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Women's access needs in maternity care in rural Tasmania, Australia: A mixed methods study

Ha Hoang *, Quynh Le, Daniel Terry

University Department of Rural Health, University of Tasmania,
Locked Bag 1372, Launceston, Tasmania 7250, Australia

ABSTRACT

Objectives: This study investigates (i) maternity care access issues in rural Tasmania, (ii) rural women's challenges in accessing maternity services and (iii) rural women's access needs in maternity services. Methods: A mixed-method approach using a survey and semi-structured interviews was conducted. The survey explored women's views of rural maternity services from antenatal to postnatal care, while interviews reinforced the survey results and provided insights into the access issues and needs of women in maternity care. Findings: The survey was completed by n = 210 women, with a response rate of 35%, with n = 22 follow-up interviews being conducted. The survey indicated the majority of rural women believed antenatal education and check-ups and postnatal check-ups should be provided locally. The majority of women surveyed also believed in the importance of having a maternity unit in the local hospital, which was further iterated and clarified within the interviews. Three main themes emerged from the interview data, namely (i) lack of access to maternity services, (ii) difficulties in accessing maternity services, and (iii) rural women's access needs. Conclusion: The study suggested that women's access needs are not fully met in some rural areas of Tasmania. Rural women face many challenges when accessing maternity services, including financial burden and risk of labouring en route. The study supports the claim that the closure of rural maternity units shifts cost and risk from the health care system to rural women and their families.

Keywords: rural maternity services, access, rural women, Tasmania, Australia.

ARTICLE

Introduction

In Australia, 32% of the population live in rural (29%) and remote (3%) areas [1]. People in these areas encounter health inequities, which result from difficulties in accessing health care services [2]. Access to health care involves the potential and actual entry of an individual or population into the health care delivery system [3]. Access has been identified as one of the dimensions of quality of care [4]. However, access is itself a multi-faceted concept. Pechansky and Thomas [5] identified five relevant dimensions to the client–service interaction, namely (i) *acceptability* (attitudes and beliefs of users and providers about each other's characteristics), (ii) a*ffordability* (cost implications to the patient in relation to need), (iii) *availability* (adequacy of supply, meaning the relationship between volume and type of services and volume and type of needs), (iv) *physical accessibility* (suitability of the location of the service in relation to the location and mobility of the patient), and (v) a*ccommodation* (is a service organised to meet client needs and fulfil patient perception of their appropriateness). Availability and physical accessibility are the two aspects which this study will focus on.

The absence (availability) and centralisation (physical accessibility) of maternity services are major issues in most rural and remote communities in Australia where over 50% of small rural maternity units have been closed since 1995 [6] . This has been further acknowledged and evidenced, as maternity services are not meeting the needs of Australian rural and remote women who continue to have poor access and outcomes [7]. The closure of rural maternity units is observed as an anticipated cost saving measure [6, 16]. In addition closure is occurring as rural and remote Australia continues to experience medical workforce shortages [2], exacerbated by an ageing maternity workforce and increasing difficulties in attracting and retaining a rural workforce [8]. These challenges undermine the capabilities in providing anaesthetic and caesarean section services and raises concerns regarding the safety and quality of rural birthing services [6, 8]. Some studies have found that when the size of

delivery units decrease, poor health outcomes for babies increase [9, 10] and the closure of maternity units has been associated with the poorer outcomes for mothers [11, 12]. In contrast, a considerable body of literature has demonstrated low-risk women and their babies, which are born in small rural units have health outcomes which are at least equal to or more favourable than low-risk women using larger, fully serviced units [13-15].

The inability to access rural maternity services impacts women and communities in many ways. For example, when required to travel great distances to give birth, women and their families encounter significant financial, logistical, social, cultural and spiritual challenges [17]. In addition, there is a risk of labour and birthing occurring en route [18]. Consequently, this causes significant psychosocial consequences for parturient women such as stress, fear and anxiety [12, 18, 19]. For instance, it has been demonstrated, rural parturient women who travel more than one hour to access services are 7.4 times more likely to experience moderate or severe stress than women with local maternity services access [12]. Furthermore, other studies have shown the closure of rural maternity services is linked with adverse outcomes for mothers and babies [11, 20-22]. This includes low birth-weight neonates, increased infant death rates, increased rates of complicated deliveries and prematurity. Lastly, the loss of local maternity services affects the sustainability and population of rural communities through decreased health services and employment [23].

