

identified following a literature review to identify determinants of children's physical activity. Our assessment of local authority 'need' included measures of children and adult's physical activity and excess weight, children's mental health needs, access and utilisation of outdoor space for exercise, and deprivation. We grouped local authorities using a hierarchical cluster analysis. The optimal number of clusters for our data was three clusters. We estimated the association between 'need' and registration to TDM with a Poisson regression.

**Results** We identified three distinct clusters of need for children's physical activity interventions representing 4.5 million primary school children. High-need, medium- need, and low-need local authorities included 24%, 56% and 20% of 123 upper-tier English local authorities respectively. Schools in local authorities of high-need were more likely to be registered to TDM (IRR: 1.25, 95%CI:1.12–1.39) compared with schools in low-need local authorities, where registration to TDM ranged from one in five schools in the low-need cluster to one in four in the high-need cluster.

**Conclusion** Our study suggests that TDM is an equitable intervention reaching schools in areas with the highest need. Areas of highest need are concentrated in particular areas in England, for example the North East. Matching public health interventions to the needs of the population is more efficient and equitable than blanket policies directed at whole populations. This identification of clusters of local authorities that share patterns of need may guide shared learning between local authorities that share similar challenges and contextual features.

OP53

#### EXPLORING VIEWS ON POTENTIAL COMPONENTS OF A DIET AND PHYSICAL ACTIVITY INTERVENTION WITH PARENTAL INVOLVEMENT AMONG CHILDREN IN NIGERIA

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**Background** There is limited evidence on diet and physical activity (PA) interventions to prevent childhood over- and under-nutrition in Nigeria, and none focused on parental involvement. Knowledge of socio-cultural and environmental contexts, prioritising views of target populations, is needed to inform intervention strategies. The aim of this study was to explore parents, children and other stakeholders' views on the factors that might enable or hinder participation in diet and PA interventions and parental involvement, and potential intervention components likely to be feasible and acceptable.

**Methods** A grounded theory, qualitative cross-sectional study was conducted in culturally diverse local government areas of Lagos State, Nigeria. Participants were identified through purposive and theoretical sampling, and data collected over three iterative phases. Eleven boys and girls aged 8–11 years; 19 women and 14 men aged 19–60 years who were parents, teachers/school heads, community leaders, health workers, and health or education civil servants, took part in 25 semi-structured one-to-one interviews and three focus groups. Discussions were digitally recorded and transcribed verbatim. Manual thematic analysis and independent coding of the transcripts generated key themes and reduced bias in the analysis.

**Results** Three overarching themes were identified: 1. Active community collaboration 2. Strategies for involving families; and 3. Schools as key settings for interventions. Adult participants voiced active partnership between communities and schools as essential to addressing barriers to diet and physical activity interventions, such as inconsistent funding and lack of safe outdoor space for PA. Children reported concerns about school meal quality and poor access to clean water and menstrual hygiene products impacting PA participation. Suggested solutions achieved by community partnerships included security for outside play areas, and infrastructure improvements using recycled/locally sourced materials, and health campaigns funded by local dignitaries. Suggested activities for engaging families in interventions included health literacy teaching for parents, using learning aids tailored to literacy levels and local dialects, and involving religious leaders.

**Conclusion** This study highlighted the challenges for consideration in childhood diet and PA intervention development in Nigeria. The feasibility and acceptability of grassroots suggestions for intervention components and parental involvement could usefully be explored in future pilot studies.

OP54

#### ASSOCIATIONS BETWEEN SOCIOECONOMIC POSITION ACROSS LIFE AND GRIP STRENGTH AT AGE 46 YEARS: FINDINGS FROM THE 1970 BRITISH COHORT STUDY

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**Background** Muscle weakness is a key criterion for important age-related conditions including sarcopenia and frailty. Research suggests lower childhood socioeconomic position (SEP) contributes to muscle weakness in later life but there is little evidence in younger adults closer to peak muscle strength from more recently born cohorts. We aimed to examine the relationships between indicators of SEP in childhood and adulthood and grip strength at age 46 years.

**Methods** A total of 3,113 men and 3,132 women from the 1970 British Cohort study, with data on paternal occupational class and parental education levels at age 5 and own occupational class, education level, grip strength and covariates including height, body mass index and occupational activity at age 46, were included in analyses. Interactions between sex and each SEP indicator were formally assessed, and models were sex-stratified if evidence of interaction was found. Linear regression models were used to test associations of childhood and adulthood SEP with maximum grip strength.

