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Midwives' experiences of providing maternity care during the COVID-19 pandemic in Australia

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ABSTRACT

Problem: The COVID-19 pandemic has required rapid and radical changes to the way maternity care is provided in many nations across the world.
Background: Midwives provide care to childbearing women across the continuum and are key members of the maternity workforce in Australia.
Aim: To explore and describe midwives' experiences of providing maternity care during the COVID-19 pandemic in Australia.
Methods: A two-phased cross-sectional descriptive study was conducted. Data were collected through an online survey and semi-structured interviews between May-June 2020.
Findings: Six hundred and twenty midwives responded to the online survey. Many reported a move to telehealth appointments. For labour care, 70% of midwives reported women had limited support; 77% indicated postnatal visiting was impacted. Five main themes were derived from the qualitative data including: coping with rapid and radical changes, challenges to woman-centred care, managing professional resilience, addressing personal and professional challenges, and looking ahead.
Discussion: Restrictions applied to women's choices, impacted midwives' ability to provide woman-centred care, which resulted in stress and anxiety for midwives. Professional resilience was supported through collaborative relationships and working in continuity models. Midwives revealed 'silver linings' experienced in providing care during the pandemic.
Conclusion: Findings provide valuable evidence to understand the impact on midwives who have provided care during the COVID-19 pandemic. Knowledge will be useful for health leaders and policy makers as they consider ways to continue care during the pandemic and support the essential midwifery workforce. Recommendations are presented to improve preparedness for future pandemics.

Statement of significance

The issue

There is a lack of evidence regarding midwives' experiences of providing maternity care during the global COVID-19 pandemic.

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What is already known

Anecdotal reports, professional commentary, and emerging evidence are beginning to reveal the additional stress and anxiety experienced by health professionals, including midwives, providing care during the COVID-19 pandemic.

What this paper adds

New evidence regarding midwives' experiences of providing care during the COVID-19 pandemic in Australia.
Descriptions of challenges related to the rapid and radical changes to the way maternity care is provided.
Reports of professional resilience and recommendations for future pandemic planning.
Continuity models offer support for midwives enabling woman-centred care during pandemic times.

Introduction

The global COVID-19 pandemic, declared by the World Health Organization (WHO) on 11th March 2020 has driven rapid and radical changes to the way healthcare is delivered around the world [1]. Changes to maternity care have focussed on minimising contact between people in an effort to combat transmission of the virus. This strategy has resulted in many services moving to telehealth instead of, or in combination with, spaced or limited traditional antenatal visits [2]. Hospitals around Australia implemented restrictions to visiting. Many women have not had a support person or their other children present whilst attending maternity care assessments. Most hospitals restricted the attendance of support people for women during labour to only one person, and there have been significant reductions in numbers of visitors and length of visiting hours in postnatal wards [3]. A report of a survey undertaken by the Australian College of Midwives (ACM) earlier in the first wave of the pandemic confirmed that the impact of service changes on women in Australia during the pandemic was substantial [4]. The survey received 2750 responses with 26% of women expressing a desire to change their model of care and place of birth; 59% of those sought care in continuity models within home-based settings, such as group practice and with privately practising midwives, due to concerns about contracting COVID-19 in hospitals [4]. Women were concerned about attending appointments alone, or for those with small children the challenge of arranging care for them added additional stress [4]. A total of 342 women (43%) had been informed that they would not be able to have a support person with them during labour and birth, causing considerable distress [4].

There are little data available on the impact on midwives providing care during the pandemic in Australia, however, given the interconnected nature of women's experiences and midwifery care, it is reasonable to conclude that there might be some similarities in relation to the stress and anxiety experienced. Globally, there are reports through professional commentary, editorials, anecdotes and news reports that describe the added stress and anxiety that midwives have faced during the COVID-19 pandemic [5–8]. A recent global survey of 714 maternal and newborn health workers reported that 90% of survey participants indicated higher stress levels during the COVID-19 pandemic [9]. Although evidence of the challenges faced by health professionals during the COVID-19 pandemic is still limited, a study conducted in China revealed that nurses and nursing students who were working close to or within 'COVID-19 zones' experienced higher levels of sadness, anxiety, fear, and anger than those not working in these zones [10]. Midwives have a distinctive role in providing care to women throughout the childbearing continuum across the world; it is important to consider the impact of providing midwifery care during the COVID-19 pandemic.

The aim of this study was to explore and describe midwives' experiences of providing care during the COVID-19 pandemic in Australia.

Methods

A two-phased exploratory cross-sectional design was used for this study. Cross-sectional studies are favoured for their utility in reporting data collected at a discrete point in time [11] and this was considered ideal to address the study aim. The first phase used a nationally distributed online survey. The second phase involved interviews with midwives who had expressed interest in participating on completion of the survey. A qualitative descriptive approach was adopted to guide the interviews [12]. This complementary descriptive phase enabled the collection of expanded descriptions of midwives' experiences, with the benefit of adding context and perceptions of what it was like to provide maternity care during the COVID-19 pandemic. Human research ethical approval was granted by Curtin University (HRE2020-0210) with reciprocal approval issued through Deakin University and The University of Melbourne (blinded for peer review).

Research setting

The online survey was opened on 13th May 2020, when there were a total of 6975 cases nationally in Australia with a 7-day average of 14.6 cases [13,14], and closed 6 weeks later on 24th June 2020, when there were a total of 7521 COVID-19 cases nationally in Australia, with a 7 day average of 9.1 cases [14,15]. The decision to close the survey was based on slowing in responses. In Australia, care from midwives across the childbearing continuum is embedded within both public and private maternity care sectors; labour and birth care is routinely provided by midwives [16].

