



# THE PREVALENCE OF ALTERED MENSTRUAL PATTERNS AMONG ADOLESCENT GIRLS IN VARIOUS BODY MASS INDEX CATEGORIES: A Sri Lankan survey.

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## INTRODUCTION

- Menstruation is an important concern of adolescent girls particularly following menarche.
- Extreme body mass index (BMI) values may contribute to altered menstrual patterns in general with possible impact even in early adolescence.

## OBJECTIVES

- To evaluate the prevalence of menstrual irregularities among adolescent females between 14-16 years in normal, high and low BMI categories.
- To identify the possible causes of menstrual irregularities in those BMI groups.

## METHODS

- This descriptive cross-sectional study was carried out involving 573 participants aged between 14-16 years recruited from three schools in Kandy, Sri Lanka via cluster sampling.
- Participants were included after informed written consent of them and their parents. Girls who had not attained menarche were excluded.
- They were given a calendar card and a pre-tested structured questionnaire to collect data on menstrual pattern, lifestyle, etc. as the data collection tools. Anthropometric measurements were taken by pre-trained female investigators.

## RESULTS

- The mean age at menarche was 12.39 years (SD=1.11) & Mean cycle length was 28.95 days (SD=5.74).
- Mean BMI was 18.7 kg/m<sup>2</sup> (SD=3.3).
- 78.7% had normal menstrual cycles and only 21.3% (n=122) had abnormal menstrual patterns and the most frequent of them were dysmenorrhoea (41%) and the Illy amenorrhoea (31.1%) respectively.
- Prevalence of menstrual abnormalities were not significantly different among the BMI categories ( $\chi^2=2.249$ ,  $p=0.325$ ).
- Frequent (<24days), infrequent (>38days) and prolonged (>8days) menstruation were more frequent in overweight / obese BMI category.

Chart 1: Distribution of BMI of population

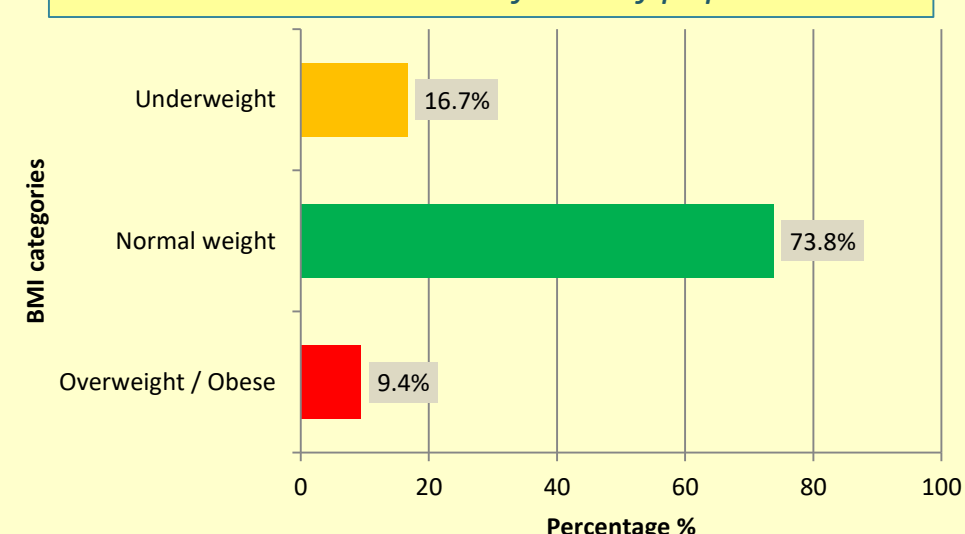
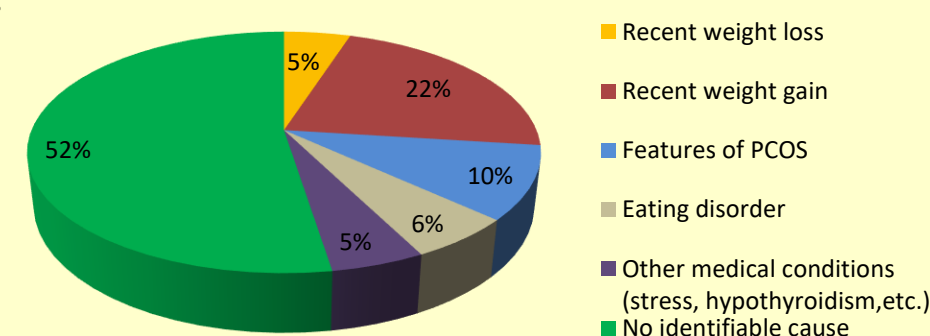


Table 1: Prevalence of menstrual irregularities in different BMI categories

BMI category	Normal menstruation		Abnormal menstruation	
	N	%	N	%
Underweight	70	78.7	19	21.3
Normal	345	79.7	88	20.3
Overweight and Obese	36	70.7	15	29.4

Chart 2: Associating risk factors observed in girls having abnormal menstruation



## CONCLUSION

- The prevalence of menstrual abnormalities in girls aged between 14-16 years is not affected significantly by their BMI despite possible effects of BMI on menstruation in literature.
- The need for further research on this specific age group is also accentuated by this study as majority with menstrual problems have no known associated factors.

- Variables were described using percentages and chi-square test was used for analysis.
- Ethical clearance was obtained from Ethics Review Committee, Faculty of Medicine, Peradeniya

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