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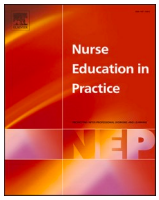

A cross sectional study of midwifery students' experiences of COVID-19: Uncertainty and expendability

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ABSTRACT

The impact of COVID-19 on midwifery students is anticipated to be multi-faceted. Our aim was to explore Australian midwifery students' experiences of providing maternity care during the COVID-19 pandemic. In a cross-sectional study 147 students were recruited through social media. Data were collected through an online survey and semi-structured interviews. Surveys were analysed using descriptive statistics; interviews and open text responses were interpreted through qualitative analysis. Findings revealed students found communication from hospitals and universities to be confusing, inconsistent and they relied on mass media and each other to remain updated. Moving to online learning and being isolated from peers made learning difficult. During clinical placements, students felt expendable in terms of their value and contribution, reflected in essential equipment such as personal protective equipment not always being available to them. Witnessing perceived compromised midwifery care increased students' emotional burden, while personal household responsibilities and financial concerns were problematic. One silver lining witnessed was women's appreciation of an improved 'babymoon', with fewer visitors, allowing uninterrupted time to establish breastfeeding and connection with their baby. Findings may guide management of midwifery education during future pandemics or health crises for universities and hospitals.

1. Introduction

The novel coronavirus (COVID-19) emerged from Wuhan City, China in December 2019 (Dotters-Katz and Hughes, 2020) and rapidly spread around the world. Lives have been greatly impacted by health and economic outcomes (Das et al., 2020), with healthcare workers (HCW) being particularly vulnerable (Lai et al., 2020) because of longer working hours, the risk of exposure, concern about infecting family, and shortage of personal protective equipment (PPE) (Pfefferbaum and North, 2020). Reports of a sense of danger and uncertainty amongst HCW have demonstrated a negative emotional impact (Xiang et al., 2020); in addition a lack of support from employers has been reported to have further increased anxiety (Chen et al., 2020).

Enrolment in entry to practice midwifery programs is recognised as stressful with the demands of study and clinical expectations being challenging to some midwifery students (Eaves and Payne, 2019), with the main stressors being clinical, academic, and financial issues (McCarthy et al., 2018). All three stressors could be exacerbated in the context of COVID-19, with students possibly being required to find capacity to deal with additional concerns. All Australian courses are approved by the Australian Nurses and Midwives Accreditation Council (ANMAC) to meet accreditation standards (ANMAC, 2014). These standards require that students meet a minimum number of clinical practice experiences including 100 antenatal and 100 postnatal episodes of care, 40 labour and birth experiences and 20 neonatal assessments. Students must also complete their continuity of care experiences (CCE)

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over the duration of the course, by following and providing care for at least ten women across their whole childbirth continuum, providing the opportunity for students to fully engage in the woman: midwife partnership. Understanding the value of this relationship and the level of midwifery care it provides, gives students insight to the benefits of models of continuity of midwifery care.

The effect of COVID-19 on the student-woman relationship, known to be of significant value for students (Sidebotham and Fenwick, 2019), and the women they care for (Jefford et al., 2018), must be considered. Students invest much time and emotion into the women they partner with during their CCE which facilitates understanding of a woman-centred philosophy (Tierney et al., 2017). The relationship and identification with women may render students vulnerable to increased concern and intensified emotions in traumatic situations that impact the women they care for (Davies and Coldridge, 2015), including women being adversely affected by the COVID-19 situation (Cameron et al., 2020).

Although the impact of COVID-19 has been explored with nursing students (Savitsky et al., 2020; Hayter and Jackson, 2020), no research has examined the impact of the COVID-19 pandemic on midwifery students. Addressing this knowledge gap is important to understand the effects of a global pandemic and better prepare for similar major disruptions to student education and practice, for a future in which pandemics are "increasing and … inevitable" (Dodds, 2019, p. 31).

2. Aim

The aim of the study was to explore midwifery students' experiences of providing maternity care during the COVID-19 pandemic in Australia.

