Nutritional Status and Menarcheal Age of Rural Adolescent Girls of Salboni Block of Paschim Medinipur, West Bengal, India

Kankana De[*]

Vidyasagar University, Medinipur, West Bengal, India

[*]**Corresponding author:** Kankana De, Vidyasagar University, Medinipur, West Bengal, India, Tel: +919474714273; E-mail: dekankana@gmail.com

Abstract

Objectives of study:

- To study mean age at Menarche of studied population.

- To study whatever nutritional status effects mean age at menarche.

Design: This is a cross sectional study which is done on 1009 Adolescent girls who belong to Salboni block of district Paschim Medinipur of West Bengal, India. To study effect of nutrition on age at menarche, different anthropometric measurements are applied.

Setting: Data was collected from adolescent health clinic named Anwesha Clinic which is under Salboni Rural hospital, West Medinipur.

Participants: Participants are 10-19 years adolescent who are resident of Salboni (Rural) block, and belongs to agriculture based family, they are selected randomly for study.

Major outcomes: Data are bU € À € @ P € p ricu:

def c]encm or imbalance of nutrients is of public health s][n]f cUnce among adolescents all over the world.

s][n]f cЦnt with age (F=17.3, P<0.001), Percent body fat is statistically
s][n]f cЦnt with Age (F=38.7, P<0.001).

Variable	10 years Mean(Sd)	11 years Mean(Sd)	12 years Mean(Sd)	13 years Mean(Sd)	14 years Mean(Sd)	15 years Mean(Sd)	16 years Mean(Sd)	17 years Mean(Sd)	18 years Mean(Sd)	19 years Mean(Sd)	F
BMI (kg/m^2)	18.28 (2.07)	19.02 (2.2)	18.58 (1.62)	18.96 (1.59)	19.65 (1.76)	19.86 (1.6)	20.05 (1.69)	20.02 (1.22)	20.16 (1.22)	20.17 (1.05)	17.3*
Percent Body Fat	18.17 (2.26)	20.21 (2.43)	20.4 (2.15)	20.63 (2.24)	21.18 (2.5)	21.41 (2.85)	22.23 (2.68)	22.41 (5.16)	22.66 (5.56)	24.04 (3.25)	38.76*
Significant difference P<0.001											

Table 3: Anova table show age wise increase Anthropometric variables of Adolescents

	Height (cm)			Weight (kg)			BMI (Kg/sqm)		
Age	Premenarche	Post Menarche	t	Premenarche	Post Menarche	t	Premenarche	Postmenarche	t
10 years	147.45 (3.58)	148.34 (3.83)	1.08	37.46 (5.75)	43.42 (3.92)	6	16.93 (1.37)	19.53 (1.74)	8.3
11 years	145.88 (4.84)	146.13 (5.08)	0.25	36.01 (3.15)	41.71 (4.16)	7.7	16.89 (1.73)	19.66 (1.42)	21.3
12 years	151.37 (4.40)	153.32 (4.39)	1.54	37.38 (3.34)	45.75 (3.39)	6.8	16.62 (1.47)	19.25 (1.31)	7.81
13 years	148.61 (2.99)	150.68 (3.80)	1.81	37.00 (2.56)	44.16 (3.47)	6.9	16.76 (1.19)	19.44 (1.32)	6.62
14 years	148.65 (3.46)	150.12 ((3.87)	1.65	36.72 (3.27)	43.39 (3.32)	8.1	15.87 (0.65)	19.98 (1.41)	8.31

Significant at P<0.0001

occurs between her age of 10 to 16 years, however, it shows a remarkable range of variation. General improvement in nutrition and health has been suggested to explain the downward trend.   e earlier onset of menarche has also been seen in developing countries like Bangladesh [17].

Conclusion

e mean menarcheal age (determined by retrospectives method) of the studied sample was 11.88 (1.23).   ]s study had shown sexual maturation in early adolescence period in comparison with Eastern India girls and present study sample experiences their early menarche comparing to rest Indians. In global perspective the age at menarche in this study is less than most African and Asian studies but closer to most European and North American countries.

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