**Results** Among women, there was evidence of associations between lower SEP in childhood and adulthood and weaker grip strength. For example, women whose fathers were in the lowest occupational classes had 1.14kg (95%CI: -1.74,-0.54) weaker grip strength than women whose fathers were in the highest occupational classes, and these associations were not fully explained by covariates (fully-adjusted regression coefficient: -0.81kg (-1.39,-0.22)). Among men, different patterns of association were observed (*p*-values for sex interactions <0.05). In unadjusted models, lower SEP in both childhood and adulthood was associated with stronger grip, and these associations strengthened after adjustment for height. For example, men whose fathers were in the lowest occupational classes had stronger grip strength 1.01kg

(0.04,1.98) than men whose fathers were in the highest occupational classes. After adjustment for occupational activity most associations in men were fully attenuated although an association between own lower educational levels and stronger grip remained.

**Conclusion** For women, lower SEP was associated with weaker grip strength suggesting that strategies to reduce women's exposure to socioeconomic adversity across life are likely to be beneficial for their peak grip strength. For men, lower SEP appears to be associated with stronger grip strength at age 46 years related to higher levels of occupational activity. As there is evidence from other studies that the association between SEP and grip strength reverses in later life this suggests strategies may be needed to help men of lower SEP maintain this midlife advantage as they age and retire.

Friday 17 September

Mental Health, 09.00 – 11.30

OP55

**SOCIAL DETERMINANTS OF ANTENATAL DEPRESSION AND ANXIETY AMONG WOMEN IN SOUTH ASIA: A SYSTEMATIC REVIEW & META-ANALYSIS\***

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**Background** Pregnancy is a time of major psychological changes making pregnant women more susceptible to depression and anxiety. Prevalence is higher among women living in Bangladesh, India and Pakistan, compared to high-income countries, due to poor understanding and lack of mental health integration within antenatal care. Antenatal depression/anxiety is associated with adverse outcomes including postnatal depression, low birth weight and impaired fetal development. Existing systematic reviews provided only limited information, including a lack of meta-analysis, on the social determinants of antenatal depression or anxiety in these South Asian countries. This review aimed to identify, synthesise and appraise the evidence on the social determinants associated with antenatal depression and anxiety in women living in Bangladesh, India and Pakistan.

**Methods** We searched five databases (MEDLINE, Embase, PsycINFO, Scopus, Web of Science) and PROSPERO using keywords and MeSH headings. Two investigators screened all search results independently. Supplementary searches included hand searching reference lists and citation searches using Google Scholar. Observational studies published between 1st January 2000 and 4th January 2021 were included if they were in the English language, used validated tools for measuring depression/anxiety in pregnant women and reported statistical associations or raw numbers. Quality of included studies were assessed using the Newcastle-Ottawa scale. Summary estimates were obtained using random-effects model. Heterogeneity and publication bias was measured using the  $I^2$  statistic and Egger's test, respectively. The review was registered on PROSPERO (reference: CRD42020167903).

**Results** The searches identified 3,372 studies; following deduplication, 1,987 studies remained for screening. Following screening and supplementary searches, a total of 34

studies were included in this review (with 27,379 women). Meta-analysis of Adjusted Odds Ratios (AOR) found that Intimate partner violence (AOR 2.48, 95% CI 1.41–4.33), unplanned pregnancy (AOR 1.53, 95% CI 1.28–1.83), male gender preference (AOR 3.06, 95% CI 1.40–6.72) and poor relationship with in-laws (AOR 2.69, 95% CI 1.25–5.80) were significantly associated with antenatal depression.

**Conclusion** Screening tools to identify pregnant women at high risk of antenatal depression should be integrated within antenatal care to prevent adverse outcomes. Knowledge of social determinants will inform the development of such screening tools and interventions. One limitation of this review is the language restriction; however, international journals largely publish in English. Future research involving qualitative studies to understand the mechanisms within the associations are needed.

OP56

**PERINATAL DEPRESSION IN MIGRANT AND REFUGEE WOMEN ON THE THAI-MYANMAR BORDER: DOES SOCIAL SUPPORT MATTER?**

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**Background** Migrant and refugee women are at risk of perinatal depression due to multiple stressors experienced before, during and after the migration trajectory. In low-income settings, continued hardships following resettlement and limited access to mental health services may pose additional challenges. Social support has consistently been identified as protective against perinatal depression. This study assesses the associations between three different forms of social support - received, perceived and partner support - and perinatal depression among migrant and refugee women living on the Thai-Myanmar border.

**Methods** We conducted a cohort study on the Thai-Myanmar border of women recruited in their first trimester of pregnancy. Depression status was assessed using a clinical interview in the first, second and third trimesters and at one month post-partum. Received support, perceived support and partner support were measured in the third trimester. Associations between social support and perinatal depression were assessed using logistic regression with separate models for migrants and refugees. A series of multivariable regression models were built using stepwise estimation with demographic, socio-economic, migration, obstetric and psychosocial variables sequentially added to the model.

**Results** Of 568 women participating in the study, 451 (233 migrants; 218 refugees) had complete data for social support measures and were included in the current analysis. The prevalence of perinatal depression was 38.6% in migrants and 47.3% in refugees. Migrants reported higher levels of received, perceived and partner support than refugees. In the final model, after controlling for all other variables, higher