Sampling and recruitment

A convenience sampling approach was used to facilitate rapid access to participants with the interest and willingness to be involved [17]. Registered midwives who had provided maternity care since March 2020 were invited to participate. The online survey was distributed *via* social media pages relevant to midwives working in Australia, such as the ACM, and the Maternity Research in Australia Facebook pages. Promotion through social media rather than directly through health services provided an additional layer of separation between the recruitment approach, the research team, and midwives' potential place of employment, to reduce bias and facilitate open descriptions of participant experiences.

Midwives confirmed consent to participate in the online survey prior to commencement and could indicate their willingness to be contacted for interview at the completion of the survey by leaving their contact email address. Details of midwives interested in being interviewed were removed from the survey data, entered into a password protected database, and sorted by demographic and cohort specific data, such as state of practice and years of experience. This approach facilitated maximum variation sampling for interviews ensuring a wide representation across national responses considering characteristics including state/ territory of workplace, years' experience and model of care [17]. Purposively sampled midwives were emailed and offered an interview opportunity. Verbal consent was collected prior to commencement of the interviews which were digitally recorded and professionally transcribed. A total of 196 midwives expressed interest in being

interviewed, 45 were contacted to participate in an interview, and 16 interviews were conducted. Sampling was determined by the principles of data adequacy indicated by a repetition of concepts [18]. Data completeness was achieved by consensus of the two interviewers after a total of 12 interviews, a further 2 interviews were conducted by each interviewer to confirm saturation.

Data collection

Owing to the novel nature, as well as the rapid spread of the COVID-19 pandemic, there was no existing survey tool available. The online survey was developed by the research team who have content expertise and experience in survey design. The team included five midwifery researchers (three midwifery professors and two midwifery academics who also undertake clinical work), one obstetrician, one public health doctor and two researchers with a background in psychology. The survey was piloted with five midwives who provided feedback, after which minor amendments were made to sentence structure and question layout. The online survey was hosted through the Qualtrics Survey Software.

Demographic data were collected, including the state or territory midwives worked in, their gender, language spoken at home, country of birth, age range, and whether they had been tested for COVID-19. The next survey section asked 16 questions related to the nature of midwives' work, such as the model of care they work(ed) in, and other questions related to the impact of the COVID-19 pandemic on their work. Participants were then able to leave further comments in an open text section to describe their experiences of providing midwifery care in Australia during the COVID-19 pandemic.

Two midwife researchers from the team conducted the semi-structured interviews which were digitally recorded and lasted between 30 and 50 min Participants provided brief demographic data and were asked an opening question; "*Please tell me about your experiences of providing midwifery care during the COVID-19 pandemic*". This approach is favoured in descriptive qualitative research, allowing the interviewer to follow the descriptions of the midwives to obtain rich data close to the midwives' experience [17]. Prompts were used if necessary and included "*what has changed about providing midwifery care during COVID-19?", "what has been challenging?", and "have there been any unexpected positive experiences?*" Digitally recorded interviews were transcribed verbatim.

Data analysis

Statistical software (IBM SPSS Statistical Package for Social Sciences v 26) was used to support analysis of the quantitative data using descriptive statistics such as frequency distributions. A total of 620 responses were received from midwives in Australia. There were high rates of item completion (average >95%) with small numbers (<5%) of incomplete responses, which varied between questions and are indicated in the relevant tables below.

Qualitative data derived from further comments recorded in the survey free-text field and transcripts of the interviews with 16 midwives were uploaded into NVivo 12 and analysed using a four-stage thematic-analysis approach. The stages were: 1. Initialisation (reading data, abstraction, and reflection on the data); 2. Construction (classifying, defining, and describing); 3. Rectification (relating themes to established knowledge); and 4. Finalisation (developing the evidence narrative) [19,20]. Three midwife-researchers conducted the preliminary analysis independently and then met to discuss and finalise themes. Discrepancies were addressed by returning to the data to ensure findings achieved key qualitative research requirements of consensus, trustworthiness, and credibility [21]. Themes and related subthemes are supported by verbatim quotes from survey responses (SR) and interview participants numbered (P1-16). To enable succinct reporting of relevant quotes, omitted words have been indicated by an ellipsis (. . .) and content added to provide context is indicated by non-italicised words in brackets ([]).

Findings

Quantitative findings (from survey)

Midwives working in every Australian state and territory responded to the survey, most were born in Australia (79.8%) and spoke English at home (99.3%). The majority (70.5%) had not yet been tested for COVID-19; of those who had been tested, none had received a positive result. Most midwives were women (98.5%) and a broad range of ages was recorded (Table 1).

Participants had a range of midwifery experience ranging from less than one year up to more than 41 years, 44% had up to five years' experience, 34% had up to 20 years and 22% had more than 20 years' midwifery experience. (Table 2). While most midwives

Table 1
Demographic characteristics survey participants.

