OP39 PSYCHOLOGICAL DISTRESS AND BODY MASS INDEX: COMORBIDITY AND DIRECTION OF ASSOCIATIONS OVER THE LIFE-COURSE

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Objective To estimate concurrent co-morbidity of body mass index (BMI) (underweight/overweight/obesity vs 'normal') groups with psychological distress and assess the direction of association at different life-stages.

Design and Setting Prospective birth cohort born in 1958 in England, Scotland, and Wales (≈17,000) with eight data collections.

Participants 12,918 participants at age 7 years followed-up to 50 years.

Main Outcomes Psychological distress was assessed with age-appropriate instruments: Teacher-Rated Bristol Adjustment (7-11 years) and Rutter Scale (16 years) (scores in the top 13%), and Psychological Malaise Inventory at 23–50 years (scores >5). Depression and anxiety symptoms were obtained at 45 years. BMI groups were calculated from measured (7, 11, 16, 33,

45 years) and reported (23, 42, 50 years) heights and weights based on the World Health Organisation cut-offs.

Results We firstly applied logistic regressions to examine the cross-sectional relationships between distress at each age and BMI groups (vs 'normal'). Obese women (generally not men) had a higher risk of being distressed from 16 years (OR: 2.2) and thereafter (23–50 years; ORs: 1.3 to 1.7). Underweight men and women were more likely to be distressed at all ages 7–50 years (ORs: 1.3 to 3.4). Secondly, to assess the direction of associations from BMI to distress, we applied a multivariate binary response model to distress at the seven follow-ups (11–50 years) on BMI groups at the prior age (7–45 years), accounting for the correlation with prior distress. In women (not in men) obesity at all ages was associated with subsequent distress (11–50 years; OR: 1.3 to 3.7). For those who were underweight at baseline, elevated ORs for distress were observed in men 1.3 (11 years), 1.6 (16 years) and 4.5 (45 years) and women 1.2 (11 years), 1.4 (23 years), 1.6 (33 years) and 1.8 (42 years). Thirdly, to assess the direction of associations from distress to BMI, we applied a multivariate multinomial response model to BMI groups from age 11 to 50 years on distress at a prior age (7–45 years), while accounting for prior BMI groups. In women (generally not in men) baseline distress was associated with subsequent obesity at 16 years (OR: 2.5) and 45–50 years (ORs 1.9 and 1.5). In addition, baseline distress was associated with subsequent underweight at 11–23 years (ORs 1.5-2.2) and at 42 years (6.3) in men and at 33–45 years in women (ORs 1.4-2.3). There was no clear evidence for concurrent or temporal comorbidity of overweight with distress.

Conclusions There was U-shaped relationship between unhealthy weight and psychological distress, whereby underweight (in both sexes) and obesity (in women) were concur-