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## Within-country, regional variations in dietary patterns in a representative sample of Polish females 13–21-year-old: finding from the GEBaHealth study

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### Abstract

Some dietary patterns (DPs) identified across the world are classified as universal (e.g. 'Western' or 'Prudent') while other patterns are country-specific, often labelled as 'Traditional'. Regional, country-level variations in DPs adherence were not extensively studied to date. The aim of this study was to analyse differences in DPs adherence among Polish females between country regions. A cross-sectional study was performed using data from a representative sample (n = 1107) of Polish females 13–21-year-old, enrolled for the Girls Eating Behaviours and Health Study. Initially, 2104 females were randomly selected from the Universal Electronic System of Population Register database. The response rate was 52.6%. All data were adjusted for survey weights to maintain the representativeness. Three short form food frequency questionnaires were applied. Four DPs were identified by principal component analysis: 'Traditional Polish' (positively loaded by higher consumption frequency of white bread, potatoes, meat and fat), 'Vegetables and fruit', 'Fast-food and sweets' and 'Dairy and fats'. In line with the Polish database of Central Statistical Office, six Polish regions were considered: East (with the lowest Gross Domestic Product, GDP = 69.7; Poland = 100), North (DP = 84.8), North-West (GDP = 95.1), South (GDP = 98.8), South-West (GDP = 104.8) and Central (the highest GDP = 140.4). Multiple logistic regression analysis was used. Odds ratios (ORs) were adjusted for age and body mass index. Higher adherence to 'Traditional Polish' DP was found in 4 out of 5 regions (OR 2.02 to 2.53) when compared to the East region. Higher adherence to 'Vegetables and fruit' DP was found in 2 out of 5 regions (the South and the South-West; OR 1.71 and 1.81, respectively), when compared to the East region, and in 3 out of 5 regions (the South, the South-West and the Central; OR 1.69 to 2.23), when compared to the North-West region. Higher adherence to 'Fast-food and sweets' DP was found in the North region when compared to the three other regions as reference: the East (OR 1.94), the North-West (OR 1.93), and the South (OR 2.10). In young Polish females, high adherence to the 'Traditional Polish' DP was observed across the country, except of the poorest region (the East). The study highlights that young females from economically deprived regions are at higher risk of unhealthy (westernized) dietary behaviors while those living in more affluent regions more frequently consume fruit and vegetables being a high-cost food. Increasing the affordability of healthy foods should be considered as an important component of public health interventions, particularly in more deprived regions.

### Conflict of Interest

There is no conflict of interest. The study was financed within the framework of NCN project no. N N404 068540.