3. Methods

A cross sectional design incorporating an online survey and a qualitative interview component was chosen to provide insight and understanding (Woolley, 2009) into the impact of the novel COVID-19 pandemic on midwifery students in Australia. Using quantitative and qualitative research methods provided the opportunity to comprehensively understand the phenomenon under study (Polit and Beck, 2014), with data from both statistical information and in-depth description (Halcomb and Hickman, 2015).

Current midwifery students across Australia, who had provided care during the COVID-19 pandemic were invited to participate through social media (Facebook) to complete an online survey between May 13, 2020 and June 24, 2020 and share experiences through an individual interview. Ethical approval was obtained by Curtin University (HRE2020-0210) with reciprocal approval issued through Deakin University (2020-175) and The University of Melbourne.

Participants were current students from midwifery courses leading to registration across Australia, which comprise undergraduate Bachelor (Midwifery or dual degree Midwifery and Nursing) or postgraduate (Graduate Diploma or Master) options, and range in duration from 12 months to 4 years. All Australian courses are approved by the Australian Nurses and Midwives Accreditation Council (ANMAC) to meet accreditation standards (ANMAC, 2014). In addition to the requirements that students fulfil of the individual experiences (as above), students complete a specified number of clinical placement hours and a matched number of theoretical hours, individualised to each course.

An online survey was designed for students to record their demographic details and individual experiences with a total of 35 question items (see Table 1.) Responses to the questions were collected through Likert scales, yes/no or open-ended responses. The development of the survey was an iterative process whereby the research team (with expertise in midwifery education and tool development) discussed and refined the questions over several meetings and then piloted the final version to check for clarity and understanding with two students and five educators outside of the team. The online survey was advertised through social media with links provided directly to the survey and the participant information sheet. Submitting the online survey was considered implied consent.

Table 1
Survey items.

1. Australian State currently studying in.
2. Aboriginal and/or Torres Strait Islander origin?
3. Language spoken at home.
4. Country of birth.
5. Gender.
6. Age.
7. Tested for COVID-19?
8. Any positive COVID-19 tests?
1. Midwifery Course enrolled in?
2. Setting mainly worked in: Urban, Rural, Regional, Remote?
3. Stage of course?
4. Employed as a student midwife or supernumerary?
5. Employed otherwise as a healthcare professional?
6. Where was information about COVID-19 obtained.
7. Were women able to have a support person with them during their labour and birth?
8. Was level of knowledge gained adequate to care for a pregnant/labouring woman with COVID-19?
9. Able to attend continuity of care experiences (CCE) with women?
10. Any restrictions from CCE women which impacted attending?
11. Able to attend rostered clinical placements within healthcare settings?
12. Was presence accepted by clinical staff during clinical placements and CCE?
13. Were opportunities to attain required midwifery skills affected?
14. Were there concerns about graduating on time?
1. Was personal wellbeing affected?
2. Was there anxiety about the impact of COVID-19 on the wellbeing of family?
3. Was there worry about exposure and potential infection because of working at the hospital?
4. Was there anxiety about the (potential) impact of COVID-19 on the wellbeing of the fetuses/neonates?
5. Were changes to the way maternity care is/was delivered at the health service during COVID-19 satisfactory?
6. Were professional expectations of providing maternity care during COVID-19 met?
7. Were timely and clear answers to questions about the impact of COVID-19 on women and their families being provided in a timely fashion?
8. Did social distancing measures required due to COVID-19 cause any feelings of isolation from women and their families?
9. Was there satisfaction with the quality of care provided to women and their partners during COVID-19?
10. Did the health service manage the risk of COVID-19 well?
11. Compared with expectations, did some care experiences with women turn out better than they might have during COVID-19?
12. Which 3 words best describe experiences of providing maternity care during the COVID-19 pandemic?
13. Please add any further comments that you would like to share about your experiences of providing maternity care during the COVID-19 Pandemic.

One statement within the survey invited students to indicate interest in participating in an interview. All twelve students who expressed interest were sent an information sheet outlining the need for a study during the rapid changes to healthcare provision during COVID-19, to gain understanding of the impact and provide information on how to manage future health crises. Students who stated they understood the information and agreed to be were 'met' by teleconference software or telephone. Semi-structured audio-recorded interviews were conducted with consent by experienced midwifery academics unknown to students. Interview times ranged from 15 to 45 min, and began with the opening question: "Please describe your experiences of providing care as a student to women during COVID-19". Additional prompts were used if required, (Table 2).

