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South Australian rural women's views of their pregnancy, birthing and postnatal care

ML Guest¹, GE Stamp²

¹Whyalla Hospital, Whyalla, South Australia, Australia ²Spencer Gulf Rural Health School, University of South Australia, Whyalla Campus, Whyalla Norrie, South Australia, Australia

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Guest ML, Stamp GE

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ABSTRACT

Introduction: This study considered the views and experiences of 85 rural women, most of whom gave birth in two regional South Australian hospitals.

Method: This descriptive survey used a validated questionnaire, modified for use in rural South Australia, which included openended questions to invite further comment. Women were invited to participate while in hospital after giving birth and those who agreed (n = 136) were mailed a questionnaire 6-8 weeks after the birth. Data were collected on demographic and other information including: age, smoking status, model of antenatal and birth care, birth method, women's views of their care in pregnancy, labour and after the birth, breastfeeding uptake and continuance rates, and prevalence of possible depression after birth using the Edinburgh Postnatal Depression Scale. Non-identifiable data were described using descriptive statistics and analysed using *t*-tests, 2 x 2 contingency tables and relative risks, as appropriate. Where available, comparisons were made with other rural and South Australian data. Qualitative data were themed by consensus.

Results: Eighty-five women (63%) returned a completed questionnaire. Rates of spontaneous vaginal birth were significantly lower in the study than for 5257 South Australian rural residents who gave birth in 2006 (n = 38, 45% vs 3057, 58%). While caesarean rates overall were similar, elective caesarean rates were higher (25% vs 15%), while fewer study women smoked throughout pregnancy (9% vs 24%). Overall, women in the study rated their care as 'very good' for antenatal care(59%), for labour and birth care (73%) and postnatal care (53%). More women stayed in hospital for 5 days or more than South Australian women



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overall (53% vs 40%). Open-ended comments confirmed reasons that were related to their choice. Breastfeeding was commenced by 95% of the women and 69% were breastfeeding at 6 weeks.

Conclusions: The findings confirm Victorian rural women's ratings, and further highlight that in the postnatal period women often feel left to manage on their own, and are less than happy with their care.

Key words: birthing, postnatal, pregnancy, South Australia, women's views.

Introduction

The past two decades have seen numerous changes in the delivery of maternity care in Australia including: the introduction of birth centres and midwifery models of care (although not yet available to all women), various shared care arrangements and early discharge. In the state of Victoria, the Victorian Surveys of Recent Mothers, a series of large population surveys conducted in 1989, 1994 and 2000¹ highlighted these changes and how they were experienced by women. The results have provided a rich source of data that have been presented in numerous studies and used to design interventions to evaluate care and lobby for change. For example the surveys revealed areas of dissatisfaction with care shared between hospitals and GPs, resulting in changes which significantly improved satisfaction in subsequent reviews^{2,3}. A further population study is underway and for the first time this includes South Australian as well as Victorian women⁴. However, when the present study was undertaken such detailed data about women's views and experiences of their maternity care had not been collected in rural populations in South Australia. The South Australian perinatal statistics collections provide comprehensive demographic and outcome data; however, responses by women about aspects of their care have not been collected⁵.

In planning the evaluation of a new partnership model of care provided by Aboriginal Maternal Infant Care workers and midwives⁶⁻⁸, the researchers followed Campbell and Brown⁶, who modified the Victorian survey questions for Aboriginal women and compared responses with all Victorian rural residents. The aim of the present study was to

use selected data from rural women for comparison with that of a sample of Aboriginal women who received care in that program, reported elsewhere⁶⁻⁸. As the research plan progressed it became clear that a survey of rural women was timely and could progress as research in its own right. The decision was made to aim for a sample of up to 100 women. A subsample of 54 was used for comparison with the Aboriginal women who participated in the partnership model⁷.

The overall study aim was to assess the views and experiences of a sample of women who gave birth in three regional hospitals, hospitals A, B, and C. These hospitals delivered 888 of 5257 births (16.9 %) to South Australian women of rural residence in 2006, and 4.8% of 18 519 South Australian births overall⁵.