Characteristics	N = 620 [a] n (%)
Australian state (working in)	
NSW	111 (18.6%)
VIC	201 (33.7%)
QLD	80 (13.4%)
WA	116 (19.4%)
SA	55 (9.2%)
ACT	13 (2.2%)
NT	11 (1.8%)
Tasmania	10 (1.7%)
Language spoken at home	
English	614 (99.3%)
Other≠	4 (0.7%)
Country of birth	
Australia	492 (79.8%)
United Kingdom	60 (9.7%)
New Zealand	19 (3.1%)
South Africa	10 (1.6%)
Ireland	5 (0.8%
Other*	31 (5.0%)
Gender	
Female	610 (98.5%)
Male	5 (0.8%)
Rather not say/non-binary	4 (0.7%)
Age	
18–25 years	91 (14.7%)
26–30 years	85 (13.7%)
31–35 years	86 (13.9%)
36–40 years	76 (12.3%)
41–45 years	70 (11.3%)
46–50 years	57 (9.2%)
51–55 years	69 (11.2%)
56–60 years	48 (7.8%)
61–65 years	32 (5.2%)
>66 years	4 (0.7%)
Tested for Covid-19	
Never	437 (70.5%)
Once	159 (25.6%)
Twice	23 (3.7%)
Three or more	1 (0.2%)
Covid-19 test positive	
No	179 (28.9%)
Not applicable	5 (0.8%)

NOTE: Other≠ Language Spoken at home – n = 2 Afrikaans, n = 1 each Arabic and Tamil. Other* Country of birth – n = 4 from Canada, n = 3 from Germany, n = 2 from Afghanistan and n = 1 each from Austria, Czech Republic, Denmark, Egypt, El Salvador, India, Kazakhstan, Lebanon, Malaysia, Netherlands, Philippines, Romania, Sao Tome & Principe, Saudi Arabia, Singapore, Sri Lanka, Sweden, Tanzania, Turkey, United States, Zambia, Zimbabwe.

[a] Note – cells do not always sum to 620 owing to missing data.

Table 2
Midwives and their workplace characteristics.

Items	Midwives N = 620[a] n (%)
How long have you been a midwife	
<1 year	47 (7.9%)
1–5 years	214 (36.1%)
6–10years	112 (18.9%)
11–15 years	57 (9.6%)
16–20 years	35 (5.9%)
>20 years	120 (21.6%)
What setting do you work in	
Urban	392 (65.6%)
Regional	143 (24.3%)
Rural	56 (9.4%)
Remote	6 (1.0%)
Resumed midwifery work in response to the call for more health workers due to COVID-19	
Yes	10 (1.7%)
No	585 (98.3%)
During the COVID-19 pandemic have you been asked to work outside of maternity care	
Yes	82 (13.8%)
No	514 (86.2%)
My midwifery work has	
Been more frequent/ longer shifts	86 (14.4%)
Stayed about the same	453 (75.7%)
Reduced frequency / shorter shifts	59 (9.9%)
Did the way provide antenatal and postnatal chare change as a result of COVID-19?	
Yes moved to mostly telehealth or video calls	337 (56.5%)
Yes moved to ALL telehealth or video calls	7 (1.2%)
No real changes	252 (42.3%)
The main model I work in is	
Public hospital standard care	418 (70.1%)
Private hospital	56 (9.4%)
Public midwifery group practice	87 (14.5%)
Privately practising midwife	21 (3.5%)
Publicly funded homebirth	5 (0.8%)
Midwifery academia/ research	4 (0.7%)
Midwifery administration	5 (0.8%)
During COVID-19 I worked mainly in	
Public hospital standard care	419 (70.3%)
Private hospital	57 (9.6%)
Public midwifery group practice	89 (15.0%)
Privately practicing midwife	21 (3.5%)
Publicly funded homebirth	3 (0.5%)
Midwifery administration/ research	7 (1.1%)
My consultation fees/billings changed as a result of COVID-19	
Yes	15 (2.5%)
No	22 (3.7%)
Not applicable to me	560 (93.8%)
Where did you obtain most of your information and learning about COVID-19?	
Maternity service	379 (63.4%)
Mainstream media	70 (11.7%)
Websites	69 (11.6%)
Professional colleges	29 (4.8%)
Social media	24 (4.0%)
Journal articles	18 (3.0%)
Colleagues/ friends	9 (1.5%)
As a result of the COVID-19 pandemic, the way we provide maternity care will	
Change temporarily and then revert to normal	192 (32.2%)
Change permanently	75 (12.6%)
change for the better	49 (8.2%)
Change for the worse	32 (5.4%)
I'm not sure what changes we'll see	249 (41.6%)
My health service developed new guidelines/ policies especially for the care of women who had COVID-19	
Yes	581 (97.2%)
No	10 (1.7%)
I don't know	7 (1.2%)
The women at my health service are able to have a support person with them during their labour and birth	
Yes	173 (29.1%)
Yes but it has been limited due to COVID-19	419 (70.4%)
No	3 (0.5%)
The women at my health service are able to have visitors during the postnatal stay	
Yes	10 (1.7%)
Yes but it has been limited due to COVID-19	460 (77.0%)
No	127 (21.3%)
I feel knowledgeable and well informed to care for a pregnant/labouring woman with COVID-19	
Strongly agree	101 (16.9%)
Agree	265 (44.3%)
Somewhat agree	178 (29.7%)
Somewhat disagree	31 (5.2%)

Table 2 (*Continued*)

Items	Midwives N = 620[a] n (%)
Disagree	19 (3.2%)
Strongly disagree	4 (0.7%)
The physical distancing requirements of care during COVID-19 have impacted me being 'with woman'	
Yes	370 (61.9%)
No	228 (38.1%)

[a] Note – cells do not always sum to 620 owing to missing data.

worked in metropolitan areas, 34% were from rural, regional or remote areas. A total of 12 participants identified as First Nations people with nine identifying as Aboriginal and three as Torres Strait Islander. Most (76%) indicated their work commitments had remained about the same as before the pandemic but 58% noted that the way care was provided had changed. Endorsed midwives (registered midwives who are endorsed by the Nursing and Midwifery Board of Australia to prescribe scheduled medicines and provide associated services [22] made up 6% of respondents and of these, 40% reported that their billings were affected due to COVID-19. The majority of midwives worked in public hospital standard care (70%), with the next most prevalent model being public midwifery group practice (14%), followed by private hospital (10%), private practice midwifery (3%) and publicly funded homebirth (0.3%).

