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Psychosocial interprofessional perinatal education: Design and evaluation of an interprofessional learning experience to improve students' collaboration skills in perinatal mental health

Hazel Keedle [a,*,1], Virginia Stulz [a,2], Janet Conti [b], Rachel Bentley [c], Tanya Meade [b], Rosemary Qummouh [d], Phillipa Hay [e], Holly Kaye-Smith [c], Louise Everitt [f], Virginia Schmied [a]

[a] School of Nursing and Midwifery, Western Sydney University, Locked Bag 1797, Penrith, NSW 2751, Australia
[b] School of Psychology Translational Research Institute, Western Sydney University, Locked Bag 1797, Penrith 2751, Australia
[c] School of Humanities and Communication Arts Western Sydney University, Locked Bag 1797, Penrith 2751, Australia
[d] School of Social Sciences Western Sydney University, Locked Bag 1797, Penrith 2751, Australia
[e] School of Medicine, Translational Health Research Institute, Western Sydney University, Locked Bag 1797, Penrith, NSW 2751, Australia
[f] Complex Pregnancy Care, St George Hospital, South Eastern Sydney Local Health District NSW Health, Australia

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ABSTRACT

Background: Perinatal mental health disorders are one of the leading causes of maternal illness and suffering and care and services need to be well coordinated by an interprofessional team who are skilled in working collaboratively.

Aim: The aim of this paper is to describe the design and evaluation of an innovative interprofessional education initiative to increase midwives and other health professional students' knowledge and skills in caring collaboratively for women with psychosocial issues in the perinatal period, including women experiencing domestic and family violence.

Methods: The Psychosocial Interprofessional Perinatal Education workshop was designed for midwifery, psychology, social work and medical students. It provided a simulated learning experience with case studies based on real life situations. Students undertook pre and post surveys to measure changes in students' perceptions of interprofessional collaboration and their experiences of participating in the interprofessional simulation-based learning activity. Quantitative survey data were analysed using paired t-tests and a qualitative content analysis was undertaken on the open-ended questions in the survey.

Findings: Comparison of pre and post surveys found students from all disciplines reported feeling more confident working interprofessionally following the workshop. The following categories were generated from analysis of the open ended survey data: Greater understanding of each others' roles; Recognising benefits of interprofessional collaboration; Building on sense of professional identity; Respecting each other and creating a level playing field; and Filling a pedagogical gap.

Conclusion: Through this innovative, simulated interprofessional education workshop students developed skills essential for future collaborative practice to support women and families experiencing psychosocial distress.

Abbreviations: IPE, Interprofessional Education; PIPE, Psychosocial Interprofessional Education; RIPLS, Readiness for Interprofessional Learning Scale; MDT, Multidisciplinary team; SoNM, School of Nursing and Midwifery.

* Corresponding author.
E-mail address: h.keedle@westernsydney.edu.au (H. Keedle).
[1] Twitter @HazelKeedle
[2] Twitter @vskinner9

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Statement of significance

Problem

Siloing of training in midwifery, nursing, medical, psychology and social work risks leaving students unprepared for working within multidisciplinary teams with women and families with complex psychosocial issues.

What is already known

Education for midwives and undergraduate midwifery students can improve knowledge, skills, attitudes and confidence in caring for women experiencing perinatal mental health problems.

What this paper adds

This paper describes an innovative interprofessional workshop designed to enhance collaboration skills so that midwives, social work, psychology and medical students can support women with psychosocial issues in the perinatal period more effectively. The interprofessional learning experience demonstrated that this type of learning can build greater understanding of their own and each other's roles when working in a multidisciplinary team to support women.

1. Introduction

In Australia and internationally, mental health disorders are one of the leading causes of maternal illness and suffering. Anxiety and depressive disorders are the most common complication of the perinatal period, (from pregnancy to the end of the first postnatal year) [1] affecting 10–15% of women [2,3]. Additionally, a small proportion of women experience serious mental health disorders, such as bipolar disorders, schizophrenia, eating disorders, and postpartum psychosis [4]. Significant poor maternal and child outcomes result from complex maternal psychosocial issues [5,6]. Identifying and supporting women in pregnancy and after birth is crucial for the well-being of the woman and that of the baby.

Evidence suggests that this care needs to be well coordinated and offered by a team of professionals who work in a collaborative model of care [2,7,8]. A range of primary health and specialist medical professionals support women and their families in the perinatal period including midwives, maternal, child and family health nurses, obstetricians, and general practitioners. These practitioners as well as midwifery, medical, social work, and psychology students often struggle to appropriately respond to and support women with complex psychosocial issues [9–13,14].

