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ARE THE MOST VULNERABLE MOTHERS IN ENGLAND BEING TARGETED FOR ADDITIONAL SUPPORT DURING PREGNANCY AND EARLY MOTHERHOOD? AN ANALYSIS OF CHARACTERISTICS OF ENROLMENT IN THE FAMILY NURSE PARTNERSHIP USING LINKED ADMINISTRATIVE DATA

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10.1136/jech-2021-SSMabstracts.44

Background Proportionate universalism is key to reducing health inequalities in the UK. However, evidence is lacking on how effectively services target vulnerable families. We examined whether the most vulnerable mothers were targeted for enrolment in the Family Nurse Partnership (FNP), an intensive health visiting service supporting young mothers implemented in >130 local authorities in England.

Methods We used Hospital Episode Statistics (HES) to create a population-based cohort of first-time mothers aged 13–24 years in England. Mothers enrolled in the FNP were identified through linkage with FNP Information System data. We included mothers living in a local authority with an active FNP site at the time of their pregnancy, giving birth between 1 April 2010 and 31 March 2017 for mothers aged 13–19 years, and from 1 November 2016 to 31 March 2019 for mothers aged 20–24 years in selected FNP sites enrolling mothers >20. We calculated the percentage of eligible mothers enrolled using the number of births captured in HES, and identified maternal characteristics associated with enrolment using multi-level logistic regression.

Results Of 111,408 eligible mothers aged 13–19 years, 26,073 (23.4% [95% CI: 23.2%–23.7%]) were enrolled in the FNP, ranging from 11%–67% across sites. The FNP reached 12.6% [12.5%–12.8%] of all 206,139 first-time teenage mothers in England. Maternal age was the strongest predictor of enrolment (odds ratio [OR]=4.68 [4.30–5.10] for 13–15 year olds compared with 18–19 year olds). Associations were also observed for deprivation (OR=1.27 [1.18–1.37] in the most versus least deprived quintile), hospital mental health admission in 2 years before pregnancy (OR=1.52 [1.40–1.66] compared to none) and adversity-related admission in 2 years before pregnancy (OR=1.35 [1.26–1.46] compared to none). Among 4,940 eligible mothers aged 20–24 years, 187 (3.8% [3.3%–4.4%]) were enrolled in the FNP; younger mothers were also prioritised, and modest associations were observed with deprivation and hospital admission history.

Conclusion We show that while the youngest mothers were successfully prioritised for enrolment in the FNP, proportionate universalism is not currently being achieved and a substantial proportion of young mothers with markers of vulnerability are not enrolled. Improved data collection during antenatal booking appointments and information sharing with FNP teams, particularly for measures of deprivation and adversity, would help support decision-making for recruitment. More research is needed to understand who should be targeted for support during and after pregnancy, and with which interventions.

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PREGNANCY AND PERINATAL OUTCOMES FOR WOMEN WITH CYSTIC FIBROSIS: A UK POPULATION-BASED REGISTRY STUDY, 2003–2017

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10.1136/jech-2021-SSMabstracts.45

Background Cystic fibrosis (CF) is an inherited, progressive condition affecting over 10 000 individuals in the UK. With advancement in care leading to improved prognosis and survival, women with CF are increasingly considering starting families, but there is currently a paucity of population-based evidence on the epidemiology of pregnancy in the CF population. We assessed pregnancy rates and outcomes for women with CF in the UK compared to the general population; and assessed the impact of the introduction of disease modifying treatments on pregnancy rates.

Methods We used data from the UK CF Registry and population level conceptions data for England and Wales (E&W) for women aged 15–44 years who were pregnant between 2003–2017. For both population groups, we calculated three yearly crude pregnancy rates per 1,000 women years (wys), age specific rates, and compared pregnancy outcomes (live birth - LB) and determined the overall pregnancy rate amongst women who had in vitro fertilisation (IVF). For the CF population only, we assessed the overall pregnancy rates for women with a G551D mutation before and after Ivacaftor was introduced in 2012. To assess the impact of baseline health status on pregnancy outcomes for women with CF, we conducted a linear regression of gestational age on pre-pregnancy lung function (%FEV1) and nutrition (BMI)

Results Of 3,831 women with CF included, 661 reported 818 pregnancies. The overall pregnancy rate was 26.4 (95% CI 24.7–28.3) per 1,000 wys - about a third that in E&W women (77.7). This pattern was evident in the age specific rates, except for those aged 40–44 years where the difference in rates was much less (CF women 8.2 per 1,000 wys vs. 13.3 in E&W), and the LB rate (CF women 17.4 per 1000 wys vs. 61.4 E&W women). Pregnancy rates in women with CF with G551D increased from 29.5 to 56.9 per 1000wys between 2012–2014 and 2015–2017. Women with CF who had IVF were younger than their E&W counterparts (31.2 years vs. 34.8 years). There was no correlation between % FEV1/gestational age ($R=0.066$, $P=0.629$) or BMI/gestational age ($R=-0.06$, $P=0.585$) of neonates.

Conclusion Pregnancy rates in women with CF are about a third that of E&W women except for women aged 40–44 years where the rates are similar. Overall live births were lower in women with CF compared to the general population. Pregnancy rates increased following introduction of modulator therapy.