Most midwives (63%) indicated that they obtained their information about COVID-19 from their workplaces, or from mainstream media (12%). The majority of health services (97%) had developed new policies specifically relating to the care of women with COVID-19. Sixty-one percent of participants agreed or strongly agreed that they felt knowledgeable and informed to care for a woman with COVID-19.

The majority of midwives (70%) confirmed there had been changes to the number of support people that women could have during labour, and three midwives (0.5%) indicated that women were not permitted to have any support person with them during labour and birth in their facility. During the postnatal period 21% of midwives responded that women were not allowed any visitors during their postnatal stay. Most midwives (62%) responded that the physical distancing requirements impacted their ability to be 'with woman', a fundamental philosophical construct of midwifery practice [23]. The uncertainty that has been characteristic of the multiple changes to clinical care during the pandemic was reflected in midwives' responses where the highest proportion (42%) indicated that they were not sure whether the changes to maternity care would persist beyond the COVID-19 pandemic (Table 2).

Qualitative findings (open-ended comments from survey and data from interviews)

The demographic data from the 16 midwives interviewed had representation from each Australian state and territory except the Northern Territory. Most were Australian born with an age range of 18–60 years; and between one and 40-years' experience in midwifery practise. One of the midwives identified as Aboriginal, and all spoke English at home. There were a range of ages, years of experience, and models of care represented. Of the 16 interviewees, nine worked in standard public hospitals, five in group practice and one each from private practise and the private obstetric hospital model. Whilst most were not yet tested for COVID-19, of the four who were, none of these returned a positive test result. Analysis of text from survey responses (SR) and interview transcripts (indicated by participant number, Px) revealed five main themes and related subthemes which were: coping with rapid and radical changes, challenges to woman-centred care, managing professional resilience, addressing personal and professional challenges, and looking ahead (Fig. 1).

Coping with rapid and radical changes

The first theme described the rapid and radical changes to the maternity care setting which impacted much of the work of midwives. Three sub-themes were identified: information management, policy on the run, changes to midwifery practise.

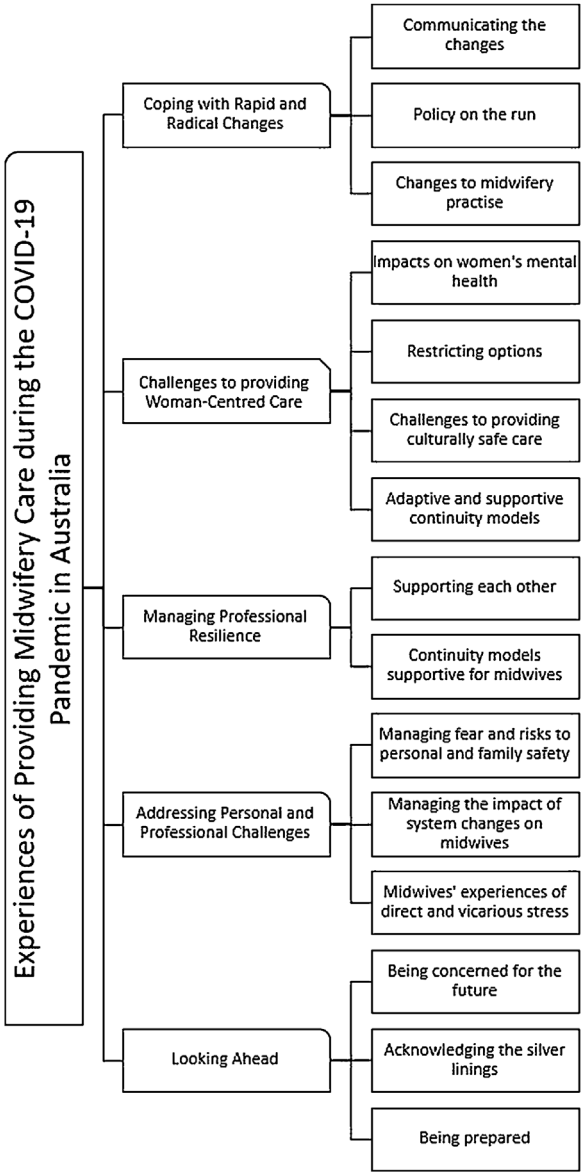

Fig. 1. Themes and Subthemes: Midwives' Experiences of Providing Maternity Care during the COVID-19 Pandemic in Australia.

Communicating the changes

Midwives acknowledged the rapidly changing information regarding the spread of COVID-19 and necessary service changes that resulted. Midwives felt a heightened sense of responsibility to communicate information with the women they were caring for. Some felt supported by regular, clearly communicated updates, " . . . *the hospital were actually really good with communication, we would get daily emails . . . we felt a little bit comforted*" (P4). Others found the conflicting information difficult to deal with, " . . . *the media disinformation was frustrating to deal with as this caused undue stress for the women and their partners*" (SR). A strategy to deal with this was to withdraw from main media coverage, " . . . *I stopped listening to the radio 'cause it was just too much and I felt like it was really biased*" (P9).

