reported one. (Figure 3)

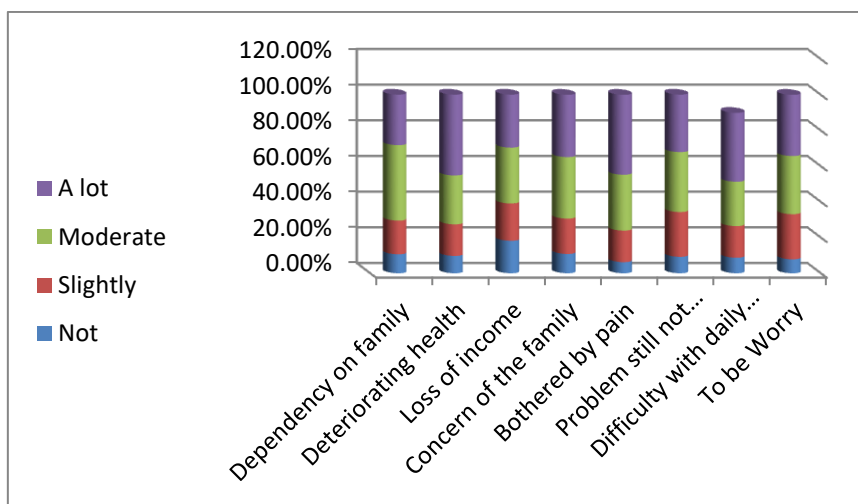


Figure (3): Bar chart shows the consequences of unmet health needs

Discussion

Egypt's health services are currently managed, funded, and supplied by organizations in the public, parastatal, and private sectors of the economy. ⁽¹²⁾

The University Medical Center (UMC), which offers university students inexpensive healthcare in practically every medical specialty, is one of the most significant government agencies. The university students are part of our young people. A nation's society will be healthier in the long run if its youth remain in good health. Youth health and wellbeing focuses on the healthy development of young people aged (18-24). ⁽¹³⁾

The prevalence of unmet health care needs among our studied university students (18 years and over) was 44.1%. In our study we assessed the unmet health care needs in the past 12 months which is considered a short time to be less liable to memory or recall bias. Similar findings were reported in a study of "Unmet Health Care Needs among Clients from Outpatient Clinic of Ain Shams University Hospitals, Cairo, Egypt", where the prevalence was (44.8%). ⁽¹⁰⁾

In our country, Egypt, any individual can get in to the primary health care services, to meet their needs, and as regard students there are also the University Medical Centers (UMCs) which are in free or minimal fees. However, nearly two-thirds of the studied population who had unmet needs had good self-reported health and less than fourth of subjects with unmet needs reported chronic diseases diagnosed by physician (23.4%). This might be due to that chronic diseases are already rare in young adults. This is consistent with the research done at Ain shams where less than fourth

of subjects with unmet needs, reported that they had chronic diseases diagnosed by physician.

On the other hand, the highest self-reported chronic disease among the unmet and the total studied population was depression then hypertension. That might be explained by the stress of the study and competition of the exams which made the students more vulnerable to depression. The cross sectional study of Ain shams University hospital revealed that hypertension was the highest self-reported chronic disease. We still need more studies on the young people, in our community, to understand better the factors affecting their health, the reasons for the unmet health needs and how to improve them. ⁽⁶⁾

As regard causes of unmet health needs, among those, who had unmet health needs, the first cause for unmet health needs was acceptability problems as more than two-thirds of the students, that had unmet health care needs, had acceptability problems (70.8%). Moreover, more than half (68.2%) of them had availability problems and (54.2%) had accessibility problems. That was in line with the study of unmet health needs at Ain shams University where the highest reasons were related to the acceptability problems. ⁽⁶⁾

As regard the factors predicting the availability, accessibility and acceptability service problems, there was a significant association between availability service problems and students who visited the doctor (>10) times and the availability problems, OR was (0.10) also, students who thought that health services didn't meet the needs, OR (85.01). There was a significant association between students with a low doctor's authority score

and the availability problems with OR (23.82), also There was a significant association between students who had a low and moderate self-care score and the availability problems, OR (68.35, 12.49) respectively. There was a significant association between the university housing as a current resident and the accessibility problems, OR was (2.49), also, a significant association between those thought that health service didn't meet the needs and the accessibility problems, OR was (10.05). The p-value of both is <0.05. There was a significant association between those who thought that health service didn't meet the needs and acceptability problems, OR was (16.17).

By comparing our results with the cross sectional study of Ain shams University Hospital, in their study, People who trusted doctors had relatively low odds of reporting unmet needs due to service availability and acceptability problems. This may be due to people were less skeptical about health care services or because of positive experiences receiving health care in the past. The logistic regression model of their study showed that the females odd's ratios (1.41) and those in the aged 35-<45 years (O.R. = 12) showed a higher risk of having unmet health care needs than males and those who had older age. Also, people with chronic condition and distress odd's ratios (1.74, 1.61) were significantly having unmet health care needs than those not afflicted. Those in the middle self-care score showed significantly higher risk of having unmet health care needs. (2, 6, 14)

Conclusions:

The highest percentage of the study population who had unmet health needs reported that there were service acceptability problems and then, the availability problems. There are special unmet health needs for the young population in Sohag University, and a high need for providing psychological support. The most common disease among them was depression.

Recommendations: Based on the results of our study, it is recommended to:

-put plan in health care service to treat causes of unmet health needs that attributed to acceptability and availability problems.

-providing more services for psychological support to meet the psychological needs of the students, as it was the most important unmet health

need among our studied population, followed by nutritional needs.

Strengths of the study

The study was carried out on randomly selected 4 faculties which include 2 practical and 2 theoretical faculties and included students at all grades so the results can be generalized on Sohag university students.

Constrains and limitations of the study

Results are not representative to the whole youth in Upper Egypt. They are limited to university students as there are groups of youth who did not join university education.

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