

Child Obesity 2018: An overview of children in Amsterdam with (morbid) obesity and comorbidity in secondary healthcare- Ghizlan El Mansouri-OLVG West Hospital, Netherlands

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Obesity is worldwide a growing problem. Obese children are at a higher risk for developing comorbidity. The municipality Amsterdam introduced the multidisciplinary approach Amsterdamse Aanpak Gezond Gewicht (AAGG) to standardize healthy behavior and to counteract obesity. This study will provide an overview of children with obesity and comorbidity in Amsterdam. It will research whether a predicting factor can be found among risk factors and it will be used to evaluate the effect of the AAGG in coming years. 822 children, who started an obesity program in the OLVG hospitals between 2012-2015, were included. Demographic data, the BMI grade, comorbidity and risk factors were collected and analyzed. 59% of the children were between 5-12 years. The majority (45%) had obesity grade I (n=807). Almost a third were Moroccan (n=786) and half of the children (n=753) had a bottom/low socio-economic environment. Regarding comorbidity, 21 had pre-diabetes, two had diabetes mellitus, 50 had elevated LDL-cholesterol levels, 149 showed hypertension and 61 had elevated ALT-levels (n=204). Moroccan and Ghanaian children were twice more likely to develop comorbidity than Dutch children. 151 children with risk factors developed comorbidity (n=643), while 47 children had comorbidity without risk factors (n=141). Regarding ethnicities, 20-30% of the children with risk factors developed comorbidity. About 25% of the children showed comorbidity, of which the majority had obesity grade I. A relation between certain ethnicities and comorbidity was found. The AAGG promises good results and this study is a baseline measurement to evaluate the effect of the AAGG-approach in coming years.

A total of 324 199 active patients with a recorded BMI were identified. There were 121 287 (37.4%) patients found to be overweight (BMI ≥ 25 and < 29.9), 75 199 (23.2%) had BMI 30–34.9, 34 152 (10.5%) had BMI 35–39.9 and 25 137 (7.8%) had

BMI ≥ 40 . There was a higher prevalence of type 2 diabetes, pre-diabetes, hypertension and cardiovascular disease (P value < 0.0001) within higher BMI compared with lower BMI categories. In patients with a BMI > 30 (n=134 488), only 48% (64 056) had documentation of

This cross-sectional summary from a large US integrated health system found that three out of every four patients had overweight or obesity based on BMI. Patients within higher BMI categories had a higher prevalence of comorbidities. Less than half of patients who were identified as having obesity according to BMI received a formal diagnosis via ICD-9 documentation. The disease of obesity is very prevalent yet underdiagnosed in our clinics. The under diagnosing of obesity may serve as an important barrier to treatment initiation.

Despite these recommendations and formal recognition by the American Medical Association as a disease,⁹ obesity continues to be underdiagnosed in clinical practice.¹⁰ It is estimated that $< 30\%$ of adults with obesity receive this diagnosis during their primary care physician (PCP) visit.¹⁰ Furthermore, some data suggest that weight counselling as a component of primary healthcare services in the USA has been declining significantly over the past decade.^{11 12} Yet, obesity screening and recognition of obesity as a complex, chronic diagnosis are among the first steps leading to effective treatment.¹³ Obesity-related electronic health records (EHRs) have been highlighted as a useful tool to assist healthcare providers in the screening and management of obesity.^{14–17}

The primary objective of the present study was to determine the true prevalence of obesity and related comorbidities among patients being actively managed at the Cleveland Clinic using EHR data. A secondary goal was to evaluate how frequently a formal diagnosis of obesity, via International Classification