Policy on the run

Midwives reported both positive and negative experiences of healthcare services' responses and changing policies. Rapid changes to health service policies caused stress to midwives, " . . . *anxiety and stress trying to keep up with 10+ updates everyday*" (SR); "*Management was unsupportive and kept changing their stance*" (SR). There were reports of changing policy on the run, " . . . *a lot of . . . working stuff out just consulting with management and being creative*" (P10). Some midwives were critical of the apparent lack of evidence supporting policy changes, " . . . *we weren't always using evidence to guide decision making around policies*" (P1); " . . . *some of these rules were stupid or impossible to adhere to*" (P10). Others commented on the lack of standardised approaches even within the same regions, "*Care isn't being standardised across the board, some hospitals are doing one thing, others are doing another – how can we say then that decisions made are 'evidence based' when this is the case?* "(SR). Others found communication of policy changes clear and helpful, " . . . *manager kept us updated, I felt that we were really well informed*" (P8). One of the key policy changes was around the number of visitors a woman could have whilst in hospital; broadly midwives responded positively to these changes, " . . . *with restricted visiting hours you could give such better care to the women*" (P9). The changes to policy signalled the rapid changes that were occurring to the way clinical care was given.

Changes to midwifery practise

The care that midwives provided was impacted by the rapid changes that needed to be undertaken in response to the COVID-19 pandemic, there were a range of responses from midwives. To reduce the number of people coming to hospital, health services modified the way antenatal care was provided, with care moving to telehealth appointments. There were challenges associated with this, " . . . *quite difficult because you can't do a full assessment via phone*" (P8), causing anxiety and concern for the midwives that they would miss an important element of assessment, " . . . *missing the risk that we screen for like FDV and anxiety and depression . . . body language is such an important tool*" (SR). Some respondents indicated that access for some women had increased, which was a perceived benefit of the changes, "*Antenatal care and education is becoming more accessible with the options of telehealth/ video conferencing*" (SR).

Midwifery care provided to labouring women was also impacted. There was a variance in the experience of midwives working in different maternity units, "*I don't actually feel like it* [COVID-19*] impacted care in labour ward really at all*" (P8). Others noticed a reduction in interventions, " . . . *we had a lot more spontaneous labourers . . . when it was at its peak, we really had to justify inductions*" (P3); "*there were a lot more normal births when the hospital was in lockdown, fewer women being induced, fewer C-sections*" (SR); *"Our induction rate has dropped, we're not bringing women in unnecessarily . . . some of the over-servicing has disappeared"* (P14).

There were reports of women being denied access to supportive strategies that midwives usually use to help women in labour, "Access to analgesia options like N2O [nitrous oxide] and water birth (they even wanted us to restrict water birth at homebirths for a while there!)" (SR). Midwives commented on the ways that increased PPE requirements changed their practice. The discomfort of wearing required PPE when caring for women in labour caused some midwives to consider ways of avoiding the need for PPE, " . . . when [women are] not breathing heavily you don't have to [wear PPE]. I believe in women and supporting them through labour but having to wear that full PPE, I sweat so bad, my goggles are fogging up, I can't see. It's horrible, if somebody says no I want an epidural I'm more inclined to say sure I'll go get you one, whereas before I would be talking them through . . . " (P11).

Challenges to woman-centred care

Wherever the changes in maternity care affected women during the pandemic, it was apparent that this intersected with midwives' work and their ability to provide woman-centred care. Four subthemes were identified: impacts on women's mental health, restricting options, challenges to providing culturally safe care, and adaptive and supportive continuity models.

Impacts on women's mental health

The midwives described the impact of the pandemic on women's mental health, " . . . The pandemic has added a great deal of stress and uncertainty for pregnant women, they had more questions and a decline in mental health, requiring longer appointments and added resources" (SR). The periods of lockdown and resultant isolation affected women who were described as, " . . . isolated, lonely and frightened, they're not even having their support people come to visit them" (P11). The isolation compounded a known period of vulnerability, " . . . she [the woman] was feeling incredibly isolated, she had a traumatic birth, there was no domiciliary [home] visiting, no maternal and child health, the babies weren't getting weighed" (P13).

Restricting options

There were noticeable restrictions in options for women birthing during the pandemic, *"I feel sorry that birth options such as use of birth pools are being restricted"* (SR). Where women's options were limited, this impacted midwives' ability to provide woman-centred care, " . . . *it's sad that the system has not been able to accommodate the individual needs of women"* (P6). Midwives noticed that in response to service restrictions there was an increased interest from women in alternative models that might accommodate their needs, such as private midwifery care and homebirth, *" . . . increase in women who were accessing private midwifery care at home and looking to homebirth"* (P8). This was supported by midwives in private practice, " . . . *we have doubled our* [annual] *homebirth workload this year so far"* (P6). The midwives working in hospital based care noted that women were prepared to make compromises in order to avoid the limitations around birthing options within health services, " . . . *there's been free births, women who've accessed our service for antenatal and postnatal care but chosen not to come in* [to the hospital for birth]" (P10).

Challenges to providing culturally safe care

The need for service changes during the pandemic meant that women from culturally and linguistically diverse (CALD) backgrounds were impacted in ways that intersected with their cultural expectations, " . . . *particularly difficult for CALD women, whom often rely on the cultural practices and support of their mothers, mother in laws, sisters etc. in their postpartum period"* (SR). The restriction of visitors in hospital and community lockdown impacted women, " . . . *culturally impacted many families with them becoming isolated in hospital without usual support networks*" (SR). These challenges were also noted for Aboriginal women, "*I don't think the hospital have given any consideration to any type of culturally sensitive or safe care in* [the pandemic] *it doesn't really take in the individual needs of any women but particularly Aboriginal women at this time"* (P7).

