Evidence Brief

UNIVERSITY OF Southampton

Issue 21– March 2022

Are poor experiences on postnatal wards linked to staffing levels?

Experts are growing increasingly concerned about the sustainability of the midwifery workforce, with unfilled vacancies in the thousands, an ageing workforce with many taking early retirement, and difficulty retaining newly qualified midwives. Staffing studies have focussed on the quality of care in labour, with fewer studies looking at staffing levels in relation to postnatal care.

This Evidence Brief describes a cross-sectional analysis of women's responses to the Maternity Survey 2018 linked to midwifery staffing levels in each Trust. Researchers at the University of Southampton aimed to understand whether the experience of care on postnatal wards varies according to the number of midwives available. They have focused on experiences of postnatal care while in hospital, as this is an area where families have expressed dissatisfaction.

Background

The State of the World's Midwifery 2021 report identified that postnatal care is not appropriately prioritised, leading to unmet need in many countries [1]. The potential impact of midwives in preventing mortality is substantial [2] and higher staffing levels have been associated with fewer adverse events, neonatal unit admissions and maternal readmissions [3].

A systematic review on women's experiences of hospital postnatal care suggested that staff shortages are implicated in the quality of care. In particular, more needs to be done to establish good maternal and infant health in the early days after birth [4]. Over half of women giving birth in hospital or birth centre are discharged within 24 hours. Some report negative experiences such as staff being too busy to give practical help or assist post-operative mothers [5].

This research builds on the growing body of research in midwifery that links staffing levels to outcomes and patient experiences.

Methods

We undertook a cross-sectional secondary analysis linking responses from the Maternity Survey 2018 to staffing data for midwives [6]. The UK Data Service provided anonymised individual patient data after the study gained ethical permission [7]. 129 Trusts and 17,611 respondents were included. The response rate for the survey varied from 21% to 61% between Trusts, with an overall response rate of 37%.

The number of full-time equivalent (FTE) midwives was extracted from the NHS Workforce Statistics for February 2018 which matched the time period for women giving birth in the Maternity Survey.

Four closed questions asked specifically about the woman's experience of postnatal care. These relate to

1. whether they experienced a delay in discharge,
2. if they were able to have help within a reasonable time,
3. if they were given the information or explanations they needed, and
4. whether they had been treated with kindness and understanding.

We fitted a regression model for each of the four questions to investigate the effect of staffing on the chance of answering 'yes always' as opposed to 'yes sometimes' or 'no'. This was 'multi-level' to account for different Trusts, and 'logistic' because we were considering two possible answers. Since parity, type of birth, age, ethnicity and size of Trust may also be related to women's' experiences, we controlled for these in our models. We analysed staffing both as a continuous variable and then explored potential non-linear relationships by dividing the variable into tertiles (three groups of Trusts with similar staffing levels).

Results

The median number of FTE midwives per 100 births was 3.55 (with the middle half of hospitals having between 3.26 to 3.78). This represents the number of midwives in organisations, as it was not possible to determine the number deployed on postnatal wards themselves. There was some variation in women's responses to the questions about their experiences, according to their age group, parity and type of birth. For example, women in the youngest age group, first-time mothers and those having instrumental or caesarean section birth reported more negative experiences.

Women cared for in Trusts with higher levels of midwifery staffing had more favourable responses to each of the questions on postnatal care. For every additional FTE midwife per 100 births in the organisation, we estimated that this is associated with

1. a 15% reduction in the odds of reporting delay in discharge after adjusting for other variables

(adjusted odds ratio 0.85, 95% confidence interval 0.75-0.96),

2. a 20% increase in odds of reporting that staff always helped in a reasonable time (aOR 1.20, 95% CI 1.05-1.37) and
3. a 15% increase in odds of women always having the information and explanations they needed (aOR 1.15, 95% CI 1.04-1.27).
4. For being treated with kindness and understanding, the relationship was in the same direction but not statistically significant (aOR 1.06, 95% CI 0.95-1.18).

We calculated the absolute difference in the number of women answering negatively between hospitals with low, medium and high staffing levels (grouped in tertiles). The largest difference was for women reporting delay in discharge, where an estimated 5.7% fewer women (1 in 18) are expected to report a delay in discharge in Trusts in the highest tertile for staffing (3.7 to 5.2 FTE per 100 births) compared to the lowest tertile (2.5 to 3.4 FTE per 100 births). Estimates for the mid tertile fell in between the lowest and highest which suggests a roughly linear relationship between staffing and patient experience.

Discussion

This analysis of survey data combined with routinely collected data on workforce allows an insight into the relationship between staffing levels and women's experiences of care. This information can be used alongside safety measures to inform staffing decisions.

This study has found improved maternal experiences in Trusts employing a higher number of midwives. The effect sizes are relatively small, although they could amount to a sizable difference given the number of women receiving maternity care each year. For example, for a maternity unit with 5000 births per year with high staffing (at least 3.7 FTE midwives per 100 births), 285 fewer women may report a delay in discharge and 205 more may report they are always helped in a reasonable time compared to a comparably sized unit with low staffing (under 3.5 FTE midwives per 100 births).

Although the findings are suggestive of positive effects with more staffing, a causal link cannot be attributed as results come from a cross-sectional study. The staffing levels in this study were not measured at ward level and therefore differences seen at organisational level may not translate into proportional staffing on postnatal wards. Further research could explore this with greater accuracy and include support worker staffing in the workforce variables.

Maternity staff are becoming more aware of the impact of their services on women's experiences, for example through the development and implementation of the 15 steps for maternity challenge [8]. Although previous studies have found maternity staffing is linked to outcomes such as maternal readmissions and breastfeeding [3], the impact on patient experience is also important. As one in five women experience mental health problems during pregnancy or in the first year after birth [9] it is important to ensure that their postnatal experience does not add to these difficulties.

Conclusions

This is the first study to examine the effects of organisational staffing on women's experiences of hospital postnatal care. There is some evidence that higher midwifery staffing is associated with better experience of care on postnatal wards. Further research is needed to clarify this relationship and establish links between the quality of postnatal care and longer-term outcomes for mothers and babies.

How to cite: Turner L, Culliford D, Ball J, Kitson-Reynolds E, Griffiths P and Saville, C (Editor). Evidence Brief, University of Southampton. March 2022

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 This research was part funded by the National Institute for Health Research's (NIHR) Health Services & Delivery Research programme (Award ID: NIHR128056) and the NIHR Applied Research Collaboration (Wessex). The views expressed are those of the authors and not necessarily those of the NIHR, the Department of Health and Social Care, 'arms' length bodies or other government departments.

NHS National Institute for Health Research