Guidelines developed in England, Scotland, Australia, and Canada provide midwives a clearly defined role for the assessment and identification of perinatal mental health to underpin appropriate and proactive referral and care decisions, which assure the necessary support that women and their families require [15–17]. This, however, requires awareness and understanding of common mental health problems, as well as having the skills and confidence when enquiring about women's mental health status, and subsequently referring appropriately and collaborating effectively interprofessionally.

It is therefore critical that midwives and other health professionals including students are provided with education and learning opportunities to build their knowledge and skills to work effectively with women and their families both on an individual basis as well as in collaboration with diverse health and social care professionals [10,18]. Education interventions in perinatal mental health and domestic and family violence can be effective in improving knowledge and confidence in practitioners working in maternity and community health settings [10,18]. Educational packages in undergraduate midwifery education have also demonstrated a positive effect on knowledge, skills and attitudes towards women with perinatal mental health issues [19]. However, to date there has been limited research or evaluation of interprofessional Education (IPE) opportunities to enhance skills in supporting perinatal mental health in multidisciplinary teams and collaborative models of care.

The first aim of this paper is to outline the development and implementation of a one-day workshop designed to enhance the interprofessional communication and collaboration skills of midwifery, medicine, social work and psychology students, so that in turn they are better prepared to support women with psychosocial issues in the perinatal with period. The second aim of this paper is to evaluate the student experience of the Psychosocial Interprofessional Education (PIPE) workshop offered to midwifery, social work, psychology, child and family health and medical students.

2. Methods

2.1. Designing the PIPE program

2.1.1. Building the PIPE team and determining student groups

In November 2017, representatives from the School of Nursing and Midwifery (SoNM) engaged other academics from the Schools of Medicine and Social Sciences and Psychology and the Rich Media team at one university to form an interprofessional team to develop and deliver the PIPE initiative. The project goal was to ensure that midwifery, psychology, social work and medical students were prepared to work in a multidisciplinary team to address the significant and increasing mental health and social problems experienced by Australian women and families during the perinatal period and that they were able to achieve this in a safe space.

PIPE was designed as a student-centred, simulated authentic learning experience with case studies based on real life situations. The SoNM led the development of the initiative, as the interprofessional workshop was a compulsory component of the third year BMid unit "Collaborative Care". In collaboration with the academics representing the different disciplines, it was determined that the workshop would be offered as an elective, extra-curricular learning activity for fourth year undergraduate social work students, fourth and fifth year medical students, and first and second year Masters of Clinical Psychology students and Master of Professional Psychology students. Fig. 1 displays the process of the design and evaluation of the workshop.

2.1.2. Pedagogical approach and development of teaching resources and strategies

The PIPE team's approach to teaching and learning was informed by partnership pedagogy, where students, academics and clinicians are actively engaged in the processes of learning and working collaboratively [20]. The partnership pedagogy was established through the collaboration of interprofessional academics and clinicians and through the evaluation of the workshop by students. However, students were not directly involved in the design of the program. The PIPE workshop was initiated from constructive student feedback received from the Bachelor of Midwifery unit, titled, Collaborative Care.

Alongside the partnership pedagogy was the understanding of learning as a social process that is flexible, open-ended and life-long. Bandura's theory of social learning identifies that learning occurs in social settings through a process of attention, retaining, reproducing and motivation [21]. Other studies have found that when students learn interprofessionally, their self-efficacy as described by Bandura, increases by enhancing communication skills and interprofessional collaboration [22–24]. In designing these curriculum resources, the team viewed learning as a social activity in which knowledge and meaning are