Adaptive and supportive continuity models

Working in a continuity model enhanced midwives' ability to provide woman centred care during the COVID-19 pandemic, " . . . you're rostered to the woman, you go wherever she is, continuity models have provided women with what they've needed . . . we didn't have to change our model that much, it's certainly pandemic adaptable" (P15). Others concurred, and confirmed the flexibility inherent in the continuity models, "Working in MGP meant little change to our practice. We are already mobile and visit women at home" (SR). Midwives agreed that the flexibility of caseloading (where midwifery care is provided throughout the childbearing continuum to one woman by a designated midwife) facilitated meeting the woman's needs which resulted in a positive professional experience, "I've been able to make a difference [during COVID-19] . . . it's been good for me too, I've really enjoyed being able to provide women what they need in a crisis situation, I found that very satisfying" (P6).

Managing professional resilience

Midwives' descriptions of the factors that have been supportive and enhanced professional resilience during the COIVD-19 pandemic included two subthemes: supporting each other and continuity models supportive for midwives.

Supporting each other

Reports of staff supporting each other were frequent, " . . . there has been a culture of togetherness between not only fellow midwives, but medical, other staff, women, their partners. There has been a strange feeling of all of us being 'in it together' I believe that is what has got us all through" (SR). Others confirmed that the camaraderie experienced was a source of strength and comfort, " . . . once you got to work and you were with your colleagues, you felt like this calmness, it was quite strange" (P8). There was a sense of pride that came from rising to the challenge of providing midwifery care during the pandemic, "[we are] working together and supporting each other even better than before [the pandemic], kinder to each other even more than usual. I am so proud to be [a midwife] at this time" (SR).

Continuity models supportive for midwives

For midwives working in continuity models there was a persistent theme of the features of the model making it 'easier' to provide midwifery care during the changes required in the pandemic, " . . . *it* [continuity model] *has that protective factor so we knew if a woman had concerns about* [changes] *we had time to talk that through and debrief it, we have a set caseload of women, it's quite easy to disseminate that information*" (P12).

The trust and respect developed between women and midwives, perceived to be associated with the continuity models meant that during the uncertainty of the pandemic, midwives were able to reassure women despite the rapid changes experienced, " . . . *knowing the women means that even if you are keeping your visit shorter, you know them and you're not going to miss as much as you might in 15 minutes in a fragmented model*" (P16). Working in a continuity model was supportive for midwives during the pandemic, as anxiety regarding how changes might affect women they were partnering with was buffered by the relational context of care.

Addressing personal and professional challenges

Midwives provided descriptions of the challenges experienced because of their work during the COVID-19 pandemic. The impacts were felt for midwives personally and professionally, three subthemes were identified: managing fear and risks to personal and family safety, impact of system changes on midwives, midwives' experiences of direct and vicarious stress.

Managing fear and risks to personal and family safety

The risk of potentially contracting COVID-19 during the course of work caused concern for midwives, "*Going to work every day bring[s] anxiety of what to expect, will today be the day I am exposed to COVID-19*" (SR). Midwives also relayed the anxiety of potentially exposing their families, which increased their vigilance and altered their usual habits, "*I might have to isolate myself from you* [family] *I don't want to bring it home to you*" (P15) and others, "*I did isolate more from my own family, my parents have had respiratory difficulties, even though they live on my street I didn't see them* "(P8). Midwives relayed the challenges that this offered to their families too, especially children, " . . . *it was quite confronting for them, my daughter is only 4, said mummy I don't like that I can't cuddle you when you come home*" (P8).

Managing the impact of system changes on midwives

Changes within the maternity system during COVID-19 impacted midwives in a variety of ways, "*All education for midwives has been cancelled which means improvement of other areas of my midwifery expertise have been delayed*" (SR). The restrictions on support people in labour, and visitors on the wards resulted in challenging working environments, "*They* [potential visitors] *get really angry and start firing off at you . . . so now I've got to deal with your aggressions, as well as caring for your family member and my own health*" (P11). Midwives reported an increase in displays of anger, which added to the burden of their work, "*I've never been treated worse or received more abuse from patients and their families than during this time*" (SR). Midwives were frightened and anxious themselves but often responded with compassion, "*Some are considerate, I've also been confronted with aggressive behaviour, the root cause is fear, I guess we are the face of those restrictions*" (SR). Midwives reflected on the challenge of managing their own fear in order to provide woman-centred care, "*As the person that's meant to reassure the women, you have to be professional and not scared but you actually feel really scared as well, that was quite difficult*" (P9).

Another representation of the changes required to care during the COVID-19 pandemic was the increased requirement for PPE. The description of how this impacted midwives featured the barriers to forming a connection with the woman, " . . . *you've got this yellow gown, mask and pair of goggles fogging up, you can't communicate well, you can't share of yourself . . . that's really*

important to build a rapport so they [women] *trust you*" (P11). Additional impacts were felt when midwives couldn't access adequate PPE, "*Lack of PPE, hand sanitiser, disinfectant wipes has been a constant stressor throughout*" (SR).

Midwives' experiences of direct and vicarious stress

Midwives described the increased stress experienced in working during the pandemic, "*Every day at least one midwife cried, me included, after the first 14 days I felt burnt out"* (SR). Midwives needed to access support, "*It has been a stressful time, I have had to seek support to cope with my stress and frustration"* (SR).

Midwives were acutely aware of the anxiety and challenges experienced by women during the pandemic and this added to the midwives' own stress, *"We're worried about babies 'falling through the cracks'"* (P16). With restrictions on visiting and support for women, midwives were aware of the grief and loss women were experiencing, *"It's distressing to care for a woman who's upset because her partner is not allowed to be beside her in early labour"* (SR); *"It's heartbreaking to tell parents they can't bring in their other children to meet their newest family member"* (SR). Others considered the potential consequences of the reduced face to face assessment, *"I was nervous and worried things were going to be missed and we would have an increase in critical incidents such as undiagnosed hypertension because we were having reduced antenatal visits"* (P8). Midwives were cognisant of the publicised additional risk to women, usually considered high risk such as those experiencing family and domestic violence, *"Some women are safe in a lockdown, a lot of women aren't though as we know"* (P15).

