

The morbidity pattern among adolescents visiting Primary Health Care Centers

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ABSTRACT

Objective: The aim of this study is to determine the morbidity pattern among Saudi adolescents in Riyadh City.

Methods: A cross sectional survey comprising 1473 (852 males (58%) and 621 females (42%)) Saudi adolescents aged 11 to 21 years old, visiting 10 primary health care centers, selected randomly in Riyadh city, who were invited to complete a 23 item questionnaire. Part of the questionnaire was designed to be completed by the doctor, and includes the diagnosis of the current problem or chief complaint and any chronic illness. The other part to be completed by the adolescent and includes the question - reason for attending the clinic. These questionnaires were collected within a period of one month from 15 May to 15 June 1998.

Results: Upper respiratory tract infection constituted 43% of adolescent complaints. Two hundred and seventy adolescents have a chronic illness i.e. 18% of the study sample, bronchial asthma being the most common at 10%.

Conclusions: Improvement of the care of chronic illnesses in primary health care centers is needed. Establishment of health education programs about self-treatment of upper respiratory tract infections (the most common complaint) at home would result in a decrease of the load on the health system.

Keywords: Morbidity, adolescents, primary health care centers, chronic illnesses.

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The definition of the period of adolescence is different from one country to another. The American Medical Association and the American Academy of Pediatrics define adolescents as those persons 11 to 21 years of age.¹ The World Health Organization (WHO) had considered 10 to 19 years as the period of adolescence,² while some literature defined adolescents as those aged between 13 to 19 years.³ Estimates suggest that approximately 30% of the world's population are currently between the ages of 10 and 24 years.² Three-quarters are living in the developing countries.^{4,5} About 25% of the population of Saudi Arabia is aged between 11 and 21 years. It is found that adolescents have the lowest rate of physician office visits than any other age group.⁶ Many doctors think that they are healthy with low morbidity and mortality⁷ and spend less time with them,⁸ but they have many health concerns

that are not dealt with professionally.⁷ In United Kingdom (UK), the most common reasons that cause adolescents to consult primary care doctors are found to be respiratory illness, infective and parasitic diseases, allergy, diseases of nervous system, and skin diseases.^{9,10} Saudi adolescents are expected to have the same reasons for consultation as UK teenagers, with the exception of some clinical problems like sexually transmitted diseases, illegal pregnancy, and therapeutic abortion, which are expected to be less.¹¹⁻¹³ This paper is part of a study carried out in 1998, and the aim of this part of the study is to determine the morbidity pattern among Saudi adolescents in Riyadh City.

Methods. Background. Riyadh city is the capital city of Saudi Arabia which has a population of 3.1

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million, 69% of them Saudis.¹⁴ The City is served by 58 primary health care (PHC) centers, and each primary care center is divided into 2 separate halves, one half served by male doctors for male adolescents, the other half by female doctors for female adolescents. This is a cross sectional survey carried out in 10 PHC centers, selected randomly in Riyadh City.

Subjects. The study sample consists of 1473 Saudi adolescents aged between 11 and 21 years old, that have attended PHC centers in a period of one month from 15 May to 15 June 1998 (852 males (58%) and 621 females (42%)).

Source of data and data collection. A letter of authorization was taken from the Health Affairs of Riyadh Region, Department of Primary Health Care to perform the study in the PHC centers. Each questionnaire has a brief introduction stating the aim of the survey, that the information that has been given by the subject will be used in the research with confidentiality, the name of the subject will not be written, and asking for his cooperation. A pilot study was carried out in Al-Rabowa Health Center, where 50 questionnaires were distributed to 35 males and 15 female Saudi adolescents. Some changes were made accordingly. Each doctor in the selected PHC center was given these questionnaires and instructed to invite the Saudi adolescents coming to his clinic during the study period to participate in the study. The purpose of the research was fully explained to the doctors in the chosen PHC centers. The questionnaires consist of 23 items. The questionnaires contain some items to be completed by the doctor including age, sex, diagnosis of current problem or chief complaint, and any chronic illness. Information on the absence or presence of a chronic disease was recorded by the interviewing doctor from the file of

Table 1 - The age and sex distribution of study sample of Saudi adolescents in Riyadh City, May 1998.