The reviewed studies aimed to identify the impact the lack of maternity services access had on rural women and their babies in terms of health/medical outcomes or non-medical/other outcomes. The impact the lack of rural maternity services on the health outcomes for women and babies have been widely researched quantitatively. However, studies on the other (non-medical) outcomes/needs of rural women in maternity care are limited in the literature. Some studies only focus on the specific aspects of rural women's needs and their preferences in the models of maternity care and mainly on birthing services. Added to these challenges, the maternity access needs of rural communities in Tasmania remain relatively unknown. Tasmania is an island state, isolated from mainland Australia which has the most regional and dispersed population of any state in Australia, with almost 60 per

cent of the population living outside the capital city [24]. To address many of the silences in the literature, this paper reports the maternity care access needs of rural Tasmanian women from ante-natal through to post-natal care, while identifying the services available and highlighting the gaps between services available and perceived need.

Methods

This study was part of a larger research project identifying women's needs in rural areas of Tasmania, Australia. Ethics approval for the study was granted by the Tasmanian Social Sciences Human Research Ethics Network. The study utilised mixed methods approach which included a survey and semi-structured interviews [25]. The results from the interviews were used to confirm and interpret the findings from the survey [26].

Survey

The survey consists of 41 questions which were informed by the literature and was divided into four parts: Part A about respondent's demographic background, Part B about their most recent experiences of maternity services, Part C about the participant's views on maternity services in rural areas, and Part D about optional comments of participants. The questionnaire included fifteen questions using a 5-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree". Prior the questionnaire's full implementation, a pilot study was conducted with 20 participants. The reliability of the fifteen Likert scale questions were tested using Cronbach's alpha with a result of $\alpha=0.746$ ($\alpha>0.7$) which is considered acceptable [27]. In addition a number of useful suggestions were received from the pilot study participants and incorporated in the survey.

Six rural communities across Tasmania were purposefully chosen to participate in the survey. The health centres in these communities currently provide very limited maternity care services and are 45-120 minutes from a major hospital by car. Third parties such as health and child care centres in these communities were approached for participant recruitment. Those identified to participate in the study

included those who were female over 18 years of age; having had a childbirth experiences; and living in rural areas of Tasmania or Australia at the time of giving birth. Subsequently, 600 surveys were distributed to women who met the study criteria with 210 (35%) women responding to the survey between May and Sep 2010.

Interviews: Survey participants were asked to indicate their willingness to participate in the interviews on the returned survey form. The interviews especially focused on women who have had child birth experience within 5 years. Forty eight women consented to participate in the interviews. The semi-structured interviews were conducted by the first author between Aug and Oct 2010 in the local health centres, coffee shops and child health centres. The interviewer used a list of open-ended questions (informed by the literature) about women's maternity care experiences in rural Tasmania. Saturation was determined by the team of researchers and achieved after conducting 22 interviews as no more new themes and categories emerged from the data.

Analysis

Survey analysis*:* Data from the questionnaires were coded and entered into SPSS version 15.0 [28]. Descriptive statistics were used to analyse the data. As the themes identified from the open ended comments were similar to those identified from the interview data, these data sets have been merged for analysis and presenting the findings.

Qualitative analysis: The qualitative data were analysed using thematic analysis [29]. For the analysis, QSR - NVivo v9.0 software [31] was used to organise transcripts and codes. To ensure the reliability of the study, another researcher who was conducting research in the same general field was asked to review the raw data of the interviews. This researcher also independently coded four interviews of a random sample of data. The researchers and the independent judge discussed the coding until agreement was reached.

Selected characteristics of the survey and interview participants are presented in Table 1.

Results

Quantitative results

The survey results indicate that the respondents support that antenatal and postnatal services should be provided locally. This is illustrated in Table 2.

Moreover, the results show that a large number of respondents viewed that it is important to have a maternity care unit in their local hospitals (77.6% very important, 16.1% important, 6.3% not important)

Qualitative findings

Lack of access to maternity services

The qualitative data showed there was an obvious lack of maternity services in rural areas in Tasmania. There were over 150 (71.4%) responses to open ended questions in the survey. 57 of these comments were on the availability of maternity services in rural Tasmania.

> *We don't have any care in [Name of the rural town]. So there is a huge lack here. (Survey respondent 168)*

Some respondents recalled their positive experience when they had given birth in their local community.