At the time of the study non-Aboriginal women who gave birth at hospitals A and C received one of four models of antenatal care: (i) GP and obstetrician shared care; (ii) GP and midwife shared care; (iii) midwife-only care; and/or (iv) a combination of these. Generally an obstetrician was involved only if the pregnancy became high risk. Women who had midwife-only care were initially screened as free from risk factors and transferred to other care if risks emerged. All hospitals utilised GP/obstetricians and midwives during labour and birth for women of low risk. Hospitals A and C had access to an obstetrician if required in labour, and also provided visits from community midwives after discharge home. At the time, hospital B differed in the provision of midwifery care: it provided neither midwifeonly antenatal care nor home visits from a community midwife in the postnatal period. There are no private



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hospitals in the regions studied and privately insured women normally received their birthing and postnatal care in the regional hospital. Birthing centre care was not an available option at any of the study hospitals.

Survey questions sought the following information:

- demographic detail, such as age, parity and birth outcomes
- practices that may affect birth outcome (eg smoking)
- model of pregnancy and birth care
- women's ratings of their care during pregnancy, labour and after birth
- breastfeeding rates in the first week at home and at 6 weeks postpartum
- rates of likely depression after birth at 6 weeks postpartum

As in the Victorian surveys the 10 item Edinburgh Postnatal Depression Scale (EPDS) was used; it was designed for self-administration to screen for likely postnatal depression⁹. The EPDS has been validated for use in Australian populations with excellent sensitivity and specificity^{9,10}, and has been in used extensively in Australian or international research^{11,12}.

Where, appropriate, demographic and outcome data from the study were compared with routinely collected data from the South Australian Pregnancy Outcome Unit⁵.

Methods

University human research and ethics approval was obtained and three hospitals gave consent to enrol women into the study from their postnatal wards. Consenting women were mailed questionnaires 6-8 weeks after the birth.

Developed and validated specifically for the Victorian population surveys¹ and slightly modified for use with rural South Australian women, the survey was segmented into

sections that included questions about demographic data, and the three domains of antenatal; labour and birth; and postnatal care. At the end of each section open-ended questions invited women to comment further on aspects of the domains with which they were either happy or unhappy; or found helpful or unhelpful, as well as a generic response for overall care (n = 4). Three further questions invited women to comment on the need for further information in labour and birth; help and/or advice women would have liked postnatally; and an overall 'anything else to add' question.

Between December 2005 and November 2006, three researchers approached women in hospital after the birth of their baby and invited them to participate in the study. Interested women received a detailed oral explanation of the study and were given an information sheet. Those women who agreed to participate completed a consent form. We obtained consent to contact the women for the purpose of clarification and in cases where there were any issues; this included a referral to their GP.

At 6 to 8 weeks after the birth a questionnaire was mailed to consenting women. Where there was no response within 6 weeks of sending the questionnaire, the women were contacted to ensure they received the questionnaire and that they still wished to participate; in some cases a second questionnaire was then sent. If no response was gained from this it was assumed the woman was no longer interested and no further contact was made.

Although three hospitals approved the research, the researcher at hospital C was unable to continue due to a change of employment after enrolling only two participants; it was not possible to gain a replacement. Data from the two women from hospital C were included in the results.

Non-identifiable data were entered into a database developed using Statistical Package for Social Sciences (SPSS) v15 (SPSS Inc; Chicago, IL, USA). Data were analysed using descriptive statistics and *t*-tests, as well as 2×2 contingency tables and relative risks, where appropriate, using the



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StatCalc facility of Epi Info v3.4.2 (CDC; Atlanta, GA, USA), a public domain statistical package for use in population research. For the open-ended questions, themes were developed and agreed by consensus¹³.

Results

Although data were not formally collected, the number of women at all sites who declined participation was negligible. Of the 136 women who consented to participation, 85 (63%) returned a completed questionnaire. One woman had been transferred from a metropolitan hospital for her postnatal care.

The number of births conducted at the 3 hospitals in 2006 are given, as are the numbers and percentages of participants enrolled at each hospital (Table 1). The births at the 3 hospitals are also presented as percentages of the total births in South Australia (Table 1).

