

# Menstrual characteristics and associated physical activity in some school adolescent girls in Taiz city , Yemen.

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## Abstract

**Background:** Onset of menstruation is the most marked physical change in an adolescent girl. Besides secondary sexual characters, other physical changes such as weight gain, acne etc. may be problematic to young girls. This study was carried out to study the characteristics of menstrual cycles and associated physical problems among the in some adolescent school girls.

**Methods:** A predesigned questionnaire was administered to students of classes 6 to 12 at one urban schools (Saba primary and secondary school for girls) during the period from 1st January 2021 to 1st of march 2021 in Taiz. SPSS v 23 was used for data analysis.

**Results:** 500 students were enrolled in this study, 67.7% (338) of them were in primary school while the rest of them 32.4% (162) were from secondary school. The mean age of the girls was 16.4 years [range: 12-25; SD: 1.3]. Of these, the mean age of menarche being 13.2 years [range: 9- 18; SD: 1. 2]. The majority (71.2%) of them had regular menstrual pattern. Most of them suffered from moderate dysmenorrhoea (41%); nearly 34.2% reported severe dysmenorrhoea while 4.2% girls reported absence of dysmenorrhea. Only 8.6% of adolescent girls had consulted a doctor for symptoms related to menstrual. Among other physical changes besides secondary sexual characters, 58% suffered from acne, 24.2% reported weight gain and 21.6% had excessive hair growth.

**Conclusions:** A good proportion of school going adolescent girls experience menstrual pattern deviation from normal and all so other problems such as acne, weight gain and excessive body hair. However, only a minority of them approach doctors for alleviation of these problems.

**Keywords:** Adolescent, Menstrual, Dysmenorrhea, Acne, Weight gain.

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## 1 INTRODUCTION

Adolescent girls constitute a vulnerable group, particularly in a country like Yemen where female child is often neglected. Adolescence in girls signifies the transition from girlhood to womanhood and menarche is an important milestone of this transitional period. Globally, the age of menarche varies between 9 to 18 years with the average age in United States being about 13 years, while in India, has been reported to be around 12 years. <sup>(1,2)</sup> Menstruation may be associated with various symptoms occurring before or during the menstrual flow.

The challenges to the young girls include psychological adjustment to menstruation and coping with premenstrual and menstrual symptoms. Some may have pain in abdomen (dysmenorrhoea) with or without gastrointestinal upsets like anorexia and vomiting. <sup>(3)</sup> Some adolescents have reported the menstrual pain as “worst pain of life”. <sup>(4)</sup> Complaints such as leg pain, backache may also be associated with a normal menstrual cycle. Premenstrual symptoms

toms may be experienced 7 to 10 days before the onset of bleeding. These include irritability, malaise, headache, acne, abdominal pain etc. the key health issue being their psychosomatic impact. It is important to educate young girls and their parents regarding changes during adolescence, the menstrual pattern and associated symptoms initially and in subsequent cycles. The aim of the present study is to study the characteristics of menstrual cycles and associated physical problems among the school adolescent girls. <sup>(5)</sup>

### **Method and patients**

A cross sectional study was conducted among school going adolescent girls of classes 6 to 12 in one urban schools of Taiz city, Sabaa .A pre-designed, survey questionnaire was used for data collection. The questions was administered in Arabic and properly explained to avoid any form of misunderstanding and to facilitate accurate response by the subjects. Data was analysed by SPSS v 23 as percentage of responses. The questions contained items regarding variables such as sociodemographic data, age of menarche, menstrual pattern, average duration of menstrual cycle , dysmenorrhoea and other physical problems. They were also asked whether they had consulted a doctor on any earlier occasion regarding menstrual problems.

### **RESULTS**

The questionnaire was administered to 500 participant, adolescent girls of classes 6th to 12th (67.6% (388) in primary school and 32% (162) in secondary school) . The mean age of these girls was 16.4 years [range:12-25;SD:2]. The mean age of menarche was 13,2 years [range: 9- 18; SD: 1. 2]. Menstrual pattern: Of the 500 girls participated in this study 71.2 % (356) had regular menstrual cycles within around 28 days while 9.4 % (47) have delayed irregular cycles of more the 35 days The cycle duration was less than 21 days in 19.4 % (97) (Fig-

ure 1).

### **Dysmenorrhoea:**

Majority of the girls 41% (205) reported moderate dysmenorrhoea; 34.2 % (171) had severe dysmenorrhoea; and 4.2 % (21) of girls reported no dysmenorrhoea during menstrual cycles (Figure 2). Among these with dysmenorrhoea, 44% girls had dysmenorrhoea after starting of menstrual flow on day 1 of menses while the majority of them 51.8% reported experienced dysmenorrhoea prior to starting of menses.

### **Physical changes other than secondary sexual characters:**

Among these changes, acne was the most reported problem by 58% (290) girls. Weight gain was reported by 24.2% (121) and 21.6% (108) felt they had excessive hair growth (Figure 3).

