

METABOLISM

SEX DIFFERENCES IN
FATTY LIVER DISEASE

An Australian study has identified sex differences in the prevalence and severity of nonalcoholic fatty liver disease (NAFLD).

“The natural history of NAFLD is not well defined,” explains lead author Oyekoya Ayonrinde (University of Western Australia and Fremantle Hospital, Australia). Although children and adolescents are known to develop NAFLD, it is largely thought of as an adult disorder. To address these issues, Ayonrinde and co-workers evaluated the prevalence and severity of NAFLD in adolescent participants of the Western Australian Pregnancy (Raine) Cohort.

The adolescents were invited to undergo a cross-sectional assessment when they were 17 years old. The assessment comprised a detailed questionnaire, anthropometric and cardiovascular measurements, blood examination and an abdominal ultrasound scan. NAFLD was diagnosed during the ultrasound scan using established diagnostic criteria.

Among the 1,170 adolescents who underwent an ultrasound examination, 12.8% had NAFLD. The prevalence of NAFLD was ~1.5× greater in female than in male participants, although this could be explained by the higher rates of central obesity observed in the girls. The boys had more severe fat deposition in their livers than the girls, which was linked with greater visceral abdominal fat mass, worse metabolic abnormalities and lower levels of adipocytokines than found in the girls. The amount of subcutaneous fat was the strongest predictor of NAFLD in adolescents.

“The finding of NAFLD in adolescents should trigger a search for identifiable, treatable or reversible metabolic risk factors,” concludes Ayonrinde. Indeed, the researchers intend to explore the factors during early postnatal life and childhood that could be associated with NAFLD in adolescents.

Claire Greenhill

Original article Ayonrinde, O. T. *et al.* Gender-specific differences in adipose distribution and adipocytokines influence adolescent nonalcoholic fatty liver disease. *Hepatology* 53, 800–809 (2011)