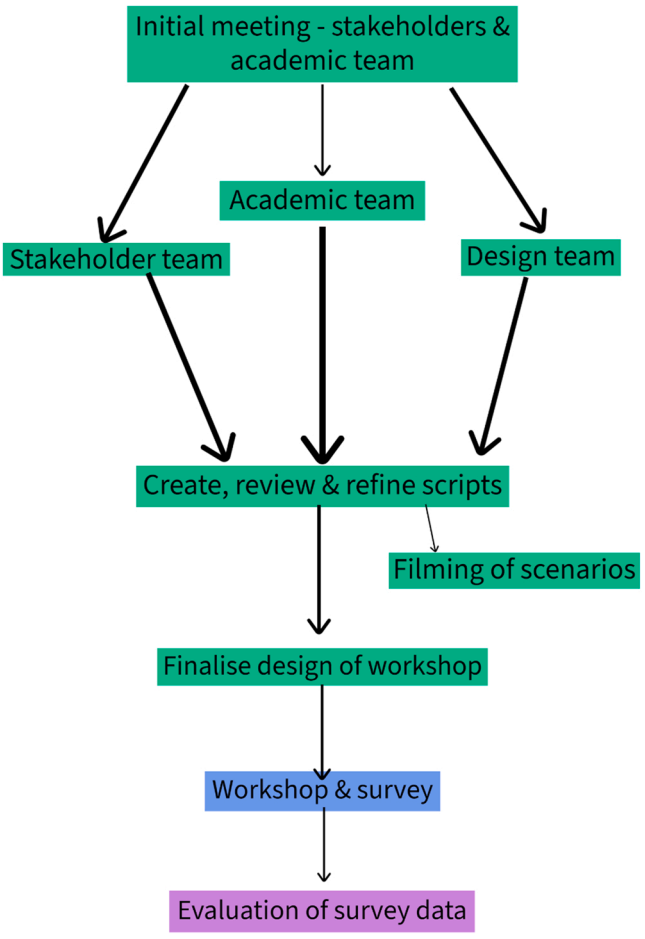

Fig. 1. Development and evaluation process of workshop.

understood as co-constructed through shared practices between members of a community with a common culture or language and ways of seeing the world. (Table. 1).

2.1.3. Scenario and video development

To bring the "real world" to the classroom, we drew on key concepts of partnership pedagogy, engaging in a genuine purposeful relationship with clinicians and professional colleagues from several Local Health Districts in NSW as well as private organisations, representing midwifery, psychiatry, mental health nursing, social work, psychology and child and family health nursing. to co-design, and in some instances, co-deliver the workshop. Through this collaboration we aimed to co-design the content and the roles of interprofessional team members, specifically the knowledge and skills that they believed the students required to work effectively in clinical practice. Through these discussions we drafted the content outline and learning outcomes for the workshop. The design group worked collaboratively to develop scenarios that reflected contemporary concerns experienced by women including mental health issues, and domestic and family violence in the perinatal period. The content and scenario scripts were then drafted by the PIPE team members and returned to the clinicians for review and revised for this workshop. Subsequently, several of these partners assisted in the facilitation of interprofessional student groups.

The scenarios are outlined in Table 2.

Table 1
Abbreviations table.

Words abbreviated	Abbreviations
Interprofessional Education	IPE
Psychosocial Interprofessional Education	PIPE
School of Nursing and Midwifery	SoNM
Readiness for Interprofessional Learning Scale	RIPLS
Multidisciplinary team	MDT

2.1.4. Workshop

Drawing on the pedagogical skills of all members and health service partners, the PIPE team designed a one-day (6 h) workshop with facilitator guided scenarios. In the workshop, the students worked interprofessionally, simulating a multidisciplinary team with the scenarios which included multidisciplinary team meetings; joint care planning; using decision algorithms and referral pathways; role play of interactions between women and professionals including healthcare interpreters using diverse modes including face to face, telephone interactions and referral letters to health professionals. The purpose specific videos produced by the team were used at different times depending on the scenario, sometimes prior to the commencement of the simulated multidisciplinary team meeting and others towards the end of the simulation. Students were also encouraged to discuss how they may have worked with or referred a woman in their own clinical practice. An example of a scenario embedded in the workshop program is in Table 3. Towards the end of the workshop, the students participated in a reflective practice session about the learning in their team. They then provided feedback to a interprofessional panel of experts comprising five academic and clinical practitioners representing midwifery, social work, psychology and psychiatry who engaged the students in a large group interactive discussion about each scenario and their learnings.

Both workshops were held on campus and facilitated by members of the PIPE Team. The students participating in each workshop were allocated to interprofessional groups comprising a balanced number of social work, psychology, midwifery and medical students in each group.

2.1.5. Evaluation of PIPE

In this section of the paper, we report on the evaluation of the student experience of the PIPE workshop offered to midwifery, social work, psychology, child and family health and medical students. The objectives of the evaluation were:

1. To describe students' feelings in anticipation of the learning experience using a pre- workshop survey
2. To report students' experiences of participating in the interprofessional simulation-based learning activity using a post workshop survey.
3. To determine what improvements could be initiated to improve this learning activity.

2.1.6. Student participants

The one-day workshop was offered on two different days with four interprofessional teams each day. Each simulated multi-disciplinary

Table 2
Outline of Four Scenarios.

Name of scenario	Psychosocial issues explored	Video segment
Emma 1	Bipolar diagnosis, challenging relationship with partner, ceased medications for pregnancy, manic episode post birth	Midwife visiting Emma at home post birth
Emma 2	Bipolar diagnosis, continued medications during pregnancy, has social support, manic episode post birth	Midwife visiting Emma at home post birth
Nora	Cultural differences, use of interpreter, relational issues	Initial midwife appointment at hospital with interpreter
Sarah	Grief, previous stillbirth, subsequent pregnancy	Initial appointment with GP

Table 3
Example of scenario and workshop program.

