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Original Research Article

Morbidity pattern among the adolescents attending the rural health training centre in Nagaon, Barpeta District, Assam

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ABSTRACT

Background: WHO (World Health Organization) defines adolescence as the segment of life between the ages of 10 and 19 years. The health problems of adolescents are very different from those of younger children and adults. Adolescent's problems constitute a bulk of morbidities, which are unrecognized and uncared iceberg of disease burden. Moreover, the complex psychosocial morbidities and high risk behaviour of adolescents have been recognized as a threat to survival, growth and development. The objective of this study was to study the morbidity pattern prevalent among adolescents who attended the rural health training centre in Nagaon, Barpeta district, Assam.
Methods: A cross sectional study was carried among 140 adolescents aged between 10 to 19 years, who visited the rural health training centre during the study period using convenient sampling technique. Data collection was done by using a semi structured questionnaire. A detailed history was taken regarding present and past illness. General and systemic examination was done. Anthropometric measurements were taken. Data analysis was done using SPSS version 17 and the results expressed in percentages.
Results: The most common morbidity was anaemia, seen in 69.29% adolescents (males-66.04% and females-71.26%), followed by upper respiratory tract infection 37.14% (males-44.51% and females-34.48%) and dental problems 28.57% (males-28.30% and females-28.74%).
Conclusions: Anaemia is the most common morbidity seen among adolescents in the present study. Early detection of the morbidities through regular survey will help in the prompt treatment and prevention of serious complications.

Keywords: Adolescents, Anaemia, Dental problems, Morbidity, Upper respiratory tract infection

INTRODUCTION

WHO defines adolescence as the segment of life between the ages of 10 and 19 years.[1] It can be defined as the transitional stage of development between childhood and adulthood, representing the period of time during which a person is biologically adult but emotionally not at full maturity. It is also an intense anabolic period when requirements for all nutrients increase. The health problems of adolescents are very different from those of younger children and adults. According to census 2011 report, 20.9% of population in India comprise of adolescents.[2] The lifestyle and behaviour developed during adolescence has an impact on the health not only during adolescence but even in later life. In fact, the bulk of morbidity and mortality in adulthood is due to the health related behaviours (smoking, alcohol, exercise and diet) developed during the adolescence.[3]

Of the physical illnesses, the most common are recurrent respiratory infections, asthma, obesity, underweight, malnutrition, anaemia, rheumatic heart disease, injuries, poisoning, gynaecological problems, skin diseases etc. Of the psychosocial illnesses so characteristic of this age, school avoidance and failure, depression, substance abuse, juvenile delinquency and suicide are prominent. Adolescent's problems constitute a bulk of morbidities, which are unrecognized and uncared iceberg of disease burden. A large variety of morbidities among adolescents are related with nutritional deficiency disorders (stunting, wasting), menstrual disorders, RTI/STI/HIV/AIDS etc. Moreover, the complex psychosocial morbidities and high risk behaviour of adolescents have been recognized as a threat to survival, growth and development.[4] The adolescents are on threshold of adulthood. If they are to reach adulthood in a healthy state, then it's necessary to assess the common morbidities prevalent in this age-group so that targeted and concerted services could be provided to them. With this background, the current study was carried out with the objective to study the morbidity pattern among the adolescents attending the rural health training centre in Nagaon, Barpeta district, Assam.

METHODS

The present study was a cross sectional study conducted in Rural Health Training Centre, Nagaon, Barpeta district, Assam, which comes under the field practice area of Department of community Medicine, Fakhruddin Ali Ahmed Medical College. A semi structured questionnaire was used to collect data for a period of three month (September 2019 to November 2019). All adolescent patients aged 10 to 19 years attending the outpatient department of the RHTC, who consented to participate in the study, were included. A total of 140 adolescents patients were interviewed by using the convenient sampling method during the study period. A detailed history was taken regarding present and past illness. General and systemic examination was done. Anthropometric measurements were taken. Weight of the adolescents was measured in minimal clothing with the help of digital weighing scale. Height was measured with the help of calibrated metallic tape fixed to the wall with adolescents standing erect against the wall barefoot. Anemia was diagnosed by clinical signs such as pallor of conjunctiva/tongue. Confirmation of the pallor was done with the help of blood tests by Sahli's method of haemoglobin estimation. Worm infestation was diagnosed based on the basis of history and asking specific questions. Otoscope was used to diagnose ear problems. Hearing was assessed by Rinnie's test using Tuning Fork. Snellen's chart was used to assess the visual acuity. Oral cavity was examined for any abnormal pigmentation of teeth suggesting of caries, cavities and missing teeth. The data was collected and analyzed in Microsoft Office Excel, by using SPSS version 17. Ethical clearance was obtained before conducting the study from the ethics committee of Fakhruddin Ali Ahmed Medical College, Barpeta.

