

# Health services in Iraq - A cross-sectional survey of adolescents in Basra

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## SUMMARY

Adolescence is a transition phase from a child into an adult. Adolescents face many problems, including psychological, health, and economic problems. In some developing countries such as Iraq, adolescents face several barriers to obtaining the health services they need. We performed a cross-sectional survey of adolescents in Basra, the second-largest city in Iraq, from November 2020 to March 2021 to collect data from respondents to obtain information about the types of adolescent problems, the individuals and institutions adolescents turn to, and the role of public health centers in dealing with their problems. We randomly selected study participants from high school students and non-students between the ages of 12 and 18 years of both sexes. The sample size was 100 people, who were divided according to gender and educational level into 4 groups. We found through the study that psychological problems represent the largest proportion of health problems, and most adolescents turn to their parents to discuss their problems. Our study revealed that the number of working non-students is more than double the number of working students in this survey, and poverty was the main reason for work. Our results also showed that a quarter of the participants were below average, most of them non-students, and 28% of adolescents were dissatisfied with the efficiency and adequacy of the health services provided (half of them are non-students). Our study indicated that there is an urgent need to pay attention to public health centers and provide health and psychological support to adolescents.

## INTRODUCTION

As a child transitions from childhood to adulthood, they go through a biological transition resulting in physical appearance changes, the emergence of sexual maturity, and a psychological/cognitive transition (1). These changes are mostly accompanied by multiple hallmarks including exploration and experimentation. These hallmarks may lead to harmful and risky behavior, such as unwanted pregnancy, HIV/AIDS and drug abuse (2). On the other hand,

psychological problems and mental health conditions can also affect adolescents (3). According to previous studies, 10-20% of children and adolescents worldwide suffer from some type of psychological or mental health problem such as teen depression, anxiety disorders, and attention deficit disorder (4-6). Therefore, mental health problems are one of the most prevalent problems among adolescents who represent 16% of the world's population today (7). In addition to mental health problems, adolescents suffer from other health problems such as chronic diseases, respiratory diseases, and heart disease (8, 9).

In many countries, especially in some developing countries, adolescents face many barriers to obtaining the health services they need to address their problems. These barriers relate to the availability, accessibility, acceptability, and equity of health services (10). Adolescent and Youth-Friendly Services (AYFS) are designed to address the barriers faced by youth in accessing high-quality health services and have been implemented in many countries (11). Unfortunately, the Iraqi government has not yet implemented AYFS or developed a special program to care for young people or address their problems. Youth services in Iraq are provided by public health centers which are still not enough. Therefore, adolescents may turn to their parents, friends or information on the Internet to find solutions to their problems. No national data is available in Iraq showing the number of adolescents who have benefited from the health services. The need for adolescent feedback in assessing health care services is particularly critical since adolescents have specific health needs that differ from adults (12). Hence, adolescent satisfaction surveys should be given equal priority with the assessment of their problems (13).

To the best of our knowledge, there has been one study done in Iraq regarding the assessment of adolescent health services and the satisfaction level of adolescents attending health facilities (14). This previous study explored the opinions of adolescents about the most common problems faced by them in addition to the efficiency and adequacy of health services in public health centers in the capital, Baghdad (14). As no other assessments exist for Iraqi adolescents, comparison to other data is not possible. For international comparisons, similar findings were reported from other nationwide assessments in Asian and African countries. For

example, research conducted in two provinces in Southern Africa showed that there were no health facilities that met the minimum standards for adolescent services (15). Another study on adolescent access to AYFS in India showed that only a small percentage of females were able to benefit from this program (16). Although improvements have been made in adolescents' access to youth programs, studies in sub-country areas of Kenya, Ethiopia, and Indonesia have found only 38.5%, 36%, and under 50% of respective adolescents have utilized AYFS. In contrast, some European countries such as Sweden reported the presence of AYFS in 225 out of 290 municipalities, each serving about 3,500 people (17).