09.15–09.30	Introductions in group and complete pre survey Introduction question for each person – ice breaker
09.30–10.10	Role play – MDT team meeting. Facilitator will chair the MDT. All participants have a copy of the referral sheet in front of them. A 10–15-minute role play of the MDT meeting • Discuss briefly what your concerns are for woman and family would be from each perspective and what role each professional would take. • Determine what will be the next steps. Who will take woman as part of their case load, follow up, How and when will that happen? Document decisions. • Must include referral decisions and next steps that is who will coordinate and contact woman, how will ongoing services know the plan. What are the main issues / where would you go from here?
10.10 – 10.30	Role play – Someone to be woman and another person to be the professional who is to contact woman as decided by MDT What are the main issues / where would you go from here?
10.30 – 11.00	Morning tea
11.00–11.15	Role play – Midwife antenatal clinic appointment. Woman 24/40. What are the main issues / where would you go from here?
11.15 – 11.45	Role play – Social work assessment. Encourage S/W team to undertake this role play as they would do an assessment What are the main issues / where would you go from here?
11.45–12.00	Filmed Scenario: Students will watch 10–15 mins
12.00–12.45	Discussion: Led discussion with group. Discuss the midwife's options. What should she do? Role play Midwife having a conversation with team leader / manager.
12.45 – 13.30	Lunch
13.30 – 14.20	Reflective practice session: Questions for group: • How did you work as a team? • What was the positive aspects? • What could have been done better? Students to complete post survey

team included between eight to ten students. All the third year midwifery students (25 in 2018) were required to attend and this meant that on average there were three midwifery students in each team. There were enough places to have three midwifery students, two medical students, two social work students and two psychology students in each team.

The workshop was introduced to students currently studying social work, psychology and medical through an email from their unit coordinator inviting them to be part of a novel initiative, possibly one of the first Australian initiatives, bringing health professional students together to collaborate on perinatal mental health concerns. Social work and psychology students were offered the workshop hours as part of, or in lieu of clinical placement.

2.2. Data collection

On the day of the workshop, the student cohort group were invited to complete two surveys: one immediately prior to the workshop and the other immediately following the workshop. Students were provided with an information sheet, consent form and a pre-workshop survey prior to the commencement of the workshops and had the opportunity to ask any questions prior to deciding whether to consent. At the completion of the workshop students were invited to complete the post workshop survey.

2.2.1. Survey tool

Students were asked nine questions on both the pre and post surveys based on the "Readiness for Interprofessional Learning Scale" (RIPLS) developed by Parsell and Bligh [25] and used in midwifery IPL by Burns et al. [26]. This five-point Likert scale focuses on attitudes to interprofessional learning with other health care students the ongoing impact of professional collaboration. An extra question regarding confidence to work collaboratively for women with complex psychosocial issues was added to the pre and post surveys.

In both surveys, students were invited to provide written responses to open-ended questions. There were two open text questions on the pre-workshop survey and six on the post workshop survey. For example, on the pre- workshop survey students were asked how they currently felt about participation in the simulation workshop and to what extent they experienced learning from other health professional undergraduate students during their current course of study. In the post workshop survey, they were asked how useful the experience was in understanding other health professionals' roles and responsibilities, the impact of IPL in preparing for clinical practice, and the best and worst aspects of the workshop.

2.3. Data analysis

Descriptive statistics were used to analyse the quantitative data collected in the pre and post surveys. The percentage differences between the average scores on Likert questions pre and post survey were calculated. A paired t-test was performed for the pre- and post-survey results for means results. The open-ended questions in the student program evaluation surveys were analysed through qualitative content analysis using an inductive, constructionist and interpretative framework [27,28]. The constructed categories therefore went beyond the data to analyse broader meanings, those that were implicit and included identity negotiations, and implications of student feedback. Extracts of text were coded and categories generated independently by two researchers (HK and JC). The categories were then discussed between the research team and a thematic map was developed to conceptualise their inter-relationship and facilitate inferences being made.

2.4. Ethical considerations

Ethics approval to evaluate the workshop experience was obtained from Western Sydney University Human Ethics Board, approval number: HK03171.

3. Results

3.1. Survey participants

Sixty-two students completed the pre-PIPE workshop evaluations, and 47 students completed the post PIPE evaluations. The students who completed the post survey were 19 Bachelor of Midwifery, seven Bachelor of Social Work, one Master of Social Work, five Master of Clinical or Professional Psychology, 16 Bachelor of Medicine. There were six male students and 42 female students who completed the post workshop survey.