RESULTS

The demographic characteristics of the adolescents is summarised in Table 1. Out of 140 adolescents, 87 (62.14%) were females and 53(37.86%) were males. About 73(52.14%) adolescents belong to 15-19yrs age group and 67(47.86%) belong to the 10-14 years age group. About 33.57% (males-35.85% and females-32.18%) adolescents were studying in primary school, 24.29% (males-20.75% and females-26.44%) were studying in middle school, 22.86% (males-22.64% and females- 22.99%) were studying in high school and 19.29% (males-20.75% and females- 18.39%) were studying in higher secondary. About 53.57% were found to be Muslims and 46.43% to be Hindus. Majority (50%) were found to belong to Class IV socio economic status.

Table 1: Demographic profile of the study population.

Demographic variable	Male n=53	Female n=87	Both sexes n=140
	N (%)	N (%)	N (%)
Age in years			
10-14	32 (60.38)	35 (40.23	67 (47.86)
15-19	21 (39.62)	52 (59.77)	73 (52.14)
Education			
Illiterate	0	0	0
Primary school	19 (35.85)	28 (32.18)	47 (33.57)
Middle school	11 (20.75)	23 (26.44)	34 (24.29)
High school	12 (22.64)	20 (22.99)	32 (22.86)
Higher secondary	11 (20.75)	16 (18.39)	27 (19.29)
Religion			
Hindu	23 (43.40)	42 (48.28)	65 (46.43)
Muslim	30 (56.60)	45 (51.72)	75 (53.57)
Socio economic status			
Class II	2 (3.77)	5 (5.75)	7 (5)
Class III	16 (30.19)	27 (31.03)	43 (30.71)
Class IV	28 (52.83)	42 (48.28)	70 (50)
Class V	7 (13.20)	13 (14.94)	20 (14.29)

Table 2 shows the morbidity pattern of the adolescents. The most common morbidity was anaemia seen in 69.29% adolescents (males-66.04% and females-71.26%), followed by upper respiratory tract infection 37.14% (males-44.51% and females-34.48%), dental problems 28.57%(males-28.30% and females-28.74%), diarrhoea 25% (males-20.75% and females-27.59%), menstrual problems 20.69%, skin problems 20% (males-15.09% and females-22.99%), refractive error 19.29% (males-16.98% and females-20.69%), worm infestation 19.29% (males-22.64% and females-17.24%) and ENT problems 17.14% (males-20.75% and females-14.94%).

Table 3 shows distribution of the adolescents according to body mass index. Out of 140 adolescents, 58.57% (males-58.99% and females-58.62%) were of normal BMI, 39.29% (males-37.74% and females-40.23%) were underweight, 0.71% was overweight and 1.43% was obese.

Table 2: Morbidity pattern among adolescent.

Morbidity	Male (n=53)		Female (n=87)		Both sexes (n=140)	
	N	%	N	%	N	%
Anaemia	35	66.04	62	71.26	97	69.29
Upper respiratory tract infection	22	44.51	30	34.48	52	37.14
Dental problems	15	28.30	25	28.74	40	28.57
Diarrhoea	11	20.75	24	27.59	35	25
Menstrual problem	-	-	18	20.69	18	20.69
Skin problems	8	15.09	20	22.99	28	20
Refractive error	9	16.98	18	20.69	27	19.29
Worm infestation	12	22.64	15	17.24	27	19.29
ENT Problem	11	20.75	13	14.94	24	17.14

Multiple response

Table 3: Distribution of the girls according to body mass index (weight/height^2; kg/metre^2).

BMI	Male (n=53)		Female (n=87)		Both sexes (n=140)	
	N	%	N	%	N	%
<18 (underweight)	20	37.74	35	40.23	55	39.29
18-24.9 (normal)	31	58.49	51	58.62	82	58.57
25-29.9(overweight)	1	1.87	-	-	1	0.71
30-39.9 (obese)	1	1.87	1	1.15	2	1.43

DISCUSSION

The present study showed that the most common morbidity amongst the adolescent attending the RHTC was anaemia seen in 69.29% adolescents, followed by upper respiratory tract infection 37.14% and dental problems 28.57%. The reasons for the high prevalence of anaemia among the adolescents could be: increased iron requirements because of growth, menstrual loss, worm infestation and low intake of iron containing foods, erratic eating habits, dislike for foods which are rich in iron, like green leafy vegetables. Sekhar SC et al in a study conducted in Godavari district also found prevalence of anaemia around 65% in all the three areas, which was comparable with Ananthakrishnan S et al study in Tamil Nadu (57%), WHO Global Database on Anaemia and National survey – 2,2000.[5-7]

