Brock, R. S.; Falcão, M. C.; Leone, C.
Body mass index values for newborns according to gestational age
Grupo Aula Médica
Madrid, España

Available in: http://www.redalyc.org/articulo.oa?id=309226728011

Abstract

Objective: The combination of two anthropometric parameters has been more appropriate to assess body composition and proportions in children, with special attention to the Body Mass Index (BMI), as it relates weight and length. However, the BMI values for the neonatal period have not been determined yet. This study shows the BMI for newborns at different gestational ages represented in a normal smoothed percentile curve.

Methods: Retrospective study including 2,406 appropriate for gestational age newborns following the Alexander et al curve (1996) from 29 to 42 weeks of gestational age. Weight and length were measured following standard procedures. For the construction of a normal smoothed percentile curve, the 3rd, 5th, 10th, 25th, 50th, 75th, 90th, and 95th percentiles were determined and a statistical procedure based on the mathematical model “sinusoidal fit” was applied to establish a curve that estimates biological growth parameters.

Results: The Body Mass Index values for gestational age in all percentiles shows a steady increase up to 38 weeks, levels off up to the 40th week, followed by a slight decrease to the 42nd week in both genders. Conclusion: The results show a direct correlation between gestational age and Body Mass Index for both genders in the nine percentiles, and can provide a useful reference to assess intrauterine proportional growth.

Keywords
Body Mass Index, Infant newborn, Gestational age, Anthropometry, Nutrition assessment, Growth.