AGE AT MENARCHE (AAM) IN CHRONIC RESPIRATORY DISEASE: CYSTIC FIBROSIS (FC) AND ASTHMA. COMPARISON WITH A LARGE COHORT OF HEALTHY GIRLS LIVING IN VERONA.

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BACKGROUND

Menarche is a milestone in human sexual development as it denotes the achievement of fertility. Few studies have evaluated the AAM in chronic respiratory disease.

AIMS AND OBJECTIVES

The main aim of this study is to investigate AAM and menarcheal determinants in girls affected by Cystic Fibrosis or Asthma, and to compare their AAM with healthy girls' one.

METHODS

The study was conducted on 1207 girls living in Verona aged 11-24: 1062 healthy girls, 47 girls affected by Cystic Fibrosis and 98 asthmatic girls (*Figure 1*). Data collection was done using self-administered questionnaires about AAM. There were two types of questionnaire: one for healthy and asthmatic girls, and the other one for girls affected by cystic fibrosis. Girls with asthma was also administered an Asthma control test (ACT).

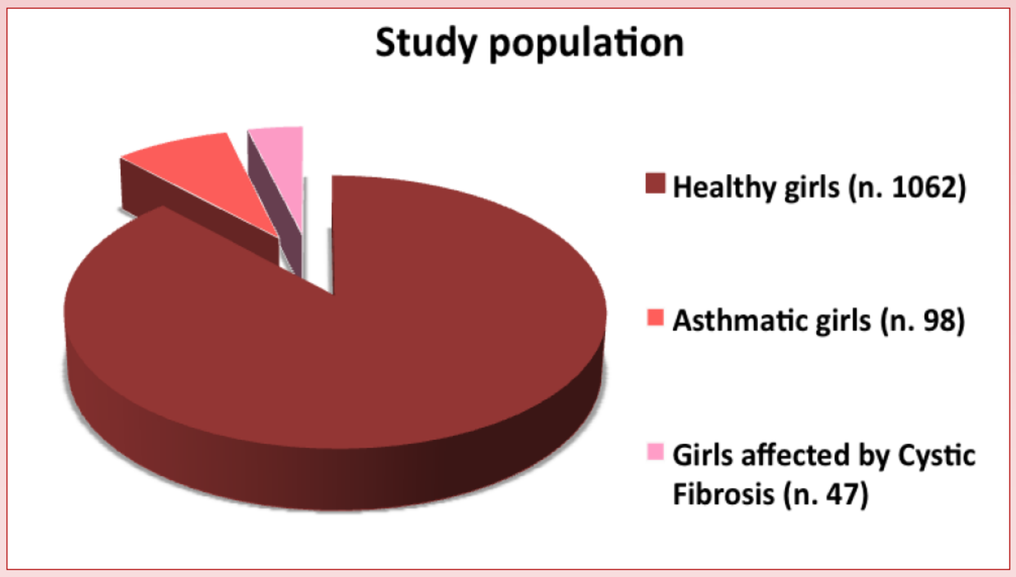


Figure 1

RESULTS

The average AAM among girls affected by Cystic Fibrosis (n. 36) is 13,24 1,44 significantly higher (p< 0,0001) than healthy girls' average MA 12,49 1,2 years (*Figure 2*). Also asthmatic girls (n. 86) experienced delayed menarche compared with the healthy ones (p<0,05): the average MA among girls affected by asthma is 12,79 3,0 years (*Figure 3*). No differences in terms of menarcheal age were found in the groups of patients affected by DM1 (n 86) and celiac disease (n 54): the average age at menarche among girls affected by DM1 is 12,52 1,07 years, and in girls affected by celiac disease is 12,27 1,18 years. Moreover, age at menarche is significantly higher among patients (n. 49) affected by GHD: 13,52 1,26 years (*Figure 4, data of previous report*).