### **Consultation with doctor:**

Only 8.6% (43) of adolescent girls consulted a doctor for any symptoms related to menstrual cycle.

### **Discussion**

The mean age reported by 500 of school going adolescent girls of classes 6th to 12th included in this study was 16.4 years. This result was higher than earlier studies done by Thakre et al. from Nagpur, and Dharampal et al. The former study included three hundred and eighty-seven girls in the age group of 12-16 years (mean age 13.82 years), while the latter study reported on 1100 school going adolescent girls. (6,7)

The mean age at menarche girls in the current study 13,2 years which similar to the mean age of menarche was found to be 13.5 by Iyer P et al reported by 277 girls and the study reported by Dharampal et al for urban girls and by the study from Karad, Maharashtra reports the mean age of menarche being age 12.8 years (7,). The menstrual pattern of girls in the current study (71.2 %) higher than that observed by Iyer P et al (8) (58% with regular cy-

cles) differed and from that observed by Thakre et al. (42% girls with regular cycles) and that by Dharampal et al. (69% with regular cycles). (6,7,8 )

Oligomenorrhoea was reported in 19.4 % in the current study which was higher than 16% reported by Ray S et al, 2012 (10)

In the current study dysmenorrhea was 95.8% ,which was similar to Omani female adolescents (94%) (Al-Kindi and Al-Bulushi, 2011) but lower than many other studies, although all majority of adolescent girls complain of different degree of dysmenorrhea (11) . It was 78% in Morocco adolescent girls (Lghoul et al ,2020) (12), 82.5% among Iranian adolescent's schoolgirls (Pakniat et al., 2019) (13), 74.4% in Saudi Arabian female adolescents (Abd El-Mawgod et al., 2016) (14), 75% of Egyptian female adolescents (Mohamed, 2012) (15) and Italian schoolgirls (76%) (Zannoni et al., 2014) (16). This variation in prevalence may be genetic, psychological, developmental, familial, social and cultural factors

In the current study sever dysmenorrhea was reported by 34.2% which was similar to Omani schoolgirls (32%) (Al-Kindi and Al-Bulushi, 2011) (11) higher than Australian teenagers (21.2%) Parker et al , 2010 (17) and lower than the study done in Morocco by Lghoul et al ,2020 (12), 58.1% , Egyptian adolescents' girls (41.4%) (Eman, 2012) (18) and Saudi schoolgirls (37.5%) (Abd El-Mawgod et al., 2016). (14)

Despite the high prevalence of dysmenorrhea in adolescents, many girls did not receive professional help or treatment . In the current study 8.6% of the adolescent girls consult doctors for their complain which was lower than 16% of girls reported by Iyer P et al, 2015 , 18% consulted a school physician reported by Egyptian study by Mohamed, 2012, and by a study from Eastern India where in 60% of girls had sought consultation with a doc-

tor (8, 11, 15) .

In the current study Acne was reported by 58% of adolescent girls. When compared to the Prevalence of acne vulgaris in adolescent age; review of large studies worldwide done by Ghodsi et al 2009 it was higher than those done in Peru 44,1% ,United kingdom 49.8% but lower than other studies like Iran 93% Portugal 82.1% , Singapore 87.9% , New Zealand 67% and other countries . (19)

In the current study weight gain was reported by 24.2 % which was similar to the study (24%) done by Iyer et al , 2015 . in this study 21.6 % of the girls felt that they had increase hair growth which was the same finding (21%) reported by Iyer . et al , 2015. (8)

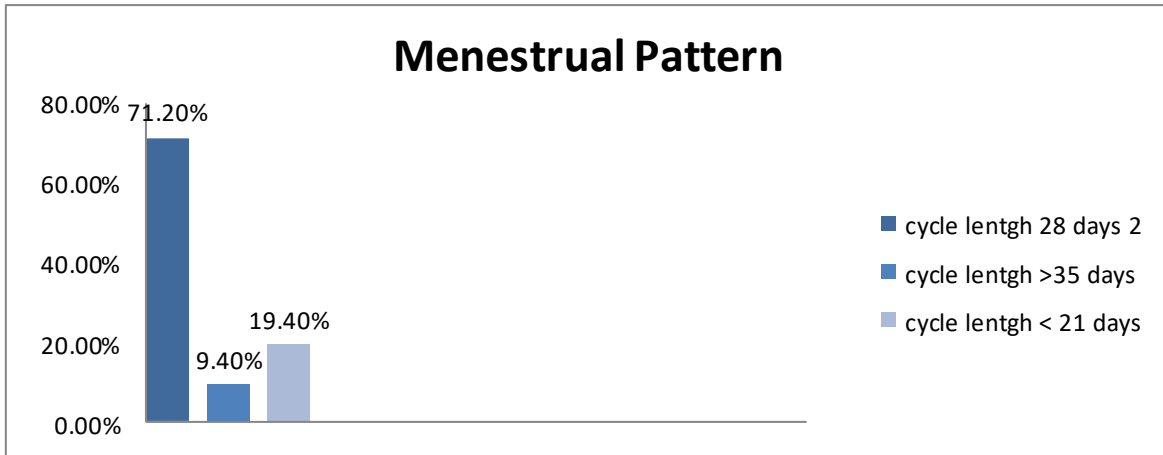


Figure 1: Menstrual cycle pattern among school going adolescent girls (N= 500).