Table 2 presents the age ranges, health insurance and parity of the women in the study. For 33 women (40%) this was their first baby. The age mode was shared by women aged between 25 and 29 years (15%) and 30-34 years (15%). Thirty women (36%) had private health insurance, usually with a GP/obstetrician.

Among the 18 519 births to women in South Australia in 2006, 5257 (28.4%) lived in a rural area². Rates of spontaneous vaginal birth for the study sample were lower than that of the combined rural residents, 38% versus 58% (RR 0.77 [0.61–0.97], p = 0.01; Table 3). Although there was a definite trend, no significant difference was found in the total caesarean section rate between the study group (40%) and rural residents (31%; RR 1.27 [0.98–1.66], p = 0.10; Table 3). Neither was there any difference in comparison with South Australian births overall (33%; RR 1.36 [0.88–2.09], p = 0.2)². 'Elective' is the term used to describe a planned caesarean section delivery, while 'emergency' describes a planned vaginal birth that results in



a caesarean. Study participants had a significantly higher rate of elective caesarean section (25%) when compared with rural residents (16%; [RR 1.53, 1.05–2.23], p = 0.05; Table 3). Fewer study women smoked throughout pregnancy (8 of 85 [9%] vs 1238 of 5237 [24%] of rural residents [RR 0.40, 0.21–0.77], p = 0.002; Table 3).

The birth weights of babies in the study ranged from 2270 to 4082 g (mean 3154 g). The models of care used varied among sites and within individual locations. The majority of women (58 of 81, 72%) for whom data were provided received care shared between their GP and midwives, compared with 23 of 81 (28%) who had midwife-only care. While more of those who had midwife-only care rated their antenatal care as 'very good', the difference was not statistically significant (16 of 23 [70%] vs 30 of 58 [52%]; RR 1.74, 0.88–3.76, p = 0.2).

Women were invited to rate their overall antenatal; labour and birth; and postnatal care as 'very good', 'good', 'mixed', 'poor' or 'very poor'. A rating of 'very good' indicates a high level of satisfaction³. Fifty-nine percent of women rated their care as 'very good' during the antenatal period; 73% during labour and birth; and (52%) postnatally, followed by 'good' at 35%, 23% and 29%, respectively (Table 4). The response 'mixed' which indicates low satisfaction³ was more prevalent for postnatal care (18%) than for labour and birth (4%), or antenatal care (5%). Of the women whose response to their postnatal care question was 'mixed', 12 of 15 (80%) provided further comments with specific concerns. These are summarised as: being left to 'fend for themselves' (n = 7), having negative experiences with a staff member (n = 4), and being given conflicting advice (n = 2). When asked how they viewed their maternity care overall, most women (60 of 85; 71%) responded positively. A further 55 of 85 (65%) indicated that there were no aspects of their care with which they were unhappy. For example one woman stated 'midwives were always available, always encouraging and were also kind', while another felt that a positive aspect was being 'monitored the whole time'. Some women provided comments about specific issues with which they were unhappy. One women was unhappy with 'not being given a



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clear picture as to why my labour was not progressing to possibly avoid a "caesar", and another who had a caesarean delivery commented about the 'number of people in the theatre that I didn't know or think really needed to be there'. Responses from the 30 women who were privately insured when compared with the 55 women with Medicare-only (the Australian government-funded national healthcare system) cover revealed no differences in any of the ratings of care.

Significantly more women in this study stayed in hospital for 5 or more days, compared with South Australian women overall in 2006 (45 of 85 [53%] vs 5295 of 18 519 [40%], RR 1.85 [95% CI 1.51–2.27], p = 0.0000014). When asked their opinion about length of stay, 73 of 85 women (86%) indicated that this was 'about right'. When additional openended questions were analysed, 60 women (71%) provided personal choice reasons for going home. Many of the women used the word 'ready' or the phrase 'other children at home' when explaining their reason for going home, with one woman stating 'other children at home [and], husband not coping well!!' Another woman's reason for going home was 'the ward got very busy and I was left to my own devices anyway'.