Audio files were transcribed verbatim by a professional secretariat and then checked for accuracy. Interview transcripts were stored on a password protected computer in accordance with the National Health and Medical Research Council (NHMRC, 2015) Guidelines.

3.1. Data analysis

3.1.1. Quantitative data

SPSS statistical software (IBM SPSS Statistics for Windows, Version

Table 2
Additional interview prompt questions.

1. What changes have you seen in the way midwifery care and services have been provided to women during COVID-19?
2. What has been your experience of these changes?
3. How has this impacted the care you can give as a student?
4. What challenges have you experienced as a student caring for women during COVID-19?
5. Has your home life affected how you have felt about attending women during COVID-19?
6. Have there been any silver linings for midwifery students as a result of the changes to the way midwifery care is provided?

26.0 Armonk, NY: IBM Corp) was used for analysis. Exploratory analysis was carried out using descriptive statistics for continuous data and frequency distributions for categorical data.

3.1.2. Qualitative data

Thematic analysis of the 41 responses from open-ended questions in the survey and 12 transcribed interviews was carried out by two members of the research team using the Braun and Clarke six stage process (Braun et al., 2014). The steps, which were followed independently by the researchers, included familiarisation with the data, initial coding, searching for themes within the initial coding, review of the themes, defining themes and writing up the findings. A meeting was then held to discuss, clarify, and agree on the findings. Data saturation was achieved.

3.2. Findings

3.2.1. Phase one

A total of 151 students responded but 4 did not complete the survey beyond the first two questions and their data were not included. Results are presented for 147 students (Table 3). A total of 146 (99.3%) students were female. All Australian states and territories were represented aside from Tasmania and the Northern Territory. The most frequent age bracket was 18–25 years (47.9%). The majority spoke English at home (95.9%) and were born in Australia (88.4%). Aboriginal or Torres Strait Islander students represented 4.1% of respondents. The most common course represented was the Bachelor of Midwifery (50.7%) with 24.3% Graduate Diploma students, 22.2% dual degree (Midwifery/Nursing) and 2.8% Master of Midwifery students. Most students (75%) were based in urban settings with 46.5% employed in a contract with a health service and 31.7% employed as a healthcare professional (e.g. nurse) outside of maternity care.

Participants were asked to respond to a series of items regarding their observations and experiences of caring for women during the early stages of the COVID-19 pandemic. They reported their main source of information about COVID-19 was their maternity service (28.3%) followed by mainstream media (21.4%). Fewer than one in five (18%) of respondents reported having undergone COVID-19 testing themselves, with no one declaring a positive test result.

Although the majority of respondents reported that women were able to have a support person with them for labour and birth (84.1%) and on postnatal wards (71%) through the COVID-19 pandemic, numbers of support people were limited compared to pre-pandemic levels. Regarding CCE attendance, most students (71.1%) were unable to attend women's episodes of care without some form of restriction from health service providers. Similarly, most students (65.8%) were further impacted by the CCE women restricting their attendance, possibly due to women fearing exposure to another health care worker who potentially could spread the virus. Clinical placements were affected by the pandemic for a minority of students, with most being able to attend (79.5%). Most of the students (70.1%) felt that clinical staff were accepting of them during placement and CCE attendance. The majority were concerned about completion of their clinical requirements and skills (90.3%) and were fearful they would not graduate

Table 3
Survey findings.