> *In my day, we had a maternity unit at the local hospital which was wonderful. Now it has gone. (Survey participant 075)*

Antenatal education is often available in major hospitals but limited in many rural areas. When maternity services are not available in the local community, women have to travel to access the

required services. Thus, in order to avoid travelling, 5 out of 22 interviewed women chose not to attend the health service. This was shown when one respondent stated

> *I did not attend any antenatal classes because the closest ones were in [Name of major town in Tasmania] which is a 4 hour return drive. (Woman 13)*

Furthermore, when the local hospital does not provide maternity services, women have to rely on their General Practitioners (GPs). However, with the shortages of medical workforce in rural areas, GPs may not be available to provide antenatal care for the pregnant women. Even if there is a service available, some GPs may be reluctant to provide care for high risk women.

> *None [maternity services]available! Local rural doctors are not interested in any difficult cases they want a quiet life. (Survey respondent 186)*

It is noticeable that rural women (15 comments from the survey) especially valued the importance of child health service which is sometimes is the only maternity service available in their community. However, access to the child health service in rural areas can also be limited.

> *… I do however feel rural areas are very lacking in child health services. In [name of the rural town] we have one child health nurse for one morning a week. (Survey respondent 149)*

Difficulties in accessing maternity services

The findings from the interviews with women reveal that women experienced many difficulties associated with travelling namely financial burden, inconvenience, transport difficulties, risk of having inadequate care and labouring en route, social disruption, stress and anxiety.

Financial burden: The first issue relating to the lack of services is the additional cost incurred as express by 16 out of 22 women interviewed. The further the distance women have to travel to the major hospital, the higher the expense.

The cost of travel was pretty expensive and also trying to organise for someone to look after my other son because he doesn't travel well. (Woman 13)

Inconvenience: The second travel related issue is inconvenience (24 comments). It is often not comfortable for most people to drive a long distance, yet for those who are pregnant, it can be even more uncomfortable, especially in the later stages of pregnancy.

Time, and the inconvenience of having to travel to town - circa one hour each way, plus half an hour to find a park and walk to the appointment. This became more of a problem later in the pregnancy, when I had back problems which really meant I needed not to be sitting driving for 2.5 hours in one day. (Woman 4)

Some participants had to take their other children with them to an appointment location. These women found it very inconvenient to deal with other issues associated with family travelling.

Yes, to some degree, travelling over an hour, finding parking, carrying my then two year old daughter who may have been having a tantrum at the time – and running a little late. It was hard. (Woman 1)

For women who had work commitments, travelling to access services caused not only inconvenience but also fatigue.

Yes, a 45 minute drive into Launceston for 2 hours in the evening when already feeling tired from pregnancy and working full time. (Woman 9)

Transport difficulties: Transport difficulties were reported (18 comments) as a problem for rural communities. Pregnant women in these communities need to travel to a major hospital to access health services but in many rural places public transport is not available. Transport is a more serious issue when women have low incomes and restricted transportation.

I do know of many people in our community who have limited access to public transport and many who do not have access to a vehicle or even have a licence! (Woman 18)

One woman spoke of her difficulty in reaching the major hospital when she did not have her own means of transport.

Anything is better than nothing. High risk pregnancy needs to be cared for. I had to catch a bus (1.5 hours each way) for 6 months of pregnancy for a 5-10 minute appointment at the [major hospital]. Awful experience! (Survey respondent 013)

Social disruption: Being away from family to give birth in a major hospital may be challenging for rural women and their families. The family might not visit individuals in hospital due to long distances and financial issues. Some rural women interviewed felt isolated because they were away from their family members in an unfamiliar hospital. One of the participants in the study was on her own in labour, due to the distance from her community to the hospital. In addition, her partner missed the birth of their child and this was a major disappointment for them both.

My partner and my mother were sent home, as they thought I was nowhere near ready. One hour and 45 minutes later I gave birth. My partner missed the birth and I was on my own. I couldn't believe that they were made to go home, as we live over an hour away from the hospital and I told them I have quick labours... This caused major heart ache to my partner and me. (Woman 18)

Risk of having inadequate care and labouring en route: As mentioned by some survey respondents, there is also a risk of labouring en route. When a woman has a quick labour, the distance to the hospital becomes very important, sometimes even critical for her. One survey respondent recalled:

We have no maternity care available in our area. The closest is Hobart [the capital city of Tasmania] which is one hour's travel… In my situation even one hour is too far, particularly

when my first child was born within 3 ½ hours of the first contraction. (Survey respondent 011)

In addition, another woman relayed she was just lucky enough to have a baby delivered within a very short time after arriving at the hospital.