Age	Male n = 852 (%)	Female n = 621 (%)	Both sexes
11	14 (2.0)	19 (3.0)	33 (2.0)
12	31 (4.0)	36 (6.0)	67 (4.5)
13	41 (5.0)	38 (6.0)	79 (5.0)
14	61 (7.0)	48 (8.0)	109 (7.0)
15	74 (9.0)	52 (8.0)	126 (9.0)
16	84 (10.0)	63 (10.0)	147 (10.0)
17	121 (14.0)	57 (9.0)	178 (12.0)
18	129 (15.0)	78 (13.0)	207 (14.0)
19	112 (13.0)	75 (12.0)	187 (13.0)
20	98 (11.5)	92 (15.0)	190 (13.0)
21	87 (10.0)	63 (10.0)	150 (10.0)
TOTAL	852 (100)	621 (100)	1473 (100)

the subject. One of the chosen primary care centers had no filing system; information was taken from the subject by asking him directly. The questionnaires contained a question regarding the reason of attendance to the PHC clinic? The response to be completed by the subject and will be either: 1. had illness, 2. for sick leave 3. were forced by their parents with no illness, 4. accompanied their relatives or friends, 5. for check up, 6. for vaccination.

Results. Socio-demographic data. The age and sex distribution of the study subjects is presented in detail in Table 1. This shows that two thirds of the sample were aged 16 years old and above. Subjects aged 19-21 years old constitute 36%, 45% of subjects are aged 15-18 years old, and 20% aged 11-

Table 2 - The common conditions causing Saudi adolescents in the study sample to visit the Primary Health Care doctor in Riyadh City, May 1998.

Conditions	Male n = 764 (%)	Female n = 565 (%)	Both sexes number (%)
1. Upper respiratory tract infection*	360 (47.0)	217 (38.0)	577 (43.0)
2. Respiratory system**	80 (10.5)	23 (4.0)	103 (8.0)
3. Musculoskeletal system	56 (7.0)	29 (5.0)	85 (6.0)
4. Ear, nose and throat problems	44 (6.0)	41 (7.0)	85 (6.0)
5. Gastrointestinal system	41 (5.0)	44 (8.0)	85 (6.0)
6. Skin conditions	36 (5.0)	39 (7.0)	75 (6.0)
7. Obstetrics & Gynecology	-	68 (12.0)	68 (5.0)
8. Injury	48 (6.0)	6 (1.0)	54 (4.0)
9. Central nervous system conditions	25 (3.0)	15 (3.0)	40 (3.0)
10. Fatigue and vague symptoms	14 (2.0)	19 (3.0)	33 (2.5)
11. Dental problems	9 (1.0)	8 (1.0)	17 (1.0)
12. Anemia	5 (1.0)	9 (2.0)	14 (1.0)
13. Eye problems	22 (3.0)	21 (4.0)	43 (3.0)
14. Genitourinary system	5 (1.0)	14 (2.5)	19 (1.0)
15. Diabetes mellitus	8 (1.0)	2 (0.5)	10 (1.0)
16. Fever	2 (0.5)	3 (0.5)	5 (0.5)
17. Surgical conditions	3 (0.5)	3 (0.5)	6 (0.5)
18. Psychiatric illness	3 (0.5)	0 (0.0)	3 (0.2)
19. Others	3 (0.5)	4 (1.0)	7 (0.5)

* Include sorethroat, common cold, tonsillitis, laryngitis; ** Respiratory conditions other than those mentioned in (*)

Table 3 - Prevalence of chronic illnesses among Saudi adolescents who were seen in Primary Health Care clinics in Riyadh City, May 1998. n = 1473.

Conditions	Male n = 852 (%)	Female n = 621 (%)	Both sexes n = 1473 (%)
1. Bronchial asthma	111 (13.0)	36 (6.0)	147 (10.0)
2. Diabetes mellitus	15 (2.0)	2 (0.5)	17 (1.0)
3. Dermatitis	12 (1.0)	11 (2.0)	23 (2.0)
4. Allergic rhinitis	12 (1.0)	19 (3.0)	31 (2.0)
5. Acne	7 (1.0)	9 (1.0)	16 (1.0)
6. Allergic conjunctivitis	4 (0.5)	9 (1.0)	13 (1.0)
7. Epilepsy	3 (0.5)	5 (1.0)	8 (0.5)
8. Rheumatic heart disease	-	3 (0.5)	3 (0.2)
9. Urticaria	2 (0.2)	-	2 (0.1)
10. Anaemia	1 (0.1)	1 (0.2)	2 (0.1)
11. Others (a)	4 (0.5)	4 (1.0)	8 (0.5)
Total cases with chronic illness	171 (20.0)	99 (16.0)	270 (18.0)

(a) Include albinism, liver disease, thyroid, congenital heart disease, migraine headache, psychiatric illness.