Breastfeeding was commenced by 81 of the 85 women (95%; Table 5). Women were asked whether they were breastfeeding in their first week at home and again at 6 weeks after the birth. Seventy of the total sample (82%) were breastfeeding during their first week at home, and 59 of the sample (69%) were still breastfeeding at 6 weeks (Table 5). When rates of breastfeeding for hospital and privately insured women were compared there were no differences identified at any assessment points.

Not every woman chose to complete the EPDS. Among the 68 respondents (80%) who did, 10% scored >12 (indicative of probable major depression; Table 5). If a woman's EPDS score was of concern a phone call was made to her to offer referral for further care.

Discussion

Our investigation makes a contribution to the literature on rural women's views of their birthing care in South Australia; at the time of the study this type of research had not been undertaken in such a population. The participants comprised 17% of 301 and 14% of 285 women who gave birth at hospitals A and B, respectively, during 2006. As such, the participants are likely to be reasonably representative of the total population. The study design is robust, using a well-validated structured questionnaire developed by a team of experienced Australian perinatal researchers, used previously with thousands of women and allowing the examination of complex data and associations.

One possible study limitation is that the sample size may be under-powered to make comparisons among smaller subgroups (such as those with private health insurance and midwife-only care models) as was possible in the larger Victorian surveys. In addition, the regional hospital settings may not be representative of other rural or remote South Australian locations. The state-wide population survey currently in progress contacts women at 6 months after the birth and uses the Victorian questionnaire and, as such, will have sufficient power to make a wider range of comparisons⁴.

Consideration must be given to the possibility that the timing of the assessment (at 6–8 weeks after birth) may have influenced women's views. Some may have been experiencing a 'halo effect', in which positive effects are emphasised due to invoked heightened emotions which may lessen a few months later¹⁴. The 6–8 week time frame was chosen for this study because it was felt that women approached in hospital after the birth were more likely to remember consenting to the study, and less likely to have moved house and so lost to follow up.



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Hospital	Births in 2006 [†]	SA Births ^{†¶} %	Study N [§] (%)
Hospital A	301	1.6	44 (52)
Hospital B	285	1.5	39 (46)
Hospital C	310	1.7	2 (2)
Total	896	4.8	85 (100)

SA, South Australia.

†Data from South Australian Pregnancy Outcome Unit 2007[5].

¶N = 18 519; §n = 85.

Percentages rounded.

Table 2: Participants' status according to age, parity and hospital insurance

Factor	Participants
	$n^{\dagger}(\%)$
Age (years)	
< 20	2 (2)
20-24	13 (16)
25-29	25 (30)
30-34	25 (30)
35-39	15 (18)
≥ 40	3 (4)
Hospital insurance status	
Medicare	53 (64)
Private	30 (36)
Parity	
Nullipara	33 (40)
Mulitpara	52 (60)

[†]N = 85 (2 women did not provide their age or hospital

insurance status)

Percentages rounded.

Table 3: Method of birth and smoking status: study group versus rural residents in South Australia, 2006

Factor	Study women [†] n (%)	Rural residents [§] n (%)	Relative risk 95% CI
Method of delivery			
Normal spontaneous vaginal birth	38 (45)	3057 (58)	0.77 (0.61–0.97); <i>p</i> = 0.01*
Emergency caesarean [§]	13 (15)	803 (15)	1.00 (0.6–1.66); <i>p</i> = 0.10
Elective caesarean	21 (25)	848 (16)	1.53 (1.05–2.23); <i>p</i> = 0.05*
Total caesarean	34 (40)	1651 (31)	1.27 (0.98–1.66); <i>p</i> = 0.10
Instrumental	13 (15)	545 (10)	1.50 (0.83–2.70); <i>p</i> = 0.24
Smoked during pregnancy	8 (9)	1238 (24)	0.40 (0.21-0.77); p = 0.02*

CI, confidence interval.

 $^{\dagger}N = 85; \ n = 5257.$

*Statistically significant; §defined as normal labour having begun prior to caesarean.

Data from South Australian Pregnancy Outcome Unit 2007[5].

