Introduction Pediatric pain has been considered an important public health issue which motivates studies about a wide variety of dimensions around the world. Although epidemiological studies have increased over the past years, the information to characterize pediatric pain from population-based studies is still limited, more even when children reported their own pain.

Aim We aim to characterize the prevalence, localization and intensity of pain experience in children of the Generation XXI birth cohort (G21) at the age of 10 years, reported by children.

Materials and methods We used data from 4752 ten-year-old children from Generation XXI cohort. Pain was assessed using the Portuguese version of Lubeck Pain Screening Questionnaire applied to children. The statistical significance of differences between groups was assessed using Chi-squared test. Data was analyzed using the SPSS 22.0.

Results Of the 4752 participants, 1668 admitted a pain experience in the previous week (35%). According to anatomical location, children mentioned more frequently as main pain: upper limb (n=521), abdominal pain (n=384), back pain (n=384), headache (n=271), lower limb (n=241) and chest pain (n=153). These locations differ according to sex (p<0.001). From these children, 309 had pain in two or more different locations in the previous week, with differences between boys and girls (p=0.035). Multisite pain was present in around 4% of these children. Among these children, more than 66% of children mentioned moderate pain and more than 26% admitted intense to severe pain in the last week. We found a statistically difference between the location of principal pain and the intensity valued in the pain face scale (p<0.001). The intensity of pain was also different among boys and girls (p=0.005).

Discussion This population-based study in Portugal is one of few data available who values children’s report of their own pain. At this age, it’s normal that parents report pain in place of children. However, literature defends that since preschool, children are able to express their own pain. More than a third of children reported pain in the previous week and about 19% with 2 or more different anatomical locations. The presence of multisite pain at this age and also the differences found among boys and girls should claim to the attention of investigate the determinants of pain, triggers, impact in children’s life’s and evolution of pain, namely to chronic pain which is increasing in pediatric age in last years.