Demographics	Midwifery Students
	N = 147 n (%)
Gender	
Female	146 (99.3%)
Missing n = 1	
Australian state (studying in)	
NSW	
VIC	24 (17.5%)
QLD	42 (30.7%)
WA	28 (20.4%)
SA	18 (13.1%)
ACT	23 (16.8%)
NT	2 (1.5%)
Tasmania	0
Missing n = 10	0
Aboriginal and/or Torres Strait Islander Origin	6 (4.1%)
Language spoken at home	
English	141 (95.9%)
Other	6 (4.1%)
Country of birth	
Australia	130 (88.4%)
Other	17 (11.6%)
Age	
18–25 years	70 (47.9%)
26–30 years	26 (17.8%)
31–35 years	24 (16.4%)
36–40 years	10 (6.8%)
41–45 years	7 (4.8%)
≥46	9 (6.2%)
Missing n = 1	
Tested for COVID-19	
Never	120 (81.6%)
Once	26 (17.7%)
Twice	1 (0.7%)
COVID-19 test positive	
No	27 (18.4%)
Question Items	Midwifery students
Midwifery course currently enrolled in Bachelor of Midwifery	
Graduate Diploma of Midwifery	73 (50.7%)
Master of Midwifery	35 (24.3%)
Dual degree (midwifery/nursing)	4 (2.8%)
Missing n = 3	32 (22.2%)
What setting do you work in Urban	
Rural	103 (75.0%)
Regional	6 (4.2%)
Remote	29 (20.1%)
Missing n = 3	1 (0.7%)
If divided your current course into thirds, what stage are you in First	
Middle	34 (23.6%)
Final third	54 (37.5%)
Missing n = 3	56 (38.9%)
Employed in a student midwife contract during COVID-19	
Yes	67 (46.5%)
No	77 (53.5%)
Missing n = 3	
Employed as a healthcare professional outside of maternity during COVID-19	
Yes	46 (31.7%)
No	99 (68.3%)
Missing n = 2	
Where did you obtain most of your information/learning about COVID-19	
Maternity service I work in Mainstream media	41 (28.3%)
University	31 (21.4%)
Social media	25 (17.2%)
Websites	18 (12.4%)
Colleagues	18 (12.4%)
Professional college	6 (4.1%)
Friends	4 (2.8%)
Journal articles	1 (0.7%)
Missing n = 2	1 (0.7%)
Women at my health service able to have a support person with them during labour and birth	
Yes	20 (13.8%)
Yes but limited due to COVID-19	122 (84.1%)
No	3 (2.1%)
Missing n = 2	

(continued on next page)

Table 3 (*continued*)

Demographics	Midwifery Students
	N = 147 n (%)
Women at my health service able to have visitors during postnatal stay	
Yes	1 (0.7%)
Yes but limited due to COVID-19	103 (71.0%)
No	41 (28.3%)
Missing n = 2	
Able to **attend continuity of care experiences (CCE)** with women without restrictions by health service providers (HSP), e.g. hospitals	
Strongly agree	9 (6.2%)
Agree	14 (9.7%)
Somewhat agree	19 (13.1%)
Somewhat disagree	14 (9.7%)
Disagree	31 (21.4%)
Strongly disagree	58 (40.0%)
Missing n = 2	
Experienced **restrictions** from women which **impacted** my ability to attend **continuity of care experiences** (CCE)	
Strongly agree	46 (32.2%)
Agree	24 (16.8%)
Somewhat agree	24 (16.8%)
Somewhat disagree	6 (4.2%)
Disagree	22 (15.4%)
Strongly disagree	21 (14.7%)
Missing n = 4	
Able to **attend my rostered clinical placements** within healthcare settings	
Strongly agree	48 (33.6%)
Agree	38 (26.6%)
Somewhat agree	24 (16.3%)
Somewhat disagree	6 (4.2%)
Disagree	8 (5.6%)
Strongly disagree	19 (13.3%)
Missing n = 4	
Presence was accepted by clinical staff during clinical placements and continuity of care experiences	
Strongly agree	32 (22.4%)
Agree	30 (21.1%)
Somewhat agree	38 (26.6%)
Somewhat disagree	14 (9.8%)
Disagree	17 (11.9%)
Strongly disagree	12 (8.4%)
Missing n = 4	
Concerned about opportunities to **attain required midwifery skills**	
Strongly agree	65 (45.5%)
Agree	47 (32.9%)
Somewhat agree	17 (11.9%)
Somewhat disagree	6 (4.2%)
Disagree	6 (4.2%)
Strongly disagree	2 (1.4%)
Missing n = 4	
Concerned that I would be **able to graduate** on time	
Strongly agree	60 (42.0%)
Agree	37 (25.9%)
Somewhat agree	24 (16.8%)
Somewhat disagree	3 (2.1%)
Disagree	14 (9.8%)
Strongly disagree	5 (3.5%)
Missing n = 4	

on time (84.7%).

