

## Comparative Study of General Health Status among Adolescent Girls with Early and Late Menarche

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### ABSTRACT

Research studies on adolescent girls have revealed during menarche, they undergo psychological distress. The present study is aimed to assess the general health status among adolescent girls with early and late menarche. A total of 360 adolescent girls comprising of 180 each in early and late menarche were randomly selected from in and around Mysuru district. They were administered General health questionnaire (GHQ) 1978, developed by Goldberg, which measured the general health status of the adolescent girls in four subscales- somatic symptoms, anxiety/Insomnia, social dysfunction, severe depression and total GHQ scores. The data were analysed using two-way Analysis of variance, taking general health status scores as dependent and groups and area as independent variables. Results revealed that adolescent girls in late menarche had more somatic symptoms than adolescent girls in late menarche stage. Adolescent girls in early and late menarche did not differ significantly in Anxiety/Insomnia, Social dysfunction, Severe depression and total GHQ scores. Adolescent girls hailing from rural area had more somatic symptoms, suffered more from anxiety/insomnia than adolescent girls hailing from urban areas.

**Keywords:** *Somatic Symptoms, Anxiety/Insomnia, Social Dysfunction, Severe Depression, Early And Late Menarche*

There are several milestones in the life of a girl child as she grows to become a female able to reproduce. The last significant event of this sexual development is the principal section of menstrual blood stream mentioned to as menarche. Few systemic or chronic sicknesses can defer menarche, for example, undiscovered and untreated celiac disease (which regularly happens without gastrointestinal manifestations), asthma, type 1 diabetes mellitus, cystic fibrosis and inflammatory illnesses, among others. Now and again, in light of the fact that biochemical tests are not constantly discriminatory, hidden pathologies are not distinguished and the young women are classified towards development delay. Short height, deferred development in tallness and weight, as well as postponed menarche might be the main clinical signs of celiac ailment, without some other side effects (Al-Sahab, et. al., 2010).

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Women who have severe bleeding express a diminished quality of life; where right around a quarter abstain from social activities on account of bleeding, as indicated by the study. More than 90 percent of these women who experience the excessive bleeding to be annoying and a higher rate feel pitiful (Leffleret.al, 2015). Moreover, 16 percent of the women with overwhelming draining report that they are off wiped out from work because of this, some giving figures somewhere in the range of six and ten days out of every year Tersigniet. al. (2014). As of late, somewhere in the range of 10 and 15 percent suffer from endometriosis, which happens when cells from the uterine lining end in the wrong places in the body, for instance, behind the uterus, on the fallopian tubes, on the digestion tracts or by scars from medical procedures in the abdomen. The lost coating shapes an exceptionally difficult aggravation focus, particularly amid period. Period agonies can be severe to the point that they cause blacking out and they can likewise be interminable, with the goal that it harms constantly, even between drains. Pain amid intercourse felt somewhere down in the vagina is likewise connected with this infection.

Endometriosis causes a significant problem, both for the individual and for society, since it is more occurring in young females of childbearing and working age who endure. For women, this implies, notwithstanding enduring, both ailment nonappearance and decreased salary Wood et al. (n.d.). For society, this implies a monetary weight practically identical to that of other unending sicknesses, for example, rheumatoid joint pain, Crohn's infection or diabetes, generally due to women's' decreased working limit. Once in a while surgeries are performed to evacuate central zones of endometriosis, however first less extreme measures are considered. These incorporate preventative pill treatment to totally evacuate the period, or a hormonal intrauterine gadget – it is consequently mostly indistinguishable methodology from with overwhelming dying (Jones, 2014).

To take away the period, is additionally used to help women who drain once in a while or not in the least, which isn't solid, in light of the fact that the leftover covering builds the danger of cell changes in the uterus. On the off chance that you take away the period, no coating is created and in this way no remainder. A standout amongst the most considered periods of the menstrual cycle is the premenstrual stage, the period just before feminine cycle. Amid this stage, women can encounter head-aches, swelling and weight gain. Indeed, even the mind can be influenced, impacting the person's mind-set and causing sentiments of discouragement or irritability. This is a genuinely notable side effect that is credited to progesterone, which ascends before feminine cycle and is changed over to allopregnanolone, something that can influence the cerebrum. In any case, there is an entire scope of hormones engaged with the cycle's movement, for example, prolactin, LH hormone and FSH hormone. At the point when the levels move, this influences various functionalities (Leffleret.al, 2015).

### **Sample:**

The present study consists of 360 samples from different areas in Mysore district. 9 to 13 years early age group and 14 to 17 years later age group were selected through random sampling method in adolescent girls with early and late menarche.