Our study assesses the educational level, marital status, and economic status of adolescents, which affects the ability of public health centers to deal with their various problems. In addition to identifying the extent of youth satisfaction with the performance of these centers. Based on the level of health care in Iraq, which was described in the reports of the World Health Organization (WHO) during the past years (18), we expect that the access of adolescents to public health centers will not exceed 50%. We hypothesized that the number of non-student adolescents (especially females) exposed to several types of problems such as health problems, psychological problems, financial problems, and sexual problems would be more than students.

In addition, we expected some adolescents to turn to their families or friends to address their problems due to their lack of belief in the ability of health institutions to provide specialists for them. However, we did not expect a significant gap between the results of the two groups (students and non-students), given that they are exposed to similar daily stressors. On the other hand, the economic crisis in Iraq has exacerbated the financial problems of adolescents and their families, which has led to an increase in the number of students who drop out of school (19). Therefore, we hypothesized that more non-students will have permanent or part-time jobs than students.

Our research will enhance knowledge of the problems experienced by adolescents (male and female) in Iraq and explain to what extent leaving school leads to an increase in the percentage of certain types of problems. The research contributes to shedding light on the reality of health institutions in Iraq for the purpose of improving their performance in a way that makes them meet the needs of adolescents in this country.

## RESULTS

Out of a total of 100 adolescents who participated in the survey, 8 were married (Table 1). The number of non-students married (2 males and 4 females) was more than the married students (1 male and 1 female). We asked respondents to rate their economic status. Most adolescents (64%) lived at an average economic level, 26% lived under the poverty line, and just 10% lived above average. Regarding the employment status of the participants, 31 participants reported having a job, 4 males and 1 female were students while 19 males and 7

Variables		Students		Non-students		Percent
		Males	Females	Males	Females	
Marital Status	Married	1	1	2	4	8
	Single	24	24	23	21	92
Economic Status	Below Average	4	3	9	10	26
	Average	18	19	15	12	64
	Above average	3	3	1	3	10
Employment Status	Permanent Job	0	0	7	2	9
	Part-Time	4	1	12	5	22
	No Job	21	24	6	18	69

**Table 1. Marital, economic and employment statuses of the students and non-students.** The number and percentage of married and single participants (students and non-students, males and females) that have below (below the poverty line), average or above average economic status with part-time, permanent jobs or no job.

females were non-students. All working students had a part-time job, and no one had a full-time job. For working non-students, only 7 males and 2 females had a full-time job while others had a part-time job. By talking with adolescents about the reasons for work, poverty was the main reason for this, followed by the search for financial independence.

We asked some questions regarding the challenges adolescents face in Iraq (Table 2). Eighty-two percent of respondents reported suffering from several types of problems such as health, psychological, financial, and or mixed problems. The rest of the adolescents (18%) reported they had no problems or did not answer the survey questions. Most adolescents' problems are psychological (22%) and mixed (21%). The number of female students and non-students with

Problem	Students		Non-students		Percent
	Males	Females	Males	Females	
Health	2	4	2	2	10
Psychological and mental health	4	5	2	11	22
Sexual	0	0	1	0	1
Financial	4	1	10	2	17
Multiple	5	4	7	5	21
Others not mentioned	4	3	1	3	11
None listed	5	6	1	1	13
Did not answer	1	2	1	1	5
Total number	25	25	25	25	100

**Table 2. Personal problems of adolescents.** Comparison between the students and non-students who face problems, do not face problems or did not answer. The total percentage for each category is shown.

Variables	Students	Non-students	p-value
Have health, psychological, sexual, financial, mixed and other problems	36	46	0.056
Turn to individuals and entities when they face a problem	50	48	0.112
Dissatisfied with the services of public health institutions	35	34	0.27

**Table 3. Statistical differences between students and non-students.** IBM SPSS Statistics 24 was used to calculate *p*-values. An alpha level of 0.05 or less was taken significant when students and non-students were compared to each other. Significant comparisons are indicated by shaded rows.

psychological problems is 5 and 11, respectively, more than the number of males. Seventeen percent of adolescents reported they face financial problems in their lives. As expected, male non-students were the largest group that reported financial problems where most of the financial needs of student and female non-students had financial security, usually through their parents. Three students did not answer the questions (one male and two females), and two non-students did not answer (one male and one female).