3.2. Quantitative results

Table 5 identifies the individual questions and the average increases from pre to post PIPE workshop evaluations. The RIPL are Likert scale questions and each one and ranged 1- not at all useful to 5 – extremely useful. Question 7 was an inverted Likert scale question and was adjusted for the analysis. All ten of the questions showed a significant change in their responses from pre to post. The percentage increased from 3% to 17%. A paired t-test was performed for pre- and post-survey means results. On average, students from all disciplines reported they felt significantly more confident in working with a multidisciplinary team following the interprofessional workshop ($M = 4.697$, $SE = 0.67$), than prior to the workshop ($M = 4.337$, $SE = 0.99$, $t(9) = -5.738$, $p < .001$, $r = 0.88$). Two additional Likert questions (11 and 12) were asked only in the post workshop survey.

3.3. Qualitative results

There were six open ended questions in the post workshop survey. These can be found in Table 4.

All 47 students who completed the post workshop survey responded to at least one of the 6 open-ended questions. This analysis is based on the 232 responses to these post-survey questions by 47 students. This feedback generated the following categories: (1) Greater understanding of each others' roles; (2) Recognising benefits of interprofessional collaboration; (3) Building on sense of professional identity; (4) Respecting each other and creating a level playing field; and (5) Filling a pedagogical gap; (see Fig. 1 that depicts the inter-relationship between these categories). Table 6 shows the categories and subcategories.

3.3.1. Greater understanding of each other's roles

In their responses, almost half of the student comments (102/ 232) indicated that through the MDT simulation and panel discussion they gained a greater understanding of each other's roles.

> *"Incredibly useful. [I gained] a high degree of insight into roles of other healthcare workers" (medical student)*

> *"So good to have a chance to speak about the intricacies and where professions intersect. Who does what and who doesn't. Was extremely valuable" (psychology student)*

The increased understanding of each other's roles appeared in part, to be facilitated through observation of other professionals interacting in role plays with women and with each other.

> *"I really gained a lot from role playing, particularly observing how skilled the psychologists and social workers were in communicating with the woman" (midwifery student)*

> *"It was good to gauge another professional's ideas and approaches to care practices" (midwifery student)*

> *"Watching interpreters was a great learning experience, you can see how just a very slight change of word can make a real difference to meaning and actions" (medical student)*

3.3.2. Recognising benefits of interprofessional collaboration

The simulated MDT provided a context for students to understand the benefits of interprofessional collaboration with the assumption that the team was working for the same goal that is, to support the optimal health of the woman and her family. This included the importance of "role delegation".

> *"Really valuable. We understand each other's roles more in a woman's care and the type of interventions each can do to support women's psychosocial health" (midwifery student)*

> *"Awareness. Understood the difficult nature of collaborating with people who have a different knowledge base compared to me. Understanding of services available".*(medical student)

> *"Seeing how the roles can all work together to help new mothers".* (social work student)

Eleven student responses (5%) specifically positioned women's care at the centre of what they found important in what they learnt through the MDT experience.

> *"Very informative about other professions and how they work separately and together as an MDT to put the client's wellbeing first"* (psychology student)

For one medical student, the MDT experience challenged a previously held assumption that inadvertently devalued the importance of working within the intersection between disciplines.

"I started off thinking that interdisciplinary working was not important, but I have really changed my mind" (medical student).

3.3.3. Building on sense of professional identity

Eighteen (8%) of the responses highlighted how, within the context of their participation in the MDT, the students from all the disciplines were actively engaged in building upon a sense of professional identity,

Table 4
Qualitative questions.

Number	Question
1	How useful was today's experience in understanding other health professionals roles and responsibilities?
2	Please explain to what extent has this experience helped you to feel more confident in interacting with a health professional from a different discipline?
3	Please explain why you think this interprofessional learning experience was helpful in preparing you for clinical practice after graduation?
4	Please describe aspects of this collaboration experience that you enjoyed the least
5	Please describe the aspects of this collaboration experience that you enjoyed most
6	Are there comments you would like to make?

Table 5
Questions and average scores.

Number	Question	Pre	Post	Change
1	Learning with other students will help me become a more effective member of a health care team	4.56	4.90	7%
2	Patients would ultimately benefit if health care students worked together to solve patient problems	4.58	4.92	7%
3	Shared learning with other health care students will increase my ability to understand clinical problems	4.47	4.83	7%
4	Learning with health care students before qualification would improve relationships after qualification	4.40	4.79	8%
5	Team working skills are essential for all health care students to learn	4.76	4.90	3%
6	Shared learning will help me understand my own limitations	4.34	4.71	7%
7	It is not necessary for undergraduate health care students to learn together	4.21	4.33	2%
8	I would welcome the opportunity to work on small-group projects with other health-care students	4.10	4.44	7%
9	Shared learning before qualification will help me become a better team worker	4.33	4.69	7%
10	I feel confident to work collaboratively for women and their families with complex psycho-social issues in the perinatal period	3.62	4.48	17%
11	To what extent has this experience helped you to feel more confident in interacting with a health professional from a different discipline?	n/a	4.25	n/a
12	How helpful are interprofessional learning experiences in preparing you for clinical practice after graduation?	n/a	4.56	n/a

Table 6
Categories.