In a study conducted by Gopalakrishnan et al in urban health training centre, Kancheepuram District of Tamil Nadu, about 78.2% adolescents were suffering from acute conditions while 21.8% were suffering from chronic conditions.[8] About 84.3% of males and 70.1% females had some form of acute conditions while 15.% males and 29.9% females had chronic conditions. Among the acute conditions, upper respiratory tract infection constituted 22.5% of adolescent complaints followed by musculo-skeletal, gastrointestinal and ENT problems. The most common chronic condition reported was anaemia (6.1%) which was followed by presence of acne/ pimples on their face (6%) and minor psychiatric illnesses like anxiety and depression (3.9%). About 6.6% of the adolescents had some form of genitourinary symptoms like altered appearance of the urine, itchy genitals and burning micturition. About 6.2% of subjects reported to had skin problem like scabies, pityriasis versicolor etc.

In a study conducted by Hussain in Chandragiri village, the major prevalent morbid conditions among boys were skin disorders (57.7%), E.N.T. Conditions (52.0%), vitamin –A deficiency (47.3%), vitamin-B deficiency (24.7%) and dental caries (24.0%).[9] The prevalence of pediculosis/ scabies was 23.0% and defective vision was 6.0%. The major prevalent morbid conditions among girls were skin disorders 67.7%; E.N.T. conditions 45.3%, vitamin-A deficiency 38%; pediculosis/ scabies 25%; and anaemia 22.7%. The prevalence of dental caries was 21.0% and refractive disorders was 8.0%.

Yerpude et al in their study conducted among school going adolescent in South India found that the dental caries was the commonest (41.90%) among all health problems.[10] There were 36.19% of the school going adolescents had anaemia with girls suffering more 66.67% as compared to boys 20.29%. Skin disorders were present in 20.95% adolescents. ENT problems were present in 17.62% adolescents. History of worm infestation was present in 13.33% adolescents.

Dambhare et al conducted a study in the year 2008 in a peri urban school which is the field practice area of department of community medicine, Mahatma Gandhi Institute of Medical Sciences, Sewagram.[11] There were 116 children in the age group of 10 to 19 years studying in high school of peri urban area. Nutritional deficiency related health problems were strikingly high in that study. Overall 28.45% of the school going adolescents had anaemia with girls suffering significantly more 38.89% ($p<0.05$) as compared to boys 23.75%. Avitaminosis

manifested by adolescents was also high but notably absent in the urban girls. 35.34% adolescents had dental caries. Total 13.79% adolescents were found to be suffering from refractive error, 7.76% adolescents had worm infestation, 6.9% adolescents had skin problems, 2.59% adolescents had tonsillitis and 2.59% had wax in the ear.

As per NFHS 3 data, about 56% of girls and 30% of boys in this group are anaemic.[12] About 10.5% of the girls and 10.8% of the boys reported having sexually transmitted infections or symptoms of STI and 0.07% of the girls and 0.01% of the boys in this age group were found to be HIV positive. In a study conducted by Eissa Al among Saudi adolescents in Riyadh City, upper respiratory tract infection constituted 43% of adolescent complaints.[13] Two hundred and seventy adolescents have a chronic illness i.e. 18% of the study sample, bronchial asthma being the most common at 10%. In Andhra Pradesh, a study done by Susmitha KM et al reported that pallor (41%), dysmenorrhoea (43.6%), dental caries were the leading causes of morbidity in adolescent girls.[14] In a study conducted by Srinivasan (2000), in Tirupati in 598 children aged 6-17 years, the common morbid conditions found were skin disorders 25.7%, dental caries 21.5%, history of passing worms in stool 21.6%, vitamin B deficiency 3.2%, ARI 1.7% and diarrhoea 1.2%.[15]

The main limitation of this study is that the sample size is small and is not the true representation of the adolescents of Nagaon, Barpeta District. Therefore, the findings of the study cannot be generalized to all the adolescents of Nagaon area.

CONCLUSION

Adolescence is a phase of transmission from children to adults. So this phase has to be healthy and disease free. Anaemia is the most commonly seen morbidity among adolescents. Despite the weekly Iron & folic acid supplementation programme (WIFS) being there for a while in all the states of India, such a high prevalence of anaemia is a cause of concern. Early detection of the morbidities through regular survey will help in the prompt treatment and prevention of serious complications.

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