In general, the total number of adolescents who reported having problems was 36 students (19 males and 17 females) and 46 non-students (23 males and 23 females) (Table 3). Without factoring in gender, no effect was observed between students and non-students with different problems ( $p = 0.056$ ).

To identify the individuals and institutions that adolescents turn to when they face any problem, we asked the adolescents some questions related to that. Most participants preferred to tell their parents about their problems or visit medical centers (Table 4). Specifically, 36% of respondents indicated that they turn to their parents while approximately one-third of participants preferred to visit public health centers, hospitals, and private clinics. There is no major difference between students and non-students that preferred these choices. For students, 4 males preferred to listen to advice from a trusted friend or relative about their problems while 2 females preferred this method. Additionally, 5 males and 4 females of the non-students preferred this choice. This constitutes 15% of the respondents' opinions who participated in the survey. On the other hand, by using social media and the Internet, some adolescents received health information or tried to use some medicines available in pharmacies without medical prescriptions. 8% of the participants selected the two previous choices (most of which are students). A small proportion (3%) of the participants (non-students) tried to find solutions to their problems through a cleric. The same proportion (3%) turned to other sources that were not mentioned in this survey, and 2% of participants did not answer the questions.

In general, the adolescents who reported turning to different entities when they faced a problem were 50 students (25 males and 25 females) and 48 non-students (24 males and 24 females, Table 3). Without factoring in gender, no

Entities	Students		Non-Students		Percent
	Males	Females	Males	Females	
Health center, hospital, or private clinic	8	10	7	8	33
Internet and pharmacy	3	2	2	1	8
Parents	10	9	8	9	36
Friend or relative	4	2	5	4	15
Cleric	0	0	1	2	3
Others not mentioned	0	2	1	0	3
Did not answer	0	0	1	1	2
Total number	25	25	25	25	100

**Table 4. Who do the adolescents turn to when they have a problem?** Individuals or institutions that adolescents turn to in search of solutions. The percentage of each entity with the information about the number of each category is shown.

effect was observed between students and non-students who turn to individuals and entities when they face a problem ( $p = 0.112$ ).

We measured adolescents' satisfaction with public health services. Except for 28% of participants who were satisfied with the services provided by public health institutions, the participants reported that the most common reasons for their dissatisfaction were lack of appropriate medicines and poor hygiene in the health care facilities (Table 5). Eight students reported that medicines are not always available, 13 non-students agreed with students. The first reason was the lack of adequate medicines where 21% of participants were dissatisfied with local health services while the second reason was the poor health care. On the other hand, 10

Level of satisfaction	Students		Non-students		Percent
	Males	Females	Males	Females	
Satisfied	5	9	6	8	28
Dissatisfied due to poor health care	7	5	2	5	19
Dissatisfied due to lack of attention by health staff	7	3	5	2	17
Dissatisfied due to lack of adequate medicines	3	5	8	5	21
Dissatisfied due to poor hygiene in health care facilities	1	1	4	3	9
Dissatisfied due to poor reception	2	1	0	0	3
Did not answer	0	1	0	2	3
Total number	25	25	25	25	100

**Table 5. The level of respondents' satisfaction with the health services provided at the public health institutions.** The extent to which adolescents in Iraq are satisfied with the health services provided to them shows the reasons why many of them are not satisfied with these services.

students and 7 non-students indicated a lack of interest from health workers. The remaining percentage of participants was divided between poor hygiene in health care facilities (9%) and poor reception (3%) while 3% abstained from answering.