### **Tools employed:**

1. **Demographic data sheet:** The demographic data sheet consisted of details regarding the participant which included age, domicile, history of menarche and other details.
2. **General health questionnaire (GHQ):**The GHQ-28 was first established by Goldberg during 1978 (Goldberg 1978) and it has translated to around 38 languages. It was established as a tool to detect and screen individuals who are more probably, likely to

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have or are at a risk of developing mental psychiatric disorders, as the title GHQ-28 states, is a 28-item measure of various emotional distress experienced in health settings. The GHQ-28 has been divided into 4 subscales through factor analysis. The General health questionnaire (GHQ) Rating Scale provides indication of symptoms of somatic, anxiety/insomnia, social dysfunction and severe depression and, over time, provides a valuable guide to progress. The scoring for GHQ-28 is as follows. Classification of symptoms is from items 1-7: Somatic symptoms, 8-14: Anxiety/Insomnia, 15-21: Social dysfunction and 22-28: Severe depression. The test takes around five minutes to administer. Test-retest reliability has been reported to be high (0.78 to 0.9) (Robinson and Price 1982) and inter-rater and intra-rater reliability have both been shown to be excellent (Cronbach's  $\alpha$  0.9–0.95). High internal consistency has also been reported (Failde and Ramos 2000).

### Procedure:

The first author personally visited many adolescent girls in their early and late menarche stage in rural and urban parts of Mysore district. They were met personally in their respective schools along with the brief introduction. They were explained about the purpose of the study. After the initial rapport building they were given The General health questionnaire (GHQ), along with the demographic data sheet. They were given sufficient time to answer the scale and filling the demographic data sheet. Whenever they had doubt in answering, the first author clarified them all. Once the data were collected, they were scrutinized for completeness and later they were coded and a master chart was prepared and fed to computer. The data were analysed using two way ANOVA, taking into consideration GHQ scores as dependent variable and groups and area were considered as Independent variables as well as groups and SES.

## RESULTS

*Table 1, Mean scores of adolescent girls hailing from rural and urban areas with early and late menarche status and results of Two-way ANOVA*

Group (Menarche)	Domicile	Scales of GHQ					
		Somatic symptoms		Anxiety/Insomnia		Social dysfunction	
		Mean	S.D	Mean	S.D	Mean	S.D
Early	Rural	1.31	1.12	1.37	1.24	1.40	1.36
	Urban	0.73	1.22	1.09	1.38	1.24	1.24
	Total	1.02	1.20	1.23	1.32	1.32	1.30
Late	Rural	1.32	1.28	1.47	1.42	1.49	1.70
	Urban	1.24	1.26	0.99	1.24	1.76	1.71
	Total	1.28	1.27	1.23	1.35	1.62	1.71
Total	Rural	1.32	1.20	1.42	1.33	1.44	1.54
	Urban	0.99	1.26	1.04	1.31	1.50	1.51
	Total	1.15	1.24	1.23	1.33	1.47	1.52
F (Groups) 1, 356		F=4.128; p=.043		F=.0; p=1.00		F=3.519; p=.061	
F (Area) 1, 356		F=6.505; p=.011		F=7.356; p=.007		F=.121; p=.728	
F (Interaction) 1, 356		F=3.784; p=.053		F=0.515; p=.473		F=1.743; p=.188	

*Table 2, Mean scores of adolescent girls hailing from rural and urban areas with early and late menarche status and results of Two-way ANOVA*

Group (menarche)	Domicile	Scales of GHQ			
		Severe depression		Total GHQ scores	
		Mean	S.D	Mean	S.D
Early	Rural	0.59	0.85	4.67	3.48
	Urban	0.66	0.90	3.72	3.39
	Total	0.62	0.87	4.19	3.45
Late	Rural	0.57	0.84	4.80	3.64
	Urban	0.56	0.79	4.54	3.40
	Total	0.56	0.81	4.67	3.52
Total	Rural	0.58	0.84	4.73	3.55
	Urban	0.61	0.85	4.13	3.41
	Total	0.59	0.84	4.43	3.49
F (Groups) 1, 356		F=0.470; p=.493		F=1.699; p=.193	
F (Area) 1, 356		F=0.097; p=.755		F=2.679; p=.103	
F (Interaction)1, 356		F=0.190; p=.663		F=0.883; p=.348	

**Groups and General health status:** Out of 4 subscales, only in one sub scale adolescent girls in early and late menarche differed significantly. F value of 4.128 was found to be significant at .043 level. Further, the mean values clearly revealed that somatic symptoms were significantly higher among adolescent girls in the late menarche stage (mean 1.28) than adolescent girls in the early menarche stage (mean 1.02). However, in rest of the subscales- anxiety/insomnia (F=.0; p=1.00), Social dysfunction (F=3.519; p=.061), Severe depression (F=0.470; p=.493), and in total GHQ scores (F=1.699; p=.193), adolescent girls in early and late menarche stage did not differ significantly, as the obtained F values failed to reach the significance level criterion of .05 level. In other words, in scales of Anxiety/Insomnia, Social dysfunction, Severe depression and in total GHQ scores, adolescent girls in early and late menarche stage had statistically equal scores.