Looking ahead

When reflecting on future implications of the COVID-19 pandemic for midwifery practise, descriptions centred on how service provision could be improved in the current and future health crises. Three subthemes were identified: being concerned for the future, acknowledging the silver linings; and being prepared.

Being concerned for the future

Midwives offered warnings around their concern for the way that midwifery care may be compromised under the service changes made during the pandemic. Advances that were being made before the pandemic were noted to be under threat, "[management] *will cut down on face to face antenatal appointments and will be seen as routine now . . . women having their individual needs met might not be the standard process . . . they're going to have to fight harder than they would have previously. It's distressing"* (P6).

There was concern that the perceived lack of evidence that was seen to inform practice changes made during the pandemic would continue, *" . . . worried that changes to the health service might stay but without proper evidence"* (SR). Others referenced the economic implications of service redesign during the pandemic and worried that this would impact service delivery post-pandemic, "*My main worry with COVID-19 isn't now, it's a future issue. I feel management will see the changes made i.e. shorter inpatient stay, increased VMS (Visiting Midwifery Service) personnel as economically beneficial and it will be difficult to revert back*"(SR).

Acknowledging the silver linings

As participants described how midwifery care may be transformed into the future by the rapid changes during the COVID-19 pandemic, there was insistence on reflecting on the silver linings that had come as a result, *"This past few months has proven that we don't have to always do things the way we've always done them"* (P12). Whilst there were challenges that have previously been described, midwives were hopeful that the rapid change seen in health services during the pandemic was a positive signal that change was possible into the future. Across the continuum there were reports of elements of change that were beneficial, *"The change to GDM* (Gestational Diabetes Mellitus) *screening was welcomed by midwives and women . . . we want this to be a permanent change"* (SR). In labour and birth suites where the number of support people was limited, similar positive reports were made, *"It was actually a really positive thing, people that were in the birth space really valued being there, it was a much more intimate relationship"* (P9). In the postnatal setting, there were similar descriptions from midwives, "*To be honest if it* [visiting restrictions] *could continue post COVID that would be great, it makes it easier to get the job done, the women are rested and the babies are more settled*" (P3); "*helped breastfeeding immensely because women had more time to dedicate to it without having to entertain visitors*" (SR).

Other benefits realised were in the form of increased physical and service resources as well as the development of new skills, *" . . . more equipment brought into the service so that we could do more home visits"* (P10). Participants reported that some services had adopted innovative approaches to meeting needs, *"We ended up setting up a helpline with our domiciliary staff and the lactation consultants, it would be really good if that continues"* (P2). Descriptions were provided of new skills being developed such as sterile water injections to manage back pain in labour, *" . . . water injections introduced"* (SR); *"I am enjoying using different technology to provide maternity information and care for women, we are empowering the women to be proactive and providing the resources during the pandemic to make informed choices in a self-directed manner. I'm hoping we will keep some of the changes after the pandemic eases"* (SR).

Being prepared

Descriptions were offered regarding the need to be prepared for a future pandemic event by ensuring access to adequate resources, "*Stockpiling PPE would be a good start*" (P8). Advances in diagnostic testing science and access to testing were recommended, "*It would be good if there was an instant test*" (P11). Others reflected on the inevitable nature of a pandemic "*We needed to have these policies and guidelines in place earlier, it was only going to be a matter of time, we're very globalised, being prepared before it actually hit would have been helpful*" (P9).

Discussion

Findings from this study have provided new evidence of midwives' experiences of providing maternity care during the COVID-19 pandemic in Australia. This new knowledge is important because it offers insight into the challenges uniquely felt by midwives in response to the rapid changes made to maternity care services during the pandemic. Additionally, findings demonstrate areas of professional resilience and highlight factors that have been supportive, despite the challenges of providing care during the COVID-19 pandemic.

The speed and scope of the changes that were implemented to the way maternity care was delivered during the COVID-19 pandemic were challenging for midwives where over a third of respondents indicated that they didn't feel knowledgeable or informed to care for a woman with COVID-19. The seeming lack of evidence, clarity and apparent contradiction between some policies made it challenging for midwives to embed the changes in practice. These reports were echoed in responses from midwives providing care in previous pandemics revealed in a recently

published systematic review [24]. Two thirds of respondents indicated that they obtained their information regarding COVID-19 from their health services. Responses to our findings should consider that health professionals, such as midwives, need and want access to centralised, standardised advice that is founded in evidence when providing care during periods of acute stress, such as experienced in a pandemic.

Many of the midwives' descriptions of the changes in practice centred around the perceived impact on women. The woman-centred nature of midwifery care [23,25] is confirmed in the interconnectedness of the descriptions regarding how care changes impacted midwives in that they were concerned for the women as well as themselves. Midwives were impacted by the limitations to care that prevented the accommodation of women's unique needs, highlighted in the descriptions of challenges to culturally sensitive care. In contrast to this, the ways that care remained centred around the woman and was individualised to her needs, was emphasised by midwives working in continuity models. There was a sense of comparative ease, calm and capacity brought by the trusting relationship, and the ability to adapt to what the women receiving care in these models needed. The indication from 42% of midwives, that there were 'no real changes' to the way antenatal and postnatal care was provided was interesting and seemed inconsistent with the dominant narrative from survey responses and interviews. The response may be clarified in the qualitative data where midwives working in midwifery group practices confirmed that the model was adaptive which necessitated few changes. Other possibilities are that the acute phase of the first wave of COVID-19 in Australia had begun to ease towards the end of the survey period which may be reflected in these results.