In general, the number of adolescents dissatisfied with the services provided by public health institutions was 35 students and 34 non-students (**Table 3**). Without factoring in gender, no effect was observed between students and non-students in dissatisfaction with services provided by public health institutions ( $p = 0.27$ ).

## DISCUSSION

Six out of 8 of married participants are non-students (**Table 1**). Some families, especially in rural areas, tend to marry off the young people, especially females, at an early age. Therefore, they are not keen on sending their daughters to secondary schools or universities. In general, female non-students were the high percentage of participants who suffered from psychological problems and mental health conditions, as their number was 11% of the number of respondents (**Table 2**). This indicates an increase in psychological problems among uneducated females. On the other hand, due to the national financial crisis and the COVID-19 pandemic, Iraq has suffered a sharp decline in economic activity during the past few years, which negatively affected the availability of job opportunities for young people. Additionally, official work is not allowed in Iraq for those under 18 years old, but there are exceptions. Adolescents still have jobs even if the jobs are not official. In fact, students depend on their families to cover their costs. This factor may explain the statically difference between the students and non-students in the employment status category where only 5 of 50 students and 26 of 50 non-students have a job and only 9 of the participants have a permanent job (**Table 1**).

We estimated the economic status of the participants in this study. The results showed that 28% of participants were below average, and most of them were non-students. Based on the Well-Being via Instant and Frequent Tracking (SWIFT) survey that was conducted in 2018, the food poverty line was 53,300 Iraqi dinars (\$36) per person per month (20). It is especially important to note that the Central Bank of Iraq (CBI) has indicated that (23%) of the population in Iraq lived below the poverty line in 2009 (21). The proportions of below-average participants obtained through this survey are above the poverty line established by CBI, which indicates that poverty in Iraq, especially in Basra, has increased over the past decade. On the other hand, unemployment rates in Iraq for the period 2011-2017 increased from 11 to 25% (22).

Increasing unemployment rates may reinforce the belief of some adolescents and their parents that there is no point in continuing to study with diminishing chances of obtaining a job after graduation. Families with poor economic conditions may discourage their kids from studying, preferring that they work to improve the family's economic situation. It is worth noting that the number of working non-students in this survey

is more than double the number of working students. Although there are many reasons behind the work of adolescents, poverty was the main reason for that (3 out of 4 student is and 16 out of 26 non-students).

Our study shed light on the problems faced by adolescents and revealed that psychological problems were the most frequent problem for adolescents (**Table 2**). This finding showed similarity with an assessment study done in Iraq-Baghdad (13). The result can be attributed to the psychological pressures that adolescents are exposed to in their daily lives. On the other hand, chronic disease is considered an important indicator of general health and development. Our survey reported that 10% of respondents suffer from a chronic disease. This proportion agrees with previous studies that showed a similar prevalence of chronic diseases among Iraqi youth, with about 10% of youth affected (23). However, this proportion is high compared to other countries. For example, in the United States, 6% of persons aged 10-18 years have a chronic health condition that results in limitation of daily activities or disability (8). In addition, 11% of participants suffered from various problems not mentioned in our survey, such as social problems and violent addiction, but did not refer to cases of drug and alcohol addiction. In fact, there are no stores that can sell alcohol freely in Basra as it is a conservative society.

Only 1% suffered from sexually transmitted diseases (**Table 2**). Seventeen percent of adolescents have mixed problems, and those need more attention to analyze their problems. Although 33% of adolescents visited health centers and private clinics (**Table 4**), this percentage is still low. More than one-third of adolescents preferred to discuss their problems with their parents, indicating the depth of the relationship between parents and their children. 15% preferred to discuss their problems with their friends or relatives, and 8% tried to help themselves using the information on the Internet or using some medicines from pharmacies. About the extent of adolescents' satisfaction with the services provided in many public health centers, some of them were not satisfied with them (**Table 5**). Poor health care and lack of appropriate medicines in public health centers were the main reasons for this. It is worth noting that Iraq witnessed a remarkable growth in its population from 28 million in 2006 to 35 million in 2019. However, the organizational structure of the Iraqi health system did not witness any notable change during this period (24). According to The Central Statistical Organization in Iraq (CSO), there are 138 primary health care centers in the city center and the outskirts of the province, providing their services to about 3 million people in Basra, which means that each primary health center provides services to about 22,000 people (25).