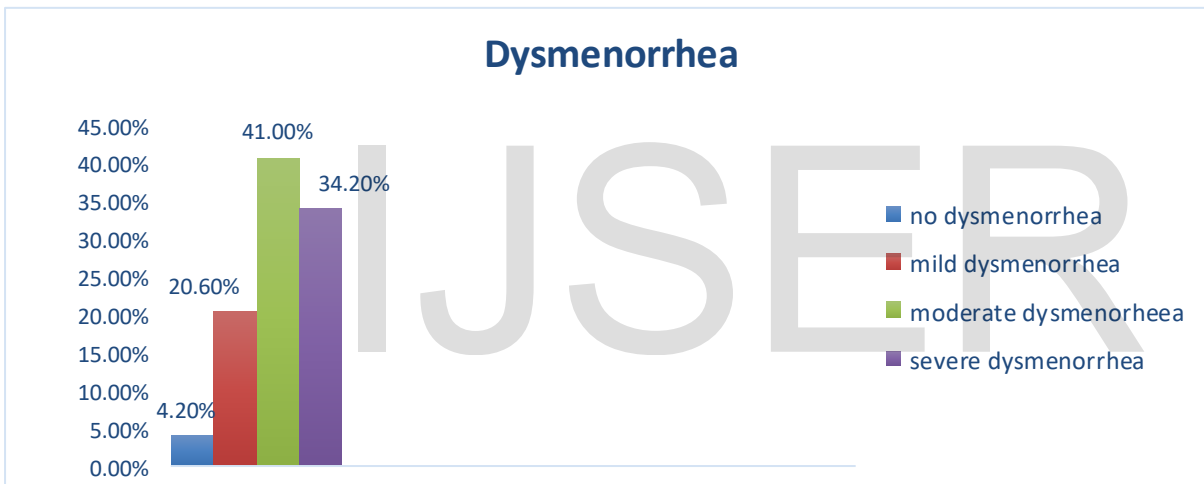


Figure 2: Severity of dysmenorrhoea among adolescent girls

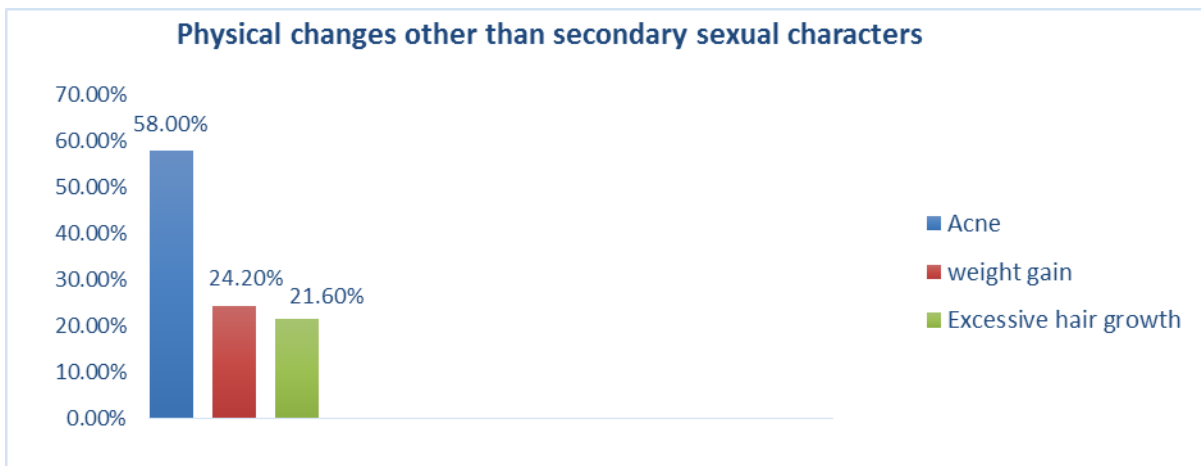


Figure 3: Physical changes other than secondary sexual characters those were troublesome.

## Conclusions

The menstrual disorders and related complaints are very frequent among the school going adolescent girls. There is a hesitation on part of the adolescent girls in seeking health care consultation. School health education of adolescent girls that addresses not only issues related to menstruation but also other bodily / psychological changes can help alleviate their anxiety.

## Recommendation

Appropriate counselling and management should be instituted among female students to help them cope with the challenges of dysmenorrhea and other bodily changes. Information, education and support should also be extended to parents.

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