We are one and a half hours from the hospital. I arrived in plenty of time for baby one but could not travel in the car for baby two (quick labour and too uncomfortable sitting up and rough winding roads). So I waited at a local multi-purpose centre for an ambulance. I got to the hospital and my baby was born about five minutes later. (Survey respondent 009)

Stress and anxiety: Being away from a familiar environment and social network can cause stress and anxiety. At these times, women often feel 'isolated' and 'lonely' as they are separated from their partners, other children and families whilst staying in the hospital following childbirth. Tasmania is the coldest state in Australia in winter with frosty and foggy weather which can make a long drive more difficult and inconvenient. Many women (26 comments from the survey and interviews) raised travel related issues that caused them much strain and stress.

Yes there is a lack of services it causes a lot of strain and stress on families having to travel to [Name of the rural town in Tasmania] to access these services especially in the winter, not to mention the added financial burden with the travel. (Survey Respondent 0107)

Services Needed

Antenatal services: The survey results show that the majority of the respondents agreed and strongly agreed that antenatal education and checkups should be provided locally in their rural communities. The qualitative data (18 comments) confirms and provides greater insights to the survey results.

It would be great to have classes locally as the closest is in [Name of the major town in Tasmania] 40 kilometres away and the classes are held at night, which makes for a very long day. (Woman 6)

Study participants suggested that a midwife and/or visiting specialist should come to their local hospital regularly to provide antenatal education and services.

A midwife to come to my local hospital once a week or a fortnight to do the antenatal checks and maybe run a class designed for people who have to travel so far. (Survey respondent 068)

Postnatal services: Qualitative data (24 comments) shows women want to have postnatal care and services to be available in their local community. This is consistent with the survey results which reported the majority of the respondents agreed and strongly agreed postnatal checkups and baby checkups should be provided locally.

Once the baby is born it would be great to be able to go to a smaller hospital (closer) so mother and baby can be monitored and also not as much hassle for family members to be able to visit. (Survey respondent 075)

Home support in the early postnatal period is another service which was requested by participants in the study. Rural women greatly value the service to reduce travel with their newborn.

It is important that women do not have to travel far to receive help in the period following leaving hospital e.g. the first one to two weeks. It is important for child health professionals and midwives to make home visits over this time. (Survey respondent 006)

Another respondent, who was a preschool education program coordinator, saw lots of families with newborns, also recognised the high demand in her community for more access to a child health nurse.

As a parent and the 'launching into learning' coordinator at our local school, I would like to see more access to a child health nurse. We only have one child health nurse who visits our community one day per week between the hours of 10 am and 2 pm. (Survey respondent 003)

Complete care at local hospital: Survey respondents viewed it is important and very important to have a maternity care unit in their local hospital. The interview findings and comments from the survey (13 comments) validate and clarify these findings. These women believed that having a baby in their local hospital would make their life easier. However, some rural women were often concerned about its feasibility due to a lack of qualified midwives.

Births available at our local hospital would be fantastic, but due to a lack of qualified midwives this could be a long way off. (Survey respondent 181)

Discussion

The results of the study have indicated there were a lack of maternity services in the six rural communities studied. Those women interviewed and many survey respondents expressed their need for access to many services in their local communities. In particular, women want to have antenatal classes, antenatal checkups, birthing services, postnatal care and home visits by midwives available in their local communities. It was recognised that child and family health services were the only services available in some rural communities, and study participants still spoke of a desire to have greater access to these services. Thus, this suggests that women's access needs in maternity care may not be fully met in these rural areas.

When access to maternity care in the local community is not met, women and families face many difficulties accessing maternity care, due to distance. Firstly, women who gave birth outside their communities incurred financial costs to meet their access needs [17-19], such as travel expenses, accommodation and partner's lost income. This is supported by our study suggesting that women find it more challenging to receive care outside their communities when public or private transport was

non-existent. The study also demonstrated giving birth outside the community produced a greater financial burned upon all women, especially those with limited financial and social resources.

As previously highlighted, closing small rural maternity units is motivated by cost saving. However, these closures shifts costs from government resources to rural families and communities. This includes transport, accommodation, loss of income due to absence from employment and spending diverted from local businesses [6]. This is confirmed by other studies with this study providing useful insights into these claims including issues beyond cost shifting such as the cost of antenatal access, child care and after school care costs.