3.2.2. Phase two

The qualitative analysis revealed rich descriptions that offer insight into the student journey during the early months of the pandemic in Australia. Five themes were identified from the qualitative data: 1) Being expendable; 2) Bearing witness; 3) Uncertainty; 4) Connection with women; 5) Personal anxiety. These themes illustrate the rapid change of circumstances that students experienced, and are described with supporting quotations in italics from a survey response (SR) or in-depth interview participant (P1 to P12).

3.2.3. Theme one - being expendable

Students described being excluded from clinical situations and although they understood the reasons for this, it confirmed that they felt dispensable: *As a student midwife I have not been allowed in operating theatre* (SR). Similarly, due to the nature of telehealth appointments, which presented additional technical difficulties for student participation, students missed out on their CCE antenatal appointments: *The logistics of doing a three-way phone call, I'm not even sure how that would work* (P6). Consequently, due to communication and exclusion issues students felt that they had 'let down' CCE women, for example: *It was horrible for all of us, it was. I think it was the first time we realised that this could really have an impact on our wonderful women* (P9).

Students described other situations where they felt women had been let down, for example, in relation to attending women's labours and births. One student wrote: *I feel I am letting these women down who wanted the extra support at a crucial time in their lives* (SR). Being unable to be present caused students to reflect on the impact to themselves of being the expendable stakeholder. One student wrote: *The negative impact on the student/woman relationship from being unable to attend CCE's births due to hospital restrictions … the emotional toll it takes on a student's well-being* (SR). Losing long anticipated clinical experiences became an added disappointment for students as this explanation highlighted: *I missed her [giving birth to] her twins vaginally; I'd followed her, whole pregnancy, and that was devastating* (P5).

Perceiving themselves as expendable also extended to students being unable to access COVID-19 preparation, for example: *I know that the hospital I went to, they had some specific training for the midwifery staff to say that you know, this is what happens, …but we were not included in any of that* (P12). Similarly personal protection equipment (PPE) provision was not always available for students: *There was a lack of PPE … the midwife and the two doctors that were in the room had goggles, but there wasn't enough goggles for me and I was doing the delivery* (P6). The financial cost of being expendable also took its toll, with students reporting that they carried the cost of parking fees and petrol by attending planned appointments, only to find that they could not be admitted to participate.

3.2.4. Theme two – bearing witness

The second theme arose from descriptions of students witnessing, understanding, and coming to terms with events caused by COVID-19 that caused upset and distress to women. Restrictions negatively impacted women's experiences which also distressed students. One student explained: *Restrictions to visitors has been really difficult for the women … not being able to have their mum with them … there's been lots of FaceTiming and lots of tears* (P5). Antenatal care was also affected, with students witnessing changes to care and the impact of reduced or minimalised care: *The midwives … had 15 min … usually it's about half an hour to 45 min* (P5) and in a survey response (SR): *COVID*-19 has *completely changed midwifery care … this makes me sorry that we could be potentially missing something about the baby and mother's wellbeing.* Students voiced concerns about standards of care, with one student describing an antenatal practice that she felt was unsafe: *Women are sort of asked to check the measurement, like their fundal measurement themselves* (P1). Finally, students were impacted by seeing the worry caused to women they had come to know well with one saying: *So a lot of women … felt really unsupported so that was very distressing. One woman in particular had no other support person, so she felt very upset that I couldn't be that one support person* (P2).

In contrast, students were also witness to silver linings for women and babies with the benefits of restricted visitors on the postnatal ward and in the home, as described here: *Women … were seeing a silver lining of isolation … no social expectations and being freed of visitors* (SR) and *It's been nicer for the women to have that alone time with their baby and facilitate that bonding and attachment (P3)*. Several students noted a positive impact on breastfeeding related to visitor restrictions*: I'd guess that breastfeeding rates and experiences will be improved as a result* (SR).

