for racial and ethnic minority staff groups influenced by perceptions about institutional and structural discrimination. This included suspicions and fear around institutional pressure to be vaccinated, racial injustices in vaccine development and testing, religious or ethical concerns, and legitimacy and accessibility of vaccine messaging and communication.

Conclusion Drawing on a critical race perspective, we conclude that acknowledging historical and contemporary abuses of power is essential to avoid perpetuating and aggravating mistrust by de-contexualising hesitancy from the social processes affecting hesitancy, undermining efforts to increase vaccine uptake.

OP36 IS RISK OF BIAS UNDERESTIMATED IN POORLY CONDUCTED SYSTEMATIC REVIEWS USING COCHRANE'S RISK OF BIAS TOOL FOR NON-RANDOMISED STUDIES? A META-EPIDEMIOLOGICAL REVIEW

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Background Systematic reviews of evidence frequently help inform research, clinical guidelines, and policy. Although randomised controlled trials (RCTs) are ideal, many areas of public health rely on evidence from non-randomised studies which are more susceptible to bias. 'Risk Of Bias In Non-Randomised Studies of Interventions' (ROBINS-I) is a widely used critical appraisal tool developed by Cochrane in 2016, which assesses risk of bias on an absolute scale, such that a low risk-of-bias study is equivalent to a well-conducted RCT. ROBINS-I has been seen as a major methodological innovation, but its complexity has led to concerns that it may be misapplied. We review for the first time how ROBINS-I is used in a sample of recent systematic reviews.

Methods Systematic reviews using ROBINS-I were identified by forward citation and keyword/abstract searches in six databases, restricted to January and February 2020. The review protocol was preregistered in PROSPERO (CRD42020170785). Reported ROBINS-I ratings and data on how ROBINS-I was used were extracted from each review. Methodological quality of reviews was assessed using AMSTAR 2 ('A MeaSurement Tool to Assess systematic Reviews'). Mixed-effects partial proportional odds regression was used to assess associations between review characteristics (e.g. methodological quality and industry funding) and risk-of-bias ratings. Screening and quality appraisals were conducted independently by two reviewers.

Results Of 181 hits, 124 reviews were analysed with data extracted on 1,344 included studies. Risk of bias was reported as serious/critical for 54.8% of included studies, most commonly due to confounding, but 8.0% reported low risk of bias. Poorly conducted reviews were more likely to report lower risk-of-bias ratings, with an apparent dose-response relationship. Compared to reviews with moderate/high AMSTAR 2 rating, odds of low risk-of-bias ratings were higher in low-quality reviews (odds ratio: 1.89 [95% confidence interval: 0.36–9.94]), and considerably higher in critically low-quality reviews (4.70 [1.01–21.78]). Competing interests and industry funding were not uniformly predictive of higher or lower ratings, although these analyses had low statistical power. Deviations from the guidance of the tool were seen in 40.3% of studies, with 20.2% reporting ratings using a non-standard scale.

Discussion Systematic reviews conducted using Cochrane's recommended tool for non-randomised studies may misleadingly suggest a robust evidence base exists when used by reviewers without adequate epidemiological expertise. This may lead to misleading conclusions, especially for public health guidelines. Greater training and expertise are required to ensure that widespread use of the tool does not lead to an increase in misleading reviews.

Friday 17 September

Session: Food & Food Policy, 09.00 – 11.30

OP37 CHILDHOOD CONSUMPTION OF ULTRA-PROCESSED FOODS AND LONG-TERM ADIPOSITY TRAJECTORIES: FINDINGS FROM A UK BIRTH COHORT STUDY

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Background Worldwide consumption of ultra-processed foods is continued to rise. Growing evidence has linked ultra-processed food consumption with elevated risks of obesity, non-communicable diseases, and mortality in adults. Associations between ultra-processed food consumption and long-term adiposity trajectories have never been investigated in children.

Methods Data were obtained from the Avon Longitudinal Study of Parents and Children (ALSPAC), a prospective birth cohort study conducted in Avon County, south-west England. Participating children with baseline dietary intakes collected using 3-day food diaries and repeated measures of adiposity outcome were included and followed up from ages 7 to 24 years (1998–2017). Adiposity outcomes included objectively assessed anthropometrics (body mass index, weight, waist circumference) and dual-energy X-ray absorptiometry measurements (fat and lean mass index, body fat percentage). All foods and drinks consumed were categorised according to the degree of processing applying the NOVA food classification system. Individual's consumption of ultra-processed foods was derived as a percentage of its weight contribution (gram per day) in the total diet and categorised into quintiles. Associations between quintiles of ultra-processed food consumption and trajectories of adiposity outcomes were evaluated using linear growth curve models and adjusted for study covariates.

Results A total of 9025 children (49.6% female) were followed up over a median (IQR) of 10.2 (5.2–16.4) years. Mean (SD) ultra-processed food consumption at baseline from the lowest to highest consumption quintiles was 23.2% (5.0%), 34.7% (2.5%), 43.4% (2.5%), 52.7% (2.8%) and 67.8% (8.1%). Trajectories of body mass index, fat mass index, weight and waist circumference increased significantly

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