Category
Greater understanding of each others' roles
Recognising benefits of interprofessional collaboration
Building on sense of professional identity
Respecting each other and creating a level playing field
Filling a pedagogical gap

including through clarification of their own professional roles and values.

These participants' experiences highlighted how the MDT not only helped them to understand the roles of other team members but also to clarify their own role to themselves. This included a marking out of the "boundaries" between their professional roles and where they "intersect" with the other health professionals. Through this role clarification, these students were engaged in development of their professional identities and the location of these within the broader context of the "hospital system".

"Super useful. I felt I knew almost nothing about other professionals' roles at the start of the day. I also felt I knew little about my own role as a social worker in a MDT. But I understand a lot more about those roles as a result of today's workshop". (social work student).

"So good to have a chance to speak about the intricacies and where professions intersect. Who does what and who doesn't. Was extremely valuable" (psychology student).

More specifically, the sense of professional identity that was constructed by these students within the MDT context included the development of a durable sense of oneself as a professional through connection with a sense of value and purpose.

"I felt that it definitely helped remove the stigmas I have about different professions and it did have the same for other people about my profession…. It opened my professional mind to understand and consider other options available in my profession for a client." (social work student).

3.3.4. Respecting each other and creating a level playing field

Students also emphasised that the interprofessional workshop went some way to breaking broke down barriers between professional groups and increased respect for different professionals.

Was a great way of learning other professions roles, developing respect for each profession". (social work student).

This strengthening of professional sense of self was constructed for one midwifery student through "dispelling the hierarchy" of the medical professions and that was built on the value of respect. This highlighted the significance of the group norm of respect that was developed in the workshops, which was implicit in several of the students' responses.

"Very useful as understanding each other's roles is useful to aid in dispelling the hierarchy. Respecting that everyone has a valuable contribution" (midwifery student).

This was important because although students were not specifically asked in the evaluation questions about their experiences of the interpersonal interdisciplinary relationships, thirteen student responses (6%) explicitly or implicitly spoke to the group power dynamics that were at play and the complexities of these both within the role-plays and between group participants. The following extracts exemplify how the MDT experience provided a platform for alternative ways of engaging in MDT relationships with respect.

"I previously felt a little intimidated by the idea of working with other health professionals, but less so now because I understand both my role and their roles better" (social work student).

"Thank you for inviting medical students to be a part of this. It is very hard to engage with other elements of a hospital team due to various role stereotypes" (medical student).

These students' experiences of the MDT highlighted what was possible when the group was facilitated in ways that addressed "barriers" to the spirit of collaboration. Addressing power imbalances between the professions cultivated a sense of respect for the unique and overlapping contributions of the different professions. The following extracts highlight how these students were empowered through the experience to move forward to generate similar dynamics in their future work as health professionals.

"We were all on a levelled playing field (as students). There was no fear/ hierarchy. We broke down the barriers/ misconceptions. Because it provided a respectful environment that allowed everyone's voice to be heard. Took what everyone said on board" (midwifery student).

On the other hand, one medical student's experience of the assigned role-play (scenario 2) was that this created a stereotype of doctors that was unhelpful, where their preference was that they could contribute more comprehensively from the position of their role rather than their disengagement from their role in the MDT.

"Scenario 2 required basically no input from me as a medical student. I believe I was required twice, and I pushed to actually talk to the patient. I also feel like there was stigma on the scenario - agitated to be there [as doctor in MDT role play]? Would have preferred a scenario with more for my role to do. Otherwise sat in the corner observing" (medical student).

For another student, the absence of addressing the power dynamics in the room (i.e. the medical student taking the lead) was noted as problematic, whereas for others there was opportunity to witness these power imbalances being resolved in the way the MDT was facilitated. One social work student stated *"Initial power imbalance challenges. This was soon resolved" (social work student)* and another student added:

"Observation in almost every instance the med student took the lead to report back to the panel discussion - would be good to push others to take the lead. A subtle reflection of what goes on in the hospital setting. Maybe encourage the lead professional in the case study to do the reporting back" (midwifery student).

3.3.5. Filling a pedagogical gap

Many students commented that this was the first time they had interacted with other health professional students in the university environment and most had not experienced or observed interprofessional collaboration in clinical placements.

"There is very little interprofessional experiences regularly offered although there is an expectation we will be able to work together in teams competently after graduation" (medical student).

"Hope to see more like this for students as it is a great way of learning other professions roles, developing respect for each profession and it is a way to provide holistic care for the patients/ clients wellbeing" (social work student).