3.2.5. Theme three - uncertainty

Many changes took place during the early months of the COVID-19

pandemic which caused confusion and uncertainty for students, reflected by a lack of consistency between advice from universities and health care facilities. Some clinical placements were cancelled, students lost face-to-face contact with CCE women and there was concern that they may not fulfil requirements to graduate: *I have been to 3 different hospitals since COVID-19 restrictions have commenced, and each hospital is doing everything so differently, despite restrictions which should be universal from hospital to hospital* (SR) and corroborated by P3: *So sometimes we're excluded and sometimes we're allowed to be involved.*

Perceived lack of advice from universities caused concern with students relying on each other to keep informed: *Initially when this all started … we had no communication from the uni* [university] *or hospitals at all. So … as students we were all just messaging each other* (P8) and *watching the news like crazy and doing our own research* (P3). One student revealed that their university relied on feedback from students to be kept abreast of the latest practices in the hospitals: *Students had to give feedback to the university as to what was happening on the coal face … we're not allowed into theatre now, or actually it's only two people in the room at the time* (P4).

Students also reported confusion regarding course completion and whether allowances would be made regarding achieving the necessary minimum requirements to graduate. Uncertainty and doubt regarding completion of requirements was common, for example: *Our university said just get the details from the woman and say 'unable to attend due to COVID-19' and then hopefully when it comes to registration, it'll be acceptable* (P10). When guidance was provided by the Australian Nursing and Midwifery Accreditation Council and subsequently relayed to students by their universities there was disappointment: *We were told by the uni* [university] *that video calls and phone appointments would not count as part of our requirements … it's really tough and it's demotivating* (P6).

Studying fully online caused uncertainty and challenges for students with comments such as: *We just couldn't get anything to work. We tried using … Blackboard [online learning platform] … to do a discussion and it just didn't work, it was quite challenging* (P11). Students lamented not having the usual peer support: *To completely go online and not have that support … was really difficult as well* (P7) and not being able to attend university classes in person: *Considering most of us in midwifery do face-to-face learning … online learning … in itself has been a challenge* (P8) and … *we're doing everything online which doesn't sort of support what we need to do* (P12).

3.2.6. Theme four – connection with women

The relationship between women and students altered due to reduced face-to-face time. Telehealth antenatal visits resulted in lost time in clinics where the student and woman could chat and build a connection, for example: *It's less personable … not being able to have those longer, more comfortable conversations* (P5), also supported by P9: *I felt like it was really hard to build a rapport with a mum when you're … quickly getting everything done and not being able to talk to them about … the other little things that you talk about to get to know someone.* Students were advised to telephone women following their appointments which created challenges, as described by P11: *She would leave an appointment, and she would have questions that I couldn't answer because I hadn't been in the appointment.*

Connecting with women was adversely affected by wearing PPE: *Supporting a woman in labour whilst donned in full PPE has been a challenge, woman and partners look to you for a reassuring smile or nod, and they can't see that* (SR). Awareness of the woman's perspective was voiced by P3*: I think it was quite intimidating actually, especially with labour care … having four bright yellow apron gowns and face masks and then goggles.* The loss of physical connection between students and women was also noted: *The other thing … not being allowed to touch people … if a woman wanted to, you know give you a hug (P1)* and reinforced by P2*: Really disappointed and very, very sad. I think midwifery is such heart work, you put in so much time and effort with women and you hold space for them and to just suddenly not be able to do that.*

3.2.7. Theme five – personal anxiety

The final theme came from students' personal distress and anxiety for themselves and their families. Many revealed financial concerns and worries about children, elderly parents, and day to day practicalities like care of their uniforms. Several feared bringing the disease home to their family: *Normally I'm not as paranoid, but that really, I kind of got really scared that I was going to be the one that brought it home to my kids* (P9) and tried to mitigate against spreading the virus: *I washed my uniform … I decontaminated my bag, my iPad … my phone, my headphones, every single thing I had touched. I left my shoes outside … It was very intense and very time consuming and very nerve wracking* (P3). The reality of the situation was highlighted for P2 when she was involved in caring for a woman suspected to have COVID-19: *My last birth was a full PPE suspected COVID case … So I actually felt quite traumatised by that experience.*

Financial worries were evident with some worried about losing their employment. Trying to keep everything in perspective was emphasised: *Literally 1 day at a time. I was still working as well, and I was looking at losing my job and it was all, it was all quite stressful* (P5). Elderly parents impacted students' decision making with the fear of bringing home the virus; one student was given an ultimatum by her parents: *They said … you either need to give up this course or you're going to have to move out because we're too old and we don't want you bringing this home* (P4). Students who struggled to juggle their lives in normal circumstances had increased difficulties which sometimes impacted their health and their continuation of the course: *The added stress was phenomenal … it has been at the expense of my mental health, I am feeling really anxious* (P7). One student shared her perception of a moral dilemma: *I chose to defer* [working in a neonatal nursery] *… due to my concern of potential risk while working in SCN and to new mothers and newborns. Morally I felt I couldn't continue as a student during this time* (SR).

