

## Abstract – Original Research

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### Title of Presentation:

Body composition, nutrition status and hand grip strength of people with mental disabilities in Northern Germany

1. Brief description/abstract for the content of the poster presentation

**Background and Aims:** Previous research showed a high prevalence for overweight and obesity as well as special dietary behavior in mentally disabled people (DP). The aim of this cross-sectional study was to analyse the nutrition literacy and eating habits, nutrition status, body composition as well as muscle strength of free-living DP in a small cohort cared by a community service agency (Ambulante Dienste Volmarstein). Furthermore results were compared with those of the normal German population, whenever possible.

**Methodologies:** Anthropometry (body height and weight, waist circumference), body composition (Seca mBCA 515, Hamburg Germany), handgrip strength (Jamar dynamometer, Cederburg, WI, USA) were assessed in 24 DP (male (n=10): 75±17.8% degree of disability, age: 43±11.7; female(n=14): 71.4±15.6% degree of disability, age: 39±10.7). Nutrition literacy, eating habits, physical activity and self-awareness of body-image were assessed using self-made questionnaires.

**Results:** DP had a significantly higher BMI (35.8±10.1 kg/m<sup>2</sup>, p< 0.001) and waist circumference (111±18.8 cm vs 93.8±7.1 cm, p= 0.002) than the normal German population (see figure). The BMI-category for normal weight (<25 kg/m<sup>2</sup>) was only reached by one female DP. Women trended to have a higher BMI compared with men (38.8±1.4 vs 31.4±6.3 kg/m<sup>2</sup>, p= 0.054). The fat free mass index (FFMI) was similar in DP's and the German population (20.6±3.6 vs. 19.2±1.8 kg/m<sup>2</sup>, p=0.13). Handgrip strength was significantly lower in DP compared with age-adjusted references for healthy people (27.4±10.2 kg vs 40.5±10.6 kg, p<0.001). Overall, 54.2% of the DP misjudged their own BMI-category (p=0.002). Nutrition literacy was low (50.3% of 100%) and did not correlate with BMI (r=0.335, p=0.11).

**Conclusion:** In DP higher BMI and waist-circumference, as well as the low nutrition literacy lead to a higher long-term risk for metabolic syndrome and cardiovascular diseases compared with the normal population. Dietary counselling in this special target group is indicated by these results.

2. Please give two to three key references (published by you or others) which can be used to inform future work:

1. Rimmer JH, Yamaki K, Davis BM, Wang E, Vogel LC. Obesity and Overweight Prevalence Among Adolescents With Disabilities. Preventing Chronic Disease. 2011;8(2).

2. Emerson E. Underweight, obesity and exercise among adults with intellectual disabilities in supported accommodation in Northern England. Journal of intellectual disability research : JIDR. 2005;49(Pt 2):134-43.
3. Bhaumik S, Tyrer FC, McGrother C, Ganghadaran SK. Psychiatric service use and psychiatric disorders in adults with intellectual disability. Journal of intellectual disability research : JIDR. 2008;52(11):986-95.

3. Please identify, where possible, up to three specific key messages that participants will take away from your poster presentation to inform their future practice.
  1. The BMI of disabled people (DP) is significantly higher than the BMI of the German population.
  2. The handgrip strength of DP's is significantly lower than the reference
  3. Overall, DP show multiple cardiovascular risk factors higher than the general German population making them a meaningful target for future dietetic interventions