In general, the results of this study confirmed our previous hypotheses that adolescents in Iraq suffer from similar problems with slight differences between students and non-students where many adolescents have trouble accessing health facilities that meet their needs. Future research could

address other problems that adolescents suffer from in Iraq, such as addiction to smoking or drugs, as well as the reasons that lead them to addiction and the extent to which addicts are convinced of the role of health centers designated to raise awareness of the dangers of addiction and treat addicts.

### MATERIALS AND METHODS

We distributed a cross-sectional survey of adolescents to 100 participants (male and female), half of them are non-students (a non-student is defined as a person who is illiterate or who has not attended or continued his studies at a secondary school) and the rest are students (the student was defined as the person who continues to study in a secondary school) who are registered in 10 public secondary schools in Basra Governorate. We have selected five sites for study: One at the city center of Basra and four districts around it: AL-Qurna, AL-Zubair, Shatt Al-Arab, and Abu Al-Khaseeb. In each of these samples, the adolescents ranged in age from 12-18 years and the mean age was 16.5 years. We selected participants using proportional random sampling techniques. The purpose of the questions we asked in the survey was to assess the problems of adolescents and their opinions about health services in their areas. In addition, we interviewed non-literate people to submit questions and get answers. This survey was completed from November 2020 to March 2021 after documentation of parental/guardian permission.

The data collection tool was a questionnaire consisting of three parts. The first part collected demographic characteristics such as age, sex, marital status, literacy level, economic status, and job type. We classified the economic status of adolescents into three stages below average (under the poverty line, 53,300 Iraqi dinars = \$36 per person per month), average (53,300 - 250,000 Iraqi dinars = \$36 - \$170), and above average (more than 250,000 Iraqi dinars = \$170). The second part included the personal problems of adolescents according to sex and education, and knowledge of who adolescents turn to when they face these problems in their lives, such as their parents or public health centers. The third part included questions related to the extent of adolescents' satisfaction with public health services. The questionnaire included 23 questions. We used IBM SPSS Statistics 24 to calculate the *p*-values.

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### REFERENCES

1. World Health Organization. *Health for the world's adolescents: a second chance in the second decade: summary*. No. WHO/FWC/MCA/14.05. World Health Organization, 2014.
2. Dixit, Grishma T., *et al.* "Adolescent friendly health services: where are we actually standing?" *International Journal of Community Medicine and Public Health*, vol. 4, no. 3, Mar 2017, pp. 820-824.
3. Adhikari, R. P., *et al.* "Health and social vulnerability of adolescents in Nepal." *SM J Public Health Epidemiol*, vol. 2, no. 3, Oct. 2016, pp. 1032.
4. World Health Organization. "Mental health status of adolescents in South-East Asia: Evidence for action." Sep. 2017.
5. Granrud, Marie Dahlen. *Mental health problems among adolescents: Public health nurses' work and interprofessional collaboration within the school health service*. Diss. Karlstads universitet, 2019.
6. Cybulski, Lukasz, *et al.* "Temporal trends in annual incidence rates for psychiatric disorders and self-harm among children and adolescents in the UK, 2003–2018." *BMC psychiatry*, vol. 21, No. 1, May 2021, pp. 1-12.
7. UNICEF Programme Guidance for the Second Decade: Programming with and for Adolescents. Programme Division 2018. [www.unicef.org/media/57336/file](http://www.unicef.org/media/57336/file). Accessed 24 Jan. 2021.
8. Neinstein, Lawrence S. "The treatment of adolescents with a chronic illness." *Western Journal of Medicine*, vol. 17. No. 5, Nov. 2001, pp. 293–295.
9. Suris, Joan-Carles, Pierre-André Michaud, and Russel Viner. "The adolescent with a chronic condition. Part I: developmental issues." *Archives of Disease in Childhood*, vol. 89. No. 10, 2004, pp. 938-942.
10. World Health Organization. "Making health services adolescent friendly: developing national quality standards for adolescent friendly health services." 2012.
11. Vukapi, Yonela. *Exploring the role of adolescent youth-friendly services (AYFS) in primary health care clinics that offer HIV and sexual reproductive health (SRH) services for adolescent girls and young women in Vulindlela, KwaZulu-Natal, South Africa*. Diss. 2020.
12. Shapiro, Jeremy P., *et al.* "The youth client satisfaction questionnaire: Development, construct validation, and factor structure." *Journal of Clinical Child Psychology*, vol. 26, no.1, 1997, pp. 87-98.
13. Malm, Desire, *et al.* "Validation of a questionnaire to measure youth-friendliness of Swedish youth clinics." *Scandinavian Journal of Public Health*, vol. 45, no. 4, Apr. 2017, pp. 366-372.
14. Radwan Belwali, *et al.* "Youth-Friendly Health Services – A Survey of a Sample of Baghdad's Youth." *Iraqi Journal of Community Medicine*, vol. 24, no. 1, 2011, pp. 70-77.
15. James, Shamagonam, *et al.* "Assessment of adolescent and youth friendly services in primary healthcare facilities