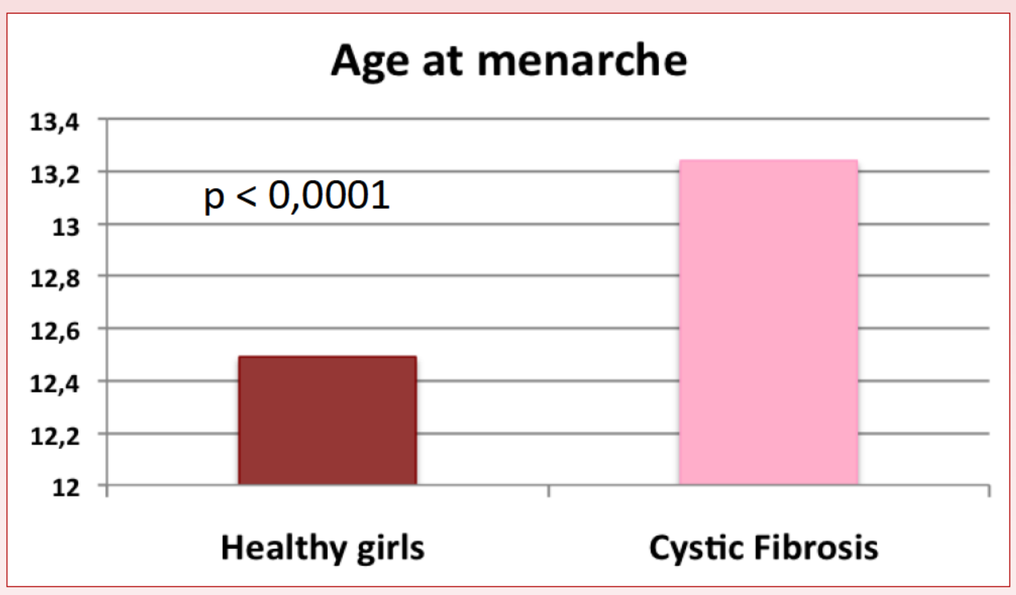
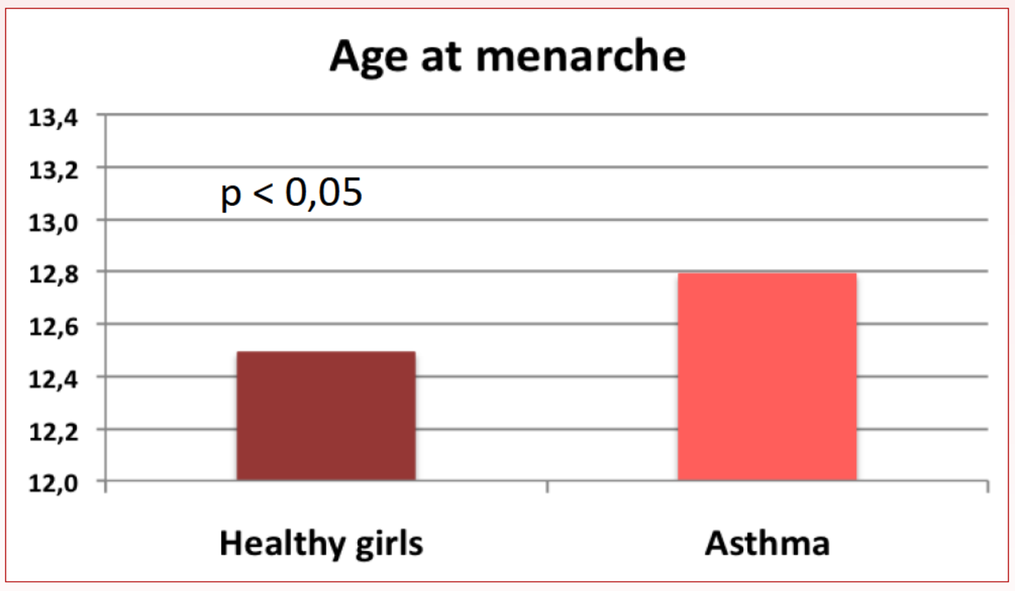


Figure 2



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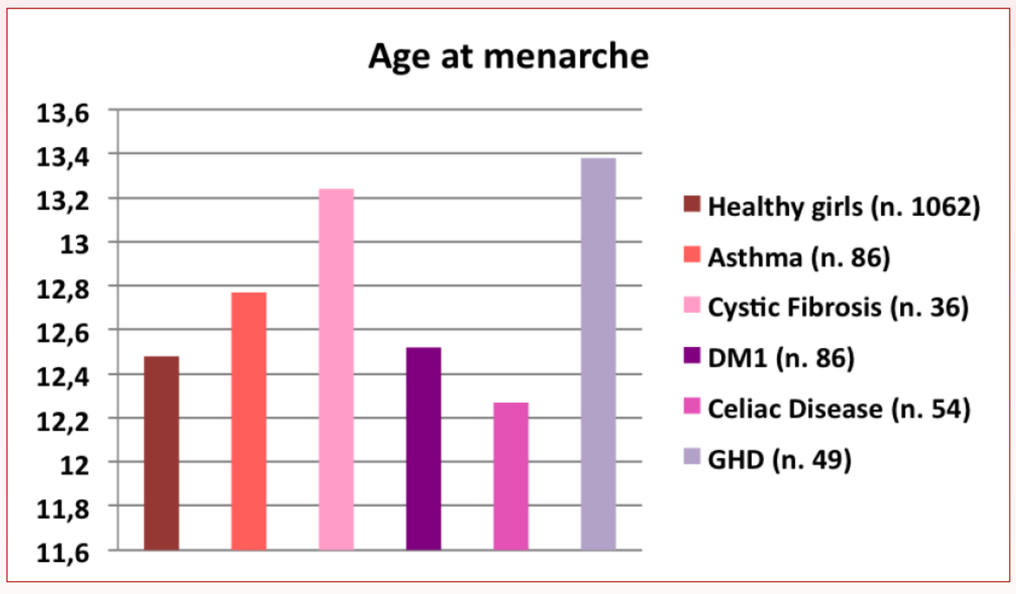

Figure 4

CONCLUSIONS

The basis of delayed menarche among patients affected by chronic diseases is multifactorial. We analyzed many variables such as Asthma severity, type of mutation in Cystic Fibrosis, chronic infection and pancreatic insufficiency.
None of these explains delayed menarche in girls with chronic respiratory disease.
Chronic inflammation and malnutrition seem to be the main causes of delayed onset of menarche.
The issue of growth and puberty in children affected chronic respiratory disease requires further investigation.

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