14 years old. The mean age of the study sample is 17.1 + 2.7.

Reason for attendance at Primary Health Care clinic? Ninety seven percent (N = 1424) of received questionnaires answered this question. The number of adolescents who were attending PHC clinic because they had an illness is 1287 (87%), 36 (2%) came for sick leave, 5 (0.5%) were forced by their parents with no illness, 72 (5%) accompanied their relatives or friends, 21 (1%) came for check up and 3 (0.2%) came for vaccination.

Morbidity among adolescents. Table 2 presents the common illnesses and conditions that cause adolescents to visit a PHC doctor. The number of questionnaires which had complaint or diagnosis written is 1329 (90%). Upper respiratory tract infections constitute the major percentage at 43%. The majority of ENT problems presented as Otitis media and allergic rhinitis. The most common condition of the genitourinary system is urinary tract infection (n=18). No cases of sexually transmitted diseases were recorded. The most common gynecologic problems are menstrual disturbance (n=20). Those females who came for antenatal care clinic number 44 only. Surgical conditions were mainly hernia and anorectal conditions. The number of adolescents who have a chronic illness in this survey is 270 (18% of the study sample). Table 3 shows that bronchial asthma is the most common chronic illness among the subjects.

Discussion. As we expected before, the morbidity pattern among Saudi adolescents is almost similar to that found in other developed countries.

Sociodemographic data. As we see in Table 1, the older adolescents of both sexes consult primary care doctors more often than younger ones. The explanation for this is either more health problems

exist among older adolescents, or the doctors who distributed the questionnaires selected older age groups i.e. selection bias.

Morbidity among adolescents. It is found that most adolescents (87%) who attend the primary care centers in Riyadh City, are complaining of an illness. In this study, upper respiratory tract infections (URTI'S) which include common cold, sore throat, sinusitis, tonsillitis and laryngitis constitute the majority (43%) of cases seen by the PHC doctor. Musculo-skeletal, ear, nose and throat (ENT) problems, gastrointestinal disorders and skin problems came next. In the UK, a study showed that URTI's and skin disorders are the most common illnesses.¹⁵ Other studies in the UK showed respiratory illnesses, infective and parasitic diseases, allergies, diseases of nervous system, and skin diseases as the most common.^{9,10} Data from the United States of America (USA) showed the most common teenage initiated consultation topics include URTI, skin disorders, allergy, contraception and injuries.³ No sexual transmitted diseases were reported in our study, which might indicate its rarity. The frequency of psychiatric illnesses are also rare at only 0.2% among this age group. In other countries, it is believed to be in between 12% and 15%.² This small percentage (0.2%) might be due to either unavailability of psychotropic drugs or inadequate psychiatric knowledge of doctors working in these centers, so the mental illness was not picked up by them. Injuries are found more among male adolescents as expected, probably because they are involved in sports more often. While chronic illnesses affect approximately 6% of US adolescents,¹⁶ in this study 18% of Saudi adolescents have a chronic illness. Bronchial asthma is the most common chronic illness among American adolescents with a prevalence rate of 4%.¹⁷ This study showed the same, but with a higher prevalence

rate (10%); males being affected more than females (13% versus 6%). Allergies (eczema, conjunctivitis and rhinitis) are 2nd with a total frequency of 5%.

In conclusion, improvements in the care of chronic illnesses in the PHC centers are needed and reviewing the list of the essential drugs to include the psychotropic, anti - asthmatic drugs, etc. It is better to start with a few centers in Riyadh City then generalize. Establishment of health education programs through television, radio, newspapers, and others, to educate people about self-treatment of URTI'S (the most common complaint) at home would result in a decrease of the load on the health system.

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