**Area and General health status:** Area wise comparison revealed that adolescent girls hailing from rural and urban areas differed significantly in two of the subscales of GHQ. In somatic symptoms (F=6.505; p=.011). The mean values clearly revealed that adolescent girls hailing from rural area had more somatic symptoms (mean 1.32) than adolescent girls hailing from urban area (mean 0.99). Similar trend was observed in the second subscale anxiety/insomnia (F=7.356; p=.007), adolescent girls hailing from rural area had higher anxiety/insomnia than adolescent girls hailing from urban area. The mean anxiety/insomnia scores obtained for adolescent girls from rural and urban areas were 1.42 and 1.04 respectively. However, in rest of the subscales- Social dysfunction (F=.121; p=.728), Severe depression (F=0.097; p=.755), and in total GHQ scores (F=2.679; p=.103), adolescent girls hailing from rural and urban areas did not differ significantly, as the obtained F values failed to reach the significance level criterion of .05 level.

**Groups, area and General health status:** The interaction effects obtained for group and area were found to be non-significant for all the individual subscales and total GHQ scores were found to be non-significant. The F values obtained for interaction effects between groups area for somatic symptoms (F=3.784; p=.053), anxiety/insomnia (F=0.515; p=.473), Social dysfunction (F=1.743; p=.188), Severe depression (F=0.190; p=.663), and in total GHQ scores (F=0.883; p=.348), were all found to be non-significant revealing that pattern of

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scoring by adolescent girls hailing from rural and urban area was same irrespective of the menarche group they belong to.

### DISCUSSION

Major findings of the study

- Adolescent girls in late menarche had more somatic symptoms than adolescent girls in late menarche stage.
- Adolescent girls in early and late menarche did not differ significantly in Anxiety/Insomnia, Social dysfunction, Severe depression and total GHQ scores.
- Adolescent girls hailing from rural area had more somatic symptoms, suffered more from anxiety/insomnia than adolescent girls hailing from urban areas.

Few studies analysed depression and personal health related problems among adolescent girls. Patton and et al (1996) studied on menarche and the onset of depression and anxiety in Victoria, Australia. This study aimed at focusing the associations between puberty and social circumstances and the adolescent rise in depression and anxiety. An overall participation rate of 83% levels of depression and anxiety increased with the secondary school years and girls has significantly higher rates at each school year level. Overall menarche marks a transition in the risk of depression and anxiety in girls. Another important study in this area is timing of menarche and depressive symptoms in adolescent girls from UK (Joinson, Heron, Lewis, Croudace & Araya, 2011). This study examined whether girls who experience earlier menarche than their peers have higher levels of depressive symptoms in adolescence. The association between timing of menarche and depressive symptoms at 10.5, 13 and 14 years was examined within a structural equation model. Girls with early menarche (< 11.5 years) had the highest level of depressive symptoms at 13 (P = 0.007) and 14 years (P < 0.001) compared with these with normative and late timing of menarche. Totally early maturing girls are at increased risk of depressive symptoms in adolescence and could be targeted by programmes aimed at early intervention and prevention.

The other finding related to the study was that adolescent girls from rural areas found to have more somatic symptoms and anxiety/insomnia than adolescent girls from urban areas. An American study by Bushak (2015) found that teenage girls in rural areas are more susceptible to depression and Asthma. However, study by Prabha, Devi, Rao, and Bushanam (2017) found that depression was found to be more in urban areas than rural areas.

The occurrence of psychopathological conditions like somatic symptoms, anxiety depression, social dysfunction, depression etc., among adolescent girls may have long term negative effects on their interpersonal, social and personal life. In this juncture one can say that youngsters having these issues are at higher risk for proneness to psychological disorders like anti-social behaviour and addiction to substances (CDCP, 2016). Even suicidal ideation and attempts may be there which might have intimated through disturbed psychological, social, and academic functioning (Cherif, et al, 2012).

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### **Conflict of Interest**

There is no conflict of interest.

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