4. Discussion

This Australian study incorporated online survey responses and interviews to explore current midwifery students' experience of providing maternity care during COVID-19. Incorporating quantitative and qualitative data enabled comprehensive analysis (Woolley, 2009) that revealed the holistic impact of COVID-19 on students' education and their personal life.

Whilst a small minority were positive about the information from their university and maternity care providers, most participants reported difficulty in finding reliable information and turned to a variety of sources to discover the latest advice. There was inconsistent guidance and misinformation, which has been previously found to increase confusion and cause stress in the public health arena (Bhatia, 2020). It was challenging for students to stay ahead of changing individual policies from different hospitals regarding attending clinical placement and CCE with women. Changing policy through the COVID-19 pandemic has been acknowledged across the spectrum of health care (Karligkiotis et al., 2020; Kiong et al., 2020; Desai et al., 2020), and the need for universal policy identified (Bhangu et al., 2020). However, the changing patterns and waves of COVID-19 infections over different maternity areas has made consistency of instruction problematic. Responding students in this study (who did not represent every university in Australia) understood these challenges, but described a need for an easily accessible conduit of official information so that they were not relying on rumours and social media posts. It is recommended that in times of unfolding crises, universities provide resources that are illuminated and frequently updated, with advice regarding all spheres that affect students; clinical placement, continuity of care, registering body, professional body and university, so that students have a one-stop information station.

A similar cause of confusion for students was the potential change to midwifery courses and requirements to graduate. It became apparent early in the COVID-19 pandemic that clinical placements were going to be disrupted, but students were unable to confirm whether there would

be any change to the expectations for their graduation requirements. Although the Australian Nursing and Midwifery Accreditation Council started the process of determining requirement changes early in the COVID-19 situation, students found the wait for confirmation stressful. Given this study covered the first three months of the pandemic, further longitudinal or follow up studies are recommended to determine the full extent of the impact of the COVID-19 pandemic on midwifery education.

An additional effect of COVID-19 on some midwifery courses was conversion of the theoretical component of content delivery to online formats, with students reporting that this form of learning was not as robust and accessible as face-to-face learning. While it is known that there can be value to online learning experiences (D'Agustino, 2016), it was challenging for participants in this study, often due to technical issues with online platforms. Improved and tested learning management systems are required to reduce student frustration, together with assistance for students who do not have adequate internet band-width to be to fully access real-time online workshops. Some students also experienced a feeling of isolation, affecting mental health well-being; Croft et al. (2010) propose creating an online community and improving tutor-student contact as ways to improve the student experience when learning online.

A source of emotional upheaval for the students in this study was from witnessing the upset to women. As maternal depression and anxiety appear to be elevated in the context of the COVID-19 pandemic, compared to previously reported population norms (Cameron et al., 2020), students witnessing adverse maternal emotions may be affected and promoting positive mental health is essential for students to reduce negative emotional consequences. Resilience building has been previously identified as a way for midwifery students to navigate their way through intensive midwifery courses (Williams, 2016); the COVID-19 pandemic has magnified the need for this. Clohessy et al. (2019) advise that exposure to adversity can actually trigger the growth of resilience, an ability to move forward and appears to play an important role in student success. Crombie et al. (2013) suggest that educational strategies, such as the integration and accessibility of peer group support in both the clinical and academic environment can strengthen resilience in individuals.

Reduced student connection with women also increased the feeling of disconnect when they were unable to attend women for appointments and labour and birth. The impact of losing the relationship with women paradoxically demonstrated to students the benefits of continuity of care experiences. The essential CCE component of Australian midwifery courses, highly valued by students (Sidebotham, 2014; Tierney et al., 2017), provides much appreciated authentic learning experiences and a woman-centred philosophy of midwifery care (Kuliukas et al., 2020) in preparation for post-graduation practice (Griffiths et al., 2019).