- in two provinces in South Africa.” *BMC Health Services Research*, vol. 18, no.1, Oct. 2018, pp. 1-10.
16. Dixit, Grishma T., et al. “Adolescent friendly health services: where are we actually standing?” *International Journal of Community Medicine and Public Health*, vol. 4, no. 3, Mar 2017, pp. 820-824.
  17. Baltag, Valentina, Alex Mathieson, and World Health Organization. “Youth-friendly health policies and services in the European region: Sharing experiences.” (2010).
  18. Ali, A. A., I. Abdulsalam, and A. M. Hasan. “Iraq Health Information System Review and Assessment.” Iraq, Baghdad, Jul. 2011.
  19. Al-Shaikhly, S., and Cui J. “Education in Iraq. [Online] World Education News+ Reviews.” (2017).
  20. Iraq - Survey of Well-Being via Instant Frequent Tracking (SWIFT) for Central Statistics Office (CSO) Project: additional financing (English). Washington, D.C: World Bank Group. 2018. [www.cosit.gov.iq/ar/documents/Living%20conditions/202017-2018.pdf](http://www.cosit.gov.iq/ar/documents/Living%20conditions/202017-2018.pdf).
  21. Central Bank of Iraq Annual Report 2009, The Republic of Iraq, the Central Bank of Iraq, Department of Statistics and Research. 2009. The official website of the Central Bank of Iraq, [www.cbi.iq](http://www.cbi.iq).
  22. Mahmood, Sawsan Ali. “Measuring the Impact of Some Economic Variables on Unemployment Rates in Iraq for the Period (1990-2017).” *International Journal of Management*, vol. 11, no. 10, Oct. 2020, pp. 960-976.
  23. World Health Organization. *Annual technical report: 2014: department of reproductive health and research, including UNDP/UNFPA/WHO/World Bank Special Programme of Research Training in Human Reproduction (HRP)*. No. WHO/RHR/15.10. World Health Organization, 2015.
  24. Agha, Araz, et al. “London’s Off-Site Manufactured Housing Model as a Practical Solution to Change the Future of High-Density Cities: A Feasibility Study to implement it in Baghdad, Al-Sadr City.” *International Journal of Engineering, Management and Humanities*, vol. 3, no.1, 2022, pp. 14-36.
  25. The Central Statistical Organization in Iraq (CSO). “National Health Statistics for 2020”, the Iraqi Ministry of Planning. May 2020. [www.ghdx.healthdata.org/series\\_and\\_systems](http://www.ghdx.healthdata.org/series_and_systems).

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