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Short-term health and social care benefits of the Family Nurse Partnership lack evidence in the UK context but there is promise for child developmental outcomes.

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### Context

Nurse Family Partnership (NFP) home visiting from pregnancy to 24 months postpartum, guided by a manualised curriculum, has been shown in three RCTs to have multiple beneficial outcomes and to be a cost effective way to prevent the risk of child abuse for children of young, psychologically vulnerable first-time mothers<sup>1</sup>. It also strengthens families through increased maternal employment and wider spacing of pregnancies and leads to a range of benefits for children through adolescence<sup>2</sup>. The US developed programme was introduced into England in 2007 (renamed Family Nurse Partnership) and an RCT launched in 2009.

### Methods

Eligible women (nulliparous, age >20, <25 weeks gestation) living close to established FNP teams were screened and referred to the trial, randomised to FNP or comparison (usual care) stratified by site, gestation (<16 weeks, 16 weeks +) and smoking status. Face to face maternal interviews were completed at baseline and 24 months with blinded telephone contact in late pregnancy, at 6, 12 and 18 months postpartum and urine samples taken to confirm smoking status at baseline and in late pregnancy. The trial had four primary outcomes: tobacco use in late pregnancy (self-report and urine), from health records birthweight, second pregnancy within 24 months postpartum and (health records and maternal report) emergency hospital attendances and admissions for the infant. Secondary outcomes and contact with health care professionals were collected by maternal report at each time point.

### Findings

With 1645 originally randomised, primary outcomes were available for variable numbers (1092 smoking in pregnancy, 1501 birthweight, 1289 second pregnancy, 1478 emergency episodes). No differences were identified in the proportion of mothers smoking in pregnancy (56% both groups), in birthweight (3217.4g FNP, 3197.5g control), second pregnancy by 24 months (66% both groups) or infant emergency attendance/admission (81% FNP, 77% control). However secondary outcomes indicated benefit from FNP. Maternal report of language development at 12, 18 and 24 months and cognitive development at 24 months favoured FNP infants and maternal report of social support, partner-relationship and self-efficacy showed positive impacts for FNP families.

### Commentary

Robling and colleagues state that smoking cessation and second pregnancies by 24 months are the most relevant outcomes and that, with respect to these, the programme cannot be considered cost effective. However these are not the outcomes that have led to the programme being held internationally to have top tier evidence and to be cost effective<sup>2</sup>; that is based on longer-term child outcomes such as better school achievement and avoidance of delinquency in adolescence, linked with more stimulating, less harsh parenting in childhood. The authors note that reliance on attendance at emergency departments may, in the UK, reflect a style of seeking healthcare that has become very common in the UK but is not so typical in the USA. However the reliance on health outcomes from records is the main difficulty with this trial. If observations had been completed of home conditions and parent-infant interactions at 12, 18 and 24 months, and child language had been assessed directly at 24 months, positive impacts might have been detected for the most

important ways that the programme has been seen to influence outcomes. The paper notes that a recent trial in the Netherlands<sup>3</sup> has found positive impacts similar to those found by the intervention's developer David Olds in the USA. The Dutch trial used more stringent criteria for selection leading to a population that more closely resembled that of the participants in the US trials. It is possible that delivery in the UK may need to follow that model. Suggestions for alternative eligibility criteria have been established for the UK<sup>4</sup> but noting that more detailed information would need to be available in pregnancy records so that vulnerabilities such as mental health problems, low educational achievement, or lack of support could be used to identify potential clients.

#### Implications for practice

The paper concludes that programme continuation is not justified on the basis of this evidence. However it would be unwise for commissioners to make decisions based only on this research study, given other evidence suggesting that delivery to the right population leads to many positive parent and child outcomes.

#### References

1 Olds DL. The nurse-family partnership: an evidence-based preventive intervention. *Infant Ment Health J* 2006; **27**; 5-25.

2 Coalition for evidence-based policy. *Evidence summary for the Nurse-Family Partnership*. 2014. <http://toptierevidence.org/wp-content/uploads/2014/09/Nurse-Family-Partnership-Summary.pdf>

3 Mejdoubi J, van den Hiejkant SC, van Leerdam FJ, Cron M, Crijnen A, Hirasig RA. Effects of nurse home visitation on cigarette smoking, pregnancy outcomes and breastfeeding: a randomized controlled trial. *Midwifery* 2014; **30**; 688-95.

4 Barnes, J, Howden, B, Niven, L, Ball, M. *Eligibility for the Family Nurse Partnership programme. Testing new criteria*. 2012. London, Department of Health.