The reports of professional resilience, collaboration, and camaraderie were factors identified by midwives that were sustaining and offered strength, despite the incredible challenges experienced. An interesting finding was that working in continuity models was supportive for the midwives. The benefits for midwives working in continuity of care models outside of pandemic times are well documented, with improved work satisfaction, reduced burnout, and lower work-related anxiety [26,27]. The new evidence provided from our research suggests that during the COVID-19 pandemic, these benefits for midwives are continued. The provision of individualised care during the pandemic was supportive of both women and midwives, and buffered some of the challenges experienced by those working in standard maternity models. This is an important finding that emphasises the need to expedite the current national strategy to improve access to woman-centred, continuity models, as a mechanism to not only improve outcomes and choices for women, but also as a supportive strategy for the midwifery workforce [28].

An additional source of anxiety for midwives in our study was their concern about the care of women and their babies being compromised by the changes to maternity services. For example, reduced antenatal and postnatal visits, and moves to telehealth left midwives worried that not only urgent care could potentially be compromised, but that routine midwifery would be impacted. Midwives acknowledged that women who might usually experience vulnerability may be more at risk during the COVID-19 pandemic; including women who develop pre-eclampsia or are victims of family or domestic violence. The perceived additional risks to women during the pandemic and the stress that resulted for midwives highlights the interconnectedness of midwives' professional work and their personal identity which has been explored in previous work [29]. Our findings confirm this and show how these professional impacts are felt personally by midwives during a pandemic period. The new evidence provided in this research is useful, as it indicates ways that policy makers, health service leaders, professional bodies, and other stakeholder agencies can be supportive of midwifery workforce during a pandemic period.

The WHO report that the primary goals in pandemic management are to prevent further spread of the disease and to maintain population health [30]. Epidemiological and economic modelling on the impacts of the COVID-19 pandemic are rapidly developing. Consideration of the evidence provided here in this narrative is necessary to triangulate the data and develop a more informed understanding of the broader implications of scaling up or down pandemic responses. Additionally, planning for ways that 'usual care' might be improved after the pandemic by adopting systems and models of care that enhance the wellbeing of both women and midwives can be considered. With the new evidence provided, impacts on midwives from changes to the way midwifery care is provided may also be considered.

The reports of direct sources of duress to midwives such as abuse from distressed and frightened consumers as well as the indirect stress caused by worrying for the health of women and their babies provides important evidence. The addition of human-impact evidence provided in this study enables policy makers and health leaders to consider the less immediately visible, but significant impacts to midwives, as a result of the responses to the COVID-19 pandemic. Finally, the prevalence and spread of COVID-19 in Australia has been recognised as some of the lowest in the world amongst similarly resourced nations [31]. The impacts of providing care during the COVID-19 pandemic, which have been described by the midwives in this study are compelling. Findings should also cause consideration to the context that colleagues working in other countries have experienced. In places around the world such as Europe and the United States of America where the infection and death rates from COVID-19 have been exponentially higher than those experienced in Australia, the scale of the impact will likely be even greater. The evidence from this study may be used by professional leaders, organisations and employers around the world to continue the work of supporting midwives providing care to women and their families during the global COVID-19 pandemic.

Strengths and limitations

A strength of this study lies in the participation of midwives from every Australian jurisdiction, working in a range of models, and with a variety of clinical experience. The open invitation to participate that received survey responses from 620 midwives around Australia (who were also busy providing clinical care during the pandemic) indicates the significant interest from participants. In addition to this, almost a quarter of midwives surveyed expressed an interest in being interviewed. The maximum variation sampling approach for interview recruitment facilitated a range of descriptions and is a further strength of this research. The use of convenience sampling may present a limitation due to the non-random nature of participant selection. This method has been justified previously as an ethical approach to reducing participant burden during periods of recognised stress but should be considered by the reader when assessing the transferability of findings.

Conclusion

Results from this study provide important and timely evidence to understand midwives' experiences of providing care during the COVID-19 pandemic in Australia. An evidence-informed consideration of the impact of care provision during a pandemic is essential for national and international leaders as they continue to support health workforce through the challenges identified. The findings will also be useful as leaders begin the process of preparing for future pandemics or public/health crises as well as considering novel approaches to routine care. Results enable consideration of

ways to be better equipped to support workforce through enhanced physical resourcing, more efficient health communication strategies, and innovations such as models of care that support both consumers and providers of healthcare into the future.

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Conflict of interest

Linda Sweet, Caroline Homer and Yvonne Hauck have editorial duties with this journal. To reduce any real or perceived conflict of interest, none of them had a role in the peer review or ultimate acceptance of this paper. The peer review process was managed by one of the Associate Editors.

CRediT authorship contribution statement

Zoe Bradfield: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Visualization, Writing - original draft. **Yvonne Hauck:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Visualization, Writing - original draft. **Caroline S.E. Homer:** Conceptualization, Methodology, Writing - review & editing. **Linda Sweet:** Conceptualization, Writing - review & editing. **Alyce N. Wilson:** Conceptualization, Writing - review & editing. **Rebecca A. Szabo:** Conceptualization, Writing - review & editing. **Karen Wynter:** Conceptualization, Writing - review & editing. **Vidanka Vasilevski:** Conceptualization, Writing - review & editing. **Lesley Kuliukas:** Conceptualization, Writing - review & editing.

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