

Background High levels of sedentary behaviours have been independently associated with several negative health indicators, including obesity. Screen time (ST) is often used as a contributing measure of sedentary time. It is recommended that children spend no more than 2 hours on recreational sedentary screen-based activities daily. We describe screen-based sedentary time of urban school children and examine the associations between body mass index (BMI) and percent Body Fat (%BF) with ST levels. Methods Data were collected from 563 children aged 9 to 11 years attending 29 non-boarding primary schools in Nairobi, Kenya, as part of the International Study of Childhood Obesity, Lifestyle and the Environment (ISCOLE). Data were analysed to test for associations between ST and sex, type of school attended (public verses private), Socioeconomic status, adiposity, and access to electronic devices. We also assessed participants' ST on school and weekend days. Results Of the participants recruited, 15.5% had high ST levels, 67.9% spent no more than 2 hours in recreational screen activities on school days while 74.2% did not meet the guidelines on weekend days. Participants sex was associated with daily ST ($t = 3.5, p < 0.001$), ST on the weekend ($t = 3.9, p < 0.001$) and total ST per week ($t = 3.5, p < 0.001$) with males having higher ST than females. ST was associated with type of school for daily ST ($t = 3.6, p < 0.001$), ST on the weekend ($t = 4.5, p < 0.001$) and total ST per week ($t = 3.6, p < 0.001$) where private schools pupils had higher ST. ST was not associated with BMI. ST was not associated with %BF except on weekend days ($p = 0.038$) where those classified as overfat/obese (fat) had higher ST. Conclusions A large proportion of children spend more time than recommended on screen activities particularly on weekend days. Strategies to improve healthy living should focus on the reduction of sedentary ST for school-aged children.