Healthcare workers are primarily women (Miyamoto, 2020), and it is well known that the duty of unpaid family responsibilities generally falls on the woman of the household (Sharma et al., 2016). The feminist movement has increased awareness of the disparity but the Australian patriarchal society continues to be noticeable, with Australian women spending up to three times longer on household duties than men (Australian Bureau of Statistics, 2016). Female participants in this Australian study expressed an increase in this already high burden of balancing household activities, child care and elderly parents, all of which have been found to add stressors for female healthcare workers during the COVID-19 pandemic (Miyamoto, 2020). Paradoxically the opposite was true in the clinical area where students felt expendable, as they were not included in hospital policy discussions, training and practices and in some instances were the last to receive PPE. As Crombie (2013) discussed, the student status can induce feelings of worthlessness and insignificance, with behaviours from supervising staff in the clinical area being one of the main causes for student course withdrawal. There is work to be done to improve the practice of supervising staff, however responsibilities also lie with maternity care providers to ensure there are clear communication channels, adequate equipment and staffing levels to allow stress-free time for the supervision of midwifery students.

In addition to the increase in unpaid family responsibilities, an increase in financial strain was also described by students. There were lost casual jobs in affected industries like hospitality or retail, and some had to give up work as nurses due to the fear of cross contamination. Such economic difficulties caused by the COVID-19 pandemic may contribute to an increase in rates of mental health problems. Midwifery students are known to find midwifery courses challenging and stressful (Power and Grzelak, 2016; Green and Baird, 2009). The additional stressors of the COVID-19 pandemic have taken their toll, and additional measures are required to ensure students are able to navigate these unusual circumstances. Das et al. (2020) advise that provision of basic psychological support may help to combat long term psychological adversities.

When asked about silver linings of the COVID-19 pandemic students talked of enhanced 'babymooning', a term coined by Sheila Kitzinger (1996), to refer to the immediate postpartum period, where women spend uninterrupted time with their newborns. During the COVID-19 pandemic, students reported that visitor restrictions provided more rest opportunities and seemed to improve breastfeeding success. In her newspaper article reporting on this phenomenon, Douglas (2002 para 31) interviewed women, with one stating: "The early days with a newborn are precious … it's almost like you're on your own little planet. And that's how it should be, a special time just for you and your new family … Don't let anyone else get in the way of that beautiful bond".

5. Limitations

Recruitment for the study was through social media and therefore could have attracted students who were more affected by the COVID-19 pandemic. The snowball effect of recruitment may have further condensed this, with impacted students sharing the social media link with similarly affected students. In addition, those who engaged in the interview process could have been more stressed, therefore potentially biasing the findings.

This study was conducted in Australia in the first three months of the COVID-19 pandemic and findings are specific to the experiences of students enrolled in undergraduate and postgraduate courses within this country. Transferability cannot be assumed across different courses internationally; however, rich description of this Australian setting was offered for the reader to assess potential transferability of our findings to other contexts.

6. Conclusion

Findings from this study demonstrate that students found the COVID-19 pandemic added challenges to their midwifery student journey. Inconsistent communication created confusion and time-wasting for students. Online learning and isolation limited learning engagement. Students were concerned about the impact of reduced or changed care for women, increasing their own emotional burden. The increase of household responsibilities and financial concerns added to the student load and altogether these challenges created a need for greater support, better communication channels and improved information for students from universities, health services and professional bodies.

Author contributions

Lesley Kuliukas: Data curation, Formal analysis, Investigation, Project administration, Validation, Visualisation, Writing - original draft.

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Linda Sweet: Methodology, Data curation, Investigation, Writing - review & editing.

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Caroline Homer: Methodology, Data curation, Investigation, Writing - review & editing.

Karen Wynter: Methodology, Data curation, Investigation, Writing - review & editing.

Alyce Wilson: Methodology, Data curation, Investigation, Writing - review & editing.

Rebecca Szabo: Methodology, Data curation, Investigation, Writing - review & editing.

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Declaration of competing interest

All authors confirm that there are no conflicts of interest.

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Appendix A. Supplementary data

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