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A case control study to compare the factors influencing early onset of menarche among school children in selected schools of Udupi district.

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"ABSTRACT

A study titled "A case- control study to compare the factors influencing early onset of menarche among school children in selected schools of Udupi District" was conducted by Mrs. Jesna Joseph in partial fulfillment of the requirement of the award of Master of Science in Nursing at Manipal College of Nursing, MAHE, Manipal, Karnataka.

The present study was an attempt to assess the mean age at onset of menarche and to assess the factors influencing it, thereby health awareness can be given to the public.

The objectives of the study were to determine the mean age at onset of menarche among cases and to compare the factors influencing early onset of menarche among cases and control group of school children.

The conceptual framework for this study was based on "fish bone model by Kaoru Ishikawa (1968). A quantitative approach was undertaken to assess the mean age at onset of menarche and factors influencing early onset of menarche among school children in selected schools of Udupi district, Karnataka. Simple random sampling technique was adopted to select the Taluk. Non probability purposive sampling was done to select the children from each school.

The tools used for this study were demographic proforma, anthropometric assessments and questionnaire to collect the factors influencing early onset of

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menarche (dichotomous questions on nutritional factors, environmental factors, family factors and physical factors and rating questions on the same). To ensure the content validity of the tool, the tools were given to seven experts with the blue print and modifications were made as per the expert's suggestions. After validation, the modified tools were subjected to pretesting among five school children in a selected school. The reliability of factors influencing early onset menarche was checked by inter- rater reliability and test - retest method and the tool found to be reliable ($r = .97$). A pilot study was conducted among 13 cases and 26 controls in a selected school and the study found to be feasible.

For ensuring the ethical concerns in the research methodology, administrative permission was obtained from Dean, Manipal College Of Nursing, MAHE, Manipal, Institutional Ethics Committee (IEC) of Kasthurba Hospital, MAHE, Manipal, Institutional Research Committee, Manipal College Of Nursing, MAHE, Manipal, Permission from DDPI office, Administrative permission from Principal/ Headmasters from the schools. Informed consent from participants and assent was taken prior to the data. The data was collected from December 27th 2017 to January 18th 2018. Analysis of the data was done by using inferential and

descriptive statistics. The data were analyzed using Statistical Package for Social Sciences (SPSS) version 16.

Sample characteristics showed that the mean age at onset of menarche among school children was 10.81 ± 0.821 years. The mean age of cases was 11.598 ± 0.492 years and the controls were 11.019 ± 0.733 years. The lowest age at menarche was 8.6 years. Comparing the mothers mean age at onset of menarche (14.1 ± 1.11 years),

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there was a decline in age at onset of menarche among children. Mean age at siblings attained the menarche for cases were at 12 ± 1.697 years and controls it was at 13 ± 1.697 years. Difference was observed in height, weight, BMI, hip circumference among girls in cases group which might be positive indicators for early onset of menarche among them.

There was a statistically significant association between consumption of fast food ($\chi^2 = 1.250, p < .001$), knowledge about menarche ($\chi^2 = 8.588, p < .003$) and follows regular exercise ($\chi^2 = 11.387, p < .001$) and onset of menarche among cases than controls. However eating vegetables or fruits every day, drinking milk or milk products every day, parental support and concerns are considered as protective factors observed in controls that might have delayed early menarche. The chance of having early onset of menarche was 1.616 times more among cases whose fathers had better occupation [OR 1.616 (CI 1.158-2.256), P .005]. The chance of having early onset of menarche was 56 % (OR .434, 95% CI [.226 - .835]) more among cases whose monthly family income was between Rs.10000-50000."