The students were positive about the approach to teaching and learning and the resources available to them and they particularly noted the innovative role the facilitators had played.

"[workshop] *removes stigma. More information from different professionals about their professions. Very interactive activities. Amazing facilitator, discussions, and encouragement. Creative professional thinking by facilitator" (social work student)*.

The reflective practice session and the panel discussion with experts in each of the field facilitated reflection on the clinical care required by each woman and family; how this care was best managed, by whom and the interprofessional communication required. Panel members provided feedback on each scenario and students were able to clarify issues that arose during the simulation with the clinicians. The following extract highlights the significance of the professional expertise of clinicians who facilitated the groups and contributed to the discussion panel at the end of the day:

"Being able to share ideas and ask questions or brainstorm pathways. Hearing from the panel was extremely helpful" (medical student).

In summary, this feedback highlighted how the MDT experience provided a context for the students to clarify their roles, their future sense of themselves as professionals and instilled a sense of value and purpose that all worked to build a durable sense of their identities as professionals.

"After graduation and even in my role now it is essential. This experience has been incredibly helpful" (social work student).

The sustainability and next steps of this project were also projected by the students' voices in recommending linking this work and rolling it across other disciplines in the university, that would result in improvements in teaching and learning. For example, *"Invaluable. A wonderful experience. These types of multi-disciplinary sessions should be more frequent, especially across medicine and midwifery surrounding pregnancy, birth and postnatal management" (midwifery student)*.

4. Discussion

The aim of this study was to implement and evaluate a workshop designed to enhance interprofessional communication skills for midwifery, social work, psychology and medical students so that they could support women with psychosocial issues in the perinatal period. The findings from this study showed that students appreciated the opportunity to learn and collaborate with students from other disciplines within the university. The workshop enabled them to develop skills and confidence about how to work in an interprofessional way to ensure quality care for women with psychosocial issues and they evaluated the day positively. Learning with other students helped them to be better prepared for working in teams for example, participating in a multidisciplinary team meeting and the shared learnings helped them to understand other disciplines' roles which will help them to establish these relationships post registration. This discussion will focus on the following issues: *learning and respecting each others' roles; developing a sense of professional identity, and the importance of interprofessional work to support women and their families.*

The evaluations demonstrated that students gained a greater breadth of understanding and knowledge about each other's and their own roles and that this would assist them when they become new graduates. Other studies have also demonstrated that students can gain a perspective of the responsibilities of other interprofessional team members when they learn together with other disciplines [29,30].

Students reported that an important aspect of their learning came from observations of how others performed in their role. Working in a safe, respectful learning environment enabled them to explore and contribute from their professional perspectives and skills, providing the opportunity for students to demonstrate how they would respond in particular situations. This highlights the value of well-facilitated role play and the video recorded scenarios also helped the students see professionals exploring sensitive topics with women. One study that supports our findings also demonstrated that observations made by students in an interprofessional context can provide rich learning experiences particularly in relation to expanding their communication skills and understanding of other disciplines' expertise [29,31–34].

Importantly, the students in our study, indicated they built a stronger sense of professional identity with greater knowledge about their own profession and how the other professions intersected and overlapped with their own. This provided students with an understanding about working as an effective member of a multidisciplinary team. Another study also found that when students worked interprofessionally, clarification of their own professional identity was also possible [34].

This learning process included opportunity to reflect on their own role through cultivating a sense of respect and building a 'level playing field' between the professions with scope to translate these positive dynamics as new graduates into their future workplaces. These findings align with previous research that has described the benefits of midwifery and medical students learning to work together in a safe environment and that key learnings were about developing respect of each others' professions [26]. Students reported this type of shared learning with other health students would also improve their relationships post registration [26]. Other research has shown how students have been able to make connections to other disciplines beyond the information provided in their textbooks [35].

Students reported a greater understanding of the benefits of working collaboratively in teams to support women and families. In a study by Kent et al. (2020) [29] students from different disciplines reported the importance of team involvement and collaborative practice for effective care and that placing the person at the centre of care was dependent on practising interprofessionally. These findings are consistent with a recent scoping review that highlighted the benefits of interprofessional learning to increase understanding of the complexities and pathways for women with perinatal mental health issues [18]. Further research has emphasised the importance of working together to increase their understanding about teamwork when working with women with complex psychosocial issues [31–34].

Supporting our findings, a previous scoping review [36] found that most studies showed an increase in positive change in perceptions and attitudes of students when they interacted interprofessionally. Interprofessional learning has been shown to be beneficial as students report they are able to translate the skills they learnt in education sessions and apply them when working in the clinical setting [37–39]. Other researchers have found interprofessional learning has also been found to build confidence in midwifery students to ask sensitive questions about domestic violence disclosures and midwives felt more confident in addressing complex mental health conditions when hearing women's concerns [40,41]. Our study also found that students reported more self-confidence when working interprofessionally and collaboratively with women and their families with complex psychosocial issues in the perinatal period and this has been demonstrated by other studies that found when students learn interprofessionally, it enhances their self-efficacy and communication skills [22–24].