Secondly, when travelling to meet their access needs in a major hospital; this study found rural women encountered social disruption, which is consistent with the previous research [19]. Also, rural women in the study felt very isolated in the unfamiliar hospital environment as they were away from other children and in some cases their partners. As such, in the context of 'place', people attach meaning to a place [32] and symbolic values are attached to things such as buildings. This can impact upon the sense of belonging and wellbeing of an individual [33]. Thus, when individuals leave their familiar environment, it impacts their physical and emotional wellbeing. Within this study rural women were stressed and anxious when they were away from their local communities to access maternity services including antenatal and postnatal care. This is consistent with the literature which suggests when maternity access needs are absence, stress, fear and anxiety result [12, 17-19]. Consequently, these negative feelings have been linked with adverse outcomes for mothers and babies [11, 20, 21].

The third challenge for women in rural areas where maternity services are absent is the risk of giving birth before arriving at the major hospital. This study reveals rural women had unplanned home births, gave birth in small rural hospital which did not provide birthing services, on the side of the road and in an ambulance on the way to the major hospital. Dietsch et al. [18] found similar results when studying childbirth experiences of rural women who travelled to give birth in a major hospital in New

South Wales, Australia. Women the study not only faced the risk of giving birth en route but also the risk of dangerous road travel. This study and Dietsch's study continue to confirm women in rural Australia where maternity units have been closed have no choice, but to leave their communities to give birth and risk their and their unborn baby's safety due to the poor condition of roads.

Limitation

Although there are many rural communities across Tasmania, there was only capacity to conduct the study in six selected rural areas. Thus, the outcomes of the study may not fully capture the broad range of needs in rural Tasmania communities. Furthermore, the convenience sampling method adopted in this study limits the generalization of the study results. Since the sample of this study is not representative of the larger population of rural women in Tasmania, the results of the study are not generalized for all rural women in Tasmania. Nevertheless, the study provided comprehensive information on access issues and needs of the sample of women studied. Another limitation involves the length of time since the childbirth experiences of some of the women in the survey. One might question the relevance or accuracy of the information that those women provided since they might have given birth a long time ago. However, many studies have shown that years later, women's memories of childbirth are generally accurate, and many are strikingly vivid [34, 35].

Conclusion

The data analysis of 210 survey questionnaires, interviews with 22 women and more than 150 extensive written comments from the survey has revealed the current maternity services in the six selected rural areas are not fully meeting women's maternity access needs. The study recommends rural women's access needs can be met by providing basic services for women in their local communities, including antenatal classes, antenatal checkups, postnatal home support and child health services. This can be achieved through qualified health professional outreach or visiting services. In addition, the health care system should support a multi-skilled rural workforce and explore different models of maternity care in order to improve the maternity access in Tasmanian rural areas. Finally, it

is important that these access needs of rural women found in this study should be met as closely as possible, which has been outlined in the National Maternity Service Plan [36]. This maternity care system model outlines maternity care services needs to be woman-centred by reflecting the needs of each woman; within a safe and sustainable quality system; and close to where women live.

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Table 1: Characteristics of survey and interview participants

	Survey respondents		Interview participants	
Characteristics	**No. participants (N)**	**Percentage (%)**	**No. participants (N)**	**Percentage (%)**
Age group				
18-21 years	2	1.0	-	-
22-30 years	42	20.1	4	18.18
31-40 years	77	36.8	15	68.18
Over 40 years	88	42.1	3	13.64
Education				
Primary school	2	1.0	5	22.73
Secondary school	111	53.1	11	50.00
University	67	32.1	6	27.27
Other	29	13.9		
Language spoken at home				
English	203	97.1	22	100.00
Other	6	2.9	-	-
Aboriginal and/or TSI				
No	201	96.2	20	90.91
Yes	8	3.8	2	9.09
Most recent baby				
Less than a year ago	33	15.9	1	4.55
1 to 2 years ago	33	15.9	8	36.36
Over 2 to 5 years ago	51	24.5	13	59.09
Over 5 years ago	91	43.8	N/A	N/A
The nearest maternity unit				
Less than an hour's drive	-	-	11	50.00
1-2 hours' drive	-	-	9	40.91
more than 2 hours' drive	-	-	2	9.09
Method of Birth				
Vaginal delivery	128	62.4	11	50.00
Caesarean delivery	47	22.9	5	22.73
Induced labour	21	10.2	6	27.27
Mixed type of delivery	9	4.4	-	-

Table 2: Reponses to questionnaires

Survey Question	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
Antenatal check-ups should be provided locally?	72.3%	22.8%	3.9%	1.0%	0.0%
Antenatal classes should be provided locally?	65.0%	28.2%	5.8%	1.0%	0.0%
Postnatal check-ups should be provided locally?	73.3%	24.8%	1.0%	1.0%	0.0%