Percentages rounded.



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Responses [†]		
n (%)		
48 (59)		
29 (35)		
4 (5)		
0		
1 (1)		
60 (73)		
19 (23)		
3 (4)		
0		
0		
44 (52)		
25 (29)		
15 (18)		
0		
1 (1)		

Table 4: Women's ratings of antenatal, intra-partum and postnatal care

 $\dagger N = 85$ participants; ¶Three respondents did not answer this question.

Percentages rounded.

Table 5: Status according to having commenced breastfeeding and breastfeeding during the first week at home and at 6weeks postpartum; and Edinburgh Postnatal Depression Scale score of >12 at 6 weeks postpartum

Factor	$\frac{\textbf{Responses}^{\dagger}}{N\left(\%\right)}$
Breastfeeding	
Commenced	81 (95)
During first week at home	70 (82)
At 6 weeks postpartum	59 (69)
EPDS score = >12 at 6 weeks	7 (10)

EPDS, Edinburgh Postnatal Depression Scale.

 $\dagger N = 85$ participants, of whom 68 completed the EPDS.

The study's breastfeeding rates are comparable with other rural Victorian and rural South Australian data. For example, compared with the women in the 2000 Victorian survey of recent mothers, the numbers of women breastfeeding in their first week at home were 70 of 85 (82%) versus 396 of 447 (88.6%; RR 0.97, 95% CI 0.87–1.08)¹³. When compared with a small study undertaken in an adjoining rural area¹⁵, the study's breastfeeding rate at 6 weeks was 69% versus 73% (RR 1.13, 95% CI 0.94–1.36). Higher rates of breastfeeding have been found in women of higher

socioeconomic status¹⁶, for which private health insurance may be a surrogate measure. There were no such differences found in this study; however, the sample size may not have been large enough to show this (type 2 error).

A hospital stay of longer than 5 days was significantly higher in the study group. Responses demonstrated that the length of stay was what women desired: 86% highlighted that their length of stay was 'about right' with 70% providing 'further

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reasons' that indicated the women had elected to stay this length of time.

Women who had midwife-only care rated their antenatal care as 'very good' (RR 1.74, 0.88–3.76; p = 0.2) which is indicative of a moderate effect size; given the lack of study power, this is likely to be a clinically, if not statistically, significant difference. This question may be answered more definitively by the state-wide survey.

The study also supports the striking finding in the Victorian survey that fewer rural women rated their postnatal care as 'very good' (study 52% vs Victorian rural 55%) when compared with antenatal (59% vs 63%) and intrapartum care $(73\% \text{ vs } 75\%)^{13}$. Furthermore, in a trial of team midwifery in Melbourne, Victoria, although team midwife care was associated with increased satisfaction, this was least noticeable for postnatal care¹⁴. Lower ratings for postnatal care are not confined to Australian childbearing women. Another study undertaken in the UK found that midwife intervention improved satisfaction in all areas except postnatal care¹⁷. Qualitative data from open-ended questions confirmed that postnatal care left room for improvement. Unlike the Victorian study, the present study did not uncover differences between privately insured and Medicare-only care, although the present study may have lacked the power to reveal this. It is also possible that the lack of a private hospital and/or access to a private obstetrician may have diluted potential differences in care between privately and Medicare-insured women.

An earlier South Australian study of 222 urban women found that 9% scored >12 using the EPDS at 6 weeks postpartum¹⁸. Our study finding of 10% of the rural sample is similar. Why 20% of the women chose not to complete the EPDS is unclear.

Although the combined caesarean section rates were not significantly different for women in the present study and the rural South Australian residents², there was a trend towards a higher rate in the study, and a significantly lower rate of spontaneous normal vaginal birth (Table 3). The higher rate

of elective caesarean section in the study sample may indicate less willingness on the part of clinicians or women to undergo a trial of labour in a regional setting, particularly as one of the hospitals did not have a resident obstetrician; however, this finding warrants further investigation.

Results from the state-wide survey of South Australian women using the same survey instrument are awaited as an opportunity to provide broader insights into, and comparisons with, our findings.

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