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# DE MONTFORT UNIVERSITY

## 2<sup>ND</sup> MAY 2019

5. J. Heinlin, J. L. Zimmermann, F. Zeman, W. Bunk, G. Isbary, M. Landthaler, T. Maisch, R. Monetti, G. Morfill, T. Shimizu, and J. Steinbauer., *Wound Repair and Regeneration*, 2013, 21(6), pp.800-807.

### **23. Filipe Machad Ferreira, DE MONTFORT UNIVERSITY**

*Overweight and underweight prevalence indices in a young (18-23 yrs-old) population in Leicester (UK).*

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Body fatness is considered a diagnostic factor for obesity and predictive of cardiovascular and cancer disease. Different studies have described a strong correlation between body fatness determined by different methods and body mass index (BMI), although an absolute correlation has not been obtained between them, especially in a young population. Young individuals aged 18-23 years are little studied in epidemiological studies, as they are usually considered in the adult or adolescent group, despite having specific characteristics and features that make them different from both children and adults, making these type of studies of public health relevance.

**Aims:** Assess the prevalence of underweight and overweight individuals in a young population of students at De Montfort University (DMU, UK), based on student's body mass index (BMI) and body fat percentage, depending on their ethnic background. DMU is a public English university with a high population of students with diverse ethnic backgrounds.

**Methodology:** Undergraduate DMU students, 18-23 years-old, volunteered between 2015-2016 to participate in this study. Minimal information, including student's sex, age and ethnic background (continental origin), was gathered. BMI values were calculated in accordance with the formula  $BMI = \text{kg}/\text{m}^2$ , after appropriate measurement of height (metres) and weight (kg) in each individual. Fatness (body fat %) was directly obtained by foot-to-foot bioelectric impedance (BIA) using a Tanita® scale.

**Results:** 109 (20.5 ± 1.1 yrs-old; 32 male and 77 female) DMU students participated in this study. According to their BMI values and BIA body fat percentage, 33.0% and 28.4% of this population were overweight, and 9.2% and

7.3% were underweight, respectively. According to BMI data, 28.1% male students were overweight and 9.4% underweight, showing a greater incidence of overweight students from Asian background (15.6%), followed by European (9.4%), and African (3.1%). In this study, no underweight male Europeans were observed, however some underweight participants with African and Asian backgrounds were noted, specifically 3.1% and 6.3% underweight prevalence, respectively. Similar over/underweight percentages were observed using Tanita® in this DMU students' population, but a slightly lower percentage of European male participants were considered overweight (6.3%) with this method.

In female counterparts, 35.1% and 45.5% were overweight and 9.1% and 6.5% were underweight, according to BMI and BIA methodologies, respectively. Contrary to male participants, the highest overweight prevalence according to BMI values was assessed in female African students (15.6%), followed by European (13.0%) and Asian (6.5%) backgrounds. Highest underweight incidence was detected in female participants with Asian background (6.5%), followed by European and African backgrounds both with 1.3%, respectively. As with male participants, a similar trend was recorded for overweight participants according to the BIA method, although greater incidence was observed in participants with African (20.8%) and Asian (11.7%) backgrounds. In female participants with African backgrounds no underweight participants were found. Asian participants registered the highest prevalence of underweight students (5.2%), followed by participants with a European background (1.3%).

#### Conclusions:

This observational study found that at least one-third of young individuals aged 18-23 years were overweight, which places them at increased health risk. This is three times that of the national average in this age group, 10.6%, and may reflect the ethnic differences which were observed. Work to compare anthropometric assessment methods will support risk stratification in this population group.

## 24. Umar Anjum, DE MONTFORT UNIVERSITY

### *Cryptosporidium* spp. in Leicester (UK): an update

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*Cryptosporidium parvum* and *Cryptosporidium hominis* are considered opportunistic emerging human parasites that can severely affect immunocompromised patients and individuals worldwide for which an early stage diagnosis is critical for appropriate prognosis. Although these parasites have been related to serious outbreaks in the United Kingdom (UK), there is little