Many studies that have evaluated interprofessional learning have not measured the long term impact in the clinical setting [19,37,40,42–44]. Our study has shown that the workshop provided an opportunity for learning about each others' professions being the only opportunity they had to work with other health professionals interprofessionally as they had not worked in this way before in the clinical areas. Other studies that have used various teaching strategies when working interprofessionally have reported increased levels of satisfaction [18].

An area that needs strengthening when working with students and health professionals about issues that are sensitive, is to reiterate reflective practice as an important part of their learning and debriefing. It is important that students respect each others' professions when stepping through the role plays, how it feels to participate in the role play and summarising the learnings from this approach [14,45,46]. A debrief phase is particularly important as it provides an opportunity for participants to explore their roles interprofessionally and to gain different perspectives to ensure this is translated into clinical practice [37–39]. When working with scenarios that address sensitive issues, it is important to forewarn students that the content may be distressing for them due to their own lived experiences. Education topics could be distressing and support can be offered to participants within the workshops [41,42,47]. Self-care is a pertinent discussion when participating in education sessions that contain sensitive psychological topics [19,37,41,42,47–52].

5. Limitations

The PIPE workshop grew out of constructive student feedback on the subject 'Collaborative Care'. However, although this study utilised partnership pedagogy there were no students involved in the initial design stages and the design of the workshop may have benefited from this involvement. Future design and evaluation of the PIPE workshop will include students as partners. The lower response rate in the post survey evaluation occurred because a small group of students had to leave the workshops earlier and did not complete the survey form and potentially some students chose not to participate in the evaluation.

6. Implications for practice and future directions

The understanding of each other's roles and the value of interprofessional collaboration reported by students in our study is critical for improving the quality of care and health outcomes for the women and families experiencing complex psychosocial issues. Interprofessional education and collaboration is embedded within the accreditation standards for Australia midwifery, medical, psychology and social work curricula [53–56] and the PIPE workshop meets this criterion.

The PIPE workshop has continued yearly and during COVID related lockdowns was successfully adapted to the online environment. This had

benefits of higher participation rates from all disciplines but challenges with conducting role plays. Following the first workshops the team collaborated with First Nations academics, clinicians, and students to develop a case study of a First Nations woman. The actors in the filmed vignette both identified as Aboriginal women and contributed to the script writing.

The team have collected yearly evaluations post workshop which have been moved to an online survey format. The ongoing evaluation of the workshop has provided important feedback on the design of the workshop. Redesign has followed an iterative process for example, the groups now experience a case study in the morning and a different case study in the afternoon in response to student feedback. The workshop continues to be embedded within the midwifery program and is now also embedded as an essential component of subjects in the medical and psychology programs. There are limitations in embedding the workshop into the social work program due to the higher numbers of students.

The team are planning to produce the learning resources/assets in 360 Virtual Reality to create a fully immersive world for students' interaction and learning. The PIPE workshops have been adapted for maternity clinician in the PIPE-MC project. This Commonwealth funded co-designed project is in the process of developing and evaluating augmented reality/virtual reality immersive vignettes for use in psychosocial interprofessional workshops with maternity clinicians.

Future research could explore the impact of the workshop on the student's future work as graduate practitioners. While other studies of interprofessional education report improvements in skills and knowledge from interprofessional learning, there is still limited evidence to demonstrate the translation of these skills practice and subsequently on health outcomes and practice [57].

7. Conclusion

This is an Australian interprofessional teaching initiative directed at preparing health professional students to build skills and confidence in interprofessional collaboration and working in multidisciplinary teams with women and families with complex psychosocial issues. There is an ANMAC requirement to have IP activities in all pathways to midwifery registration courses in Australia [54] and that many of the professions listed are registered by AHPRA and have similar requirements in their courses [53,55,56]. This real-world multidisciplinary team simulation was enhanced through the scripted video interactions and engagement with the panel of experts. Importantly all students were encouraged to share their clinical practice experiences as the scenarios evolved. This helped them build their working knowledge, better preparing for work as a graduate.

The development of this program and resources is an example of excellence in teaching, learning and scholarship and service to the local community, in preparing students from health disciplines to work collaboratively in response to real life scenarios, specifically aimed at women living in the Western Sydney area who may be socially disadvantaged and requiring more support and liaison with community services supported by health professionals.

Declaration of interest

The authors declare that they have no conflicts of interest associated with this manuscript.

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