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Midwifery Education in Practice

# An investigation of Australian midwifery curricula for obesity management and health behaviour change training



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## ABSTRACT

**Introduction:** Fifty percent of Australian women enter pregnancy overweight or obese. Unfortunately, few women receive weight management advice from health professionals during pregnancy. The aim of this study was to investigate current midwifery curricula from Australian universities to identify strengths and deficits in the teaching of preconception and antenatal weight management.

**Methods:** Midwifery courses from 20 universities were identified. Of the 568 units taught at these universities, 252 course outlines were obtained. Data were coded using the qualitative analysis technique of Framework Analysis for the following main themes: 1) the effect of weight, diet and physical activity on health outcomes for women who are pregnant or planning a pregnancy; 2) weight management advice in any population; and 3) health behaviour change techniques in any context.

**Results:** Analysis revealed a variety of teaching methods and skills training that emphasised the importance of clinical judgement and autonomous clinical practice, in conjunction with critical enquiry and sourcing reputable evidence. There was little evidence, however, that weight management advice was taught explicitly to midwifery students in the curricula.

**Discussion:** A greater emphasis on skilling midwifery students to address weight gain during pregnancy, and behavioural techniques to achieve this, is required.

## 1. Introduction

Fifty percent of Australian women enter pregnancy overweight or obese (Callaway et al., 2006; McIntyre et al., 2012), and in rural Victoria, prevalence is even higher at 65.6% (Cunningham and Teale, 2013). Many women entering pregnancy are thus at elevated risk of serious obesity related health issues during pregnancy and post-partum (Field et al., 2001; Rasmussen and Yaktine, 2009). Women counselled by their doctor on recommended weight gain are more likely to have a gestational weight gain goal in line with clinical guidelines that aim to reduce health risk for mothers and their newborns (Tovar et al., 2011). Unfortunately, few women receive weight management advice from health professionals during pregnancy (Brown and Avery, 2012; McDonald et al., 2012).

Health professionals are more likely to counsel patients when they feel that they have adequate experience in weight-loss counselling (Power et al., 2006). Studies suggest that midwives feel that they lack the knowledge and interpersonal skills required to provide pregnant women with weight management advice guidance, and that they require further training (Heslehurst et al., 2013; Wahedi, 2016). Enhancing health provider training is an important step towards improving motivation for providers to discuss women's weight during consultations (Chang et al., 2013). Consistent with this view, 78% of obstetric and midwifery staff in one Australian study considered their current levels of training regarding gestational weight management to be inadequate (Stewart et al., 2012).

In view of the increasing incidence of obesity in pregnancy (Dinsdale et al., 2016; Gaillard, 2015; World Health Organization,

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2018), it is timely to assess the extent to which the education of emerging health professionals is preparing them to be able to effectively counsel women regarding appropriate gestational weight gain. As midwives are clinicians providing health education and promotion in pregnancy, this study focuses on how Australian university curricula equip midwives to communicate and manage weight-related risks during pregnancy, and effectively encourage women to be active agents of their own health. Using qualitative analysis techniques, a content analysis of Australian midwifery curricula will assess how students are taught regarding three main aspects: 1) the effect of weight, diet and physical activity on pregnancy outcomes; 2) the incorporation of weight management advice for differing populations; and 3) health behaviour change techniques in any context. The aim of this study was to identify the strengths and deficits of the current midwifery curricula with respect to antenatal weight management.

## 2. Methods

### 2.1. Data collection

Twenty-six midwifery courses were identified as scheduled to be taught in 2017 across all Australian universities (Australian Health Practitioner Regulation Agency, 2018). The courses included graduate degrees (N = 15) and post-graduate degrees (N = 11). A total of 568 units (subjects) were identified as being taught within these courses. Course convenors were contacted up to 3 times in an attempt to obtain access to courses.

### 2.2. Procedure

All accredited entry-to-practice midwifery programs in Australia were eligible for inclusion within this study. Exclusion criteria were courses not registered by the Australian Health Practitioner Regulation Agency in 2017 (Australian Health Practitioner Regulation Agency, 2018), and courses for midwives who were already registered. Where course outlines were freely available online, they were downloaded by the researchers. Where course outlines were not available, course convenors for each program were contacted and were asked to provide eligible course outlines for the purposes of the study. Course outlines were de-identified and imported into QSR NVivo Pro 11 (QSR International Pty Ltd, 2010).

Ritchie and Spencer's Framework Analysis (Ritchie and Spencer, 1994; Ritchie, Spencer, & O'Connor, 2003) was employed to develop a priori themes for the coding framework to investigate how, and to what extent, midwifery students were taught lifestyle management before and during pregnancy, weight management advice, and effective behaviour change techniques. Themes for the coding framework were determined through application of the Information Motivation and Behavioural Skills approach which suggests that in order to perform a behaviour (such as implementation of a behaviour change intervention in clinical practice) individuals would need the requisite "information", "motivation" and "behavioural skills" (Fisher et al., 2003). In developing the coding framework we developed domains of knowledge (i.e. information), factors likely to increase motivation (i.e. understanding of risks and/or approval of others) and practical skills (i.e. training in the use of behaviour change techniques).

The Ritchie and Spencer Framework Analysis steps included transcription, familiarisation, coding, developing an analytical framework, application of the analytical framework, mapping and interpretation (Gale et al., 2013). Framework analysis is a pragmatic qualitative analytical approach that is appropriate for real-world settings such as midwifery (Ward et al., 2013). This framework allows for theme-based or case-based analysis, through the use of charts that can be read across for case-based analysis, or downwards to analyse themes (Ward et al., 2013). Using this framework, three a priori themes were developed: 1) the effect of weight, diet and physical activity on health outcomes for

pregnant or who are planning a pregnancy; 2) weight management advice in any population; and 3) health behaviour change techniques in any context. Coding was completed using an iterative method by thoroughly reading each course outline and mapping the data according to the above framework.

Double coding was conducted on 10% of the sample and it was intended that any discrepancies would be discussed between the two coders until consensus was reached; however, there were no discrepancies between the two coders. Once data were coded to the framework themes, a further thematic analysis was undertaken on the content, which was mapped and coded into sub-themes. Although a large portion of the course outlines were not obtained, the data available reached saturation, as demonstrated by repeated themes and closely aligned curricula between university programs.

## 3. Results

A total of 252 course outlines were obtained. Of the course outlines that were not obtained, 92 course outlines were not available due to universities' sharing of information policies and concern for intellectual property, and nil response was received for 224 course outlines. In most cases, information on the three main aspects of interest (the effect of weight, diet and physical activity on pregnancy outcomes; the incorporation of weight management advice for differing populations; and health behaviour change techniques in any context) was apparent in the included course outlines. This information was stated either in stated learning outcomes for each unit or in the description of seminar, lecture, or assessment tasks. The three main themes and their sub-themes will now be described.

### 3.1. Theme 1: the effect of weight, diet, and physical activity on pregnancy outcomes

Content describing the effect of weight, diet and physical activity on pregnancy outcomes was ascertained from curriculum learning outcomes and subject outlines pertaining to health and lifestyle during pregnancy, with a particular focus on how students were being educated about the importance of these factors. Two sub-themes were derived from the analysis of this material: 1) general maternity health education and promotion, and 2) lifestyle and health status during pregnancy.

**Subtheme 1: General maternal health education and health promotion.** The midwifery curricula presented maternal health education by providing information and practical skills, as well as encouragement for the student to critique trends, evidence and research. This subtheme was a prominent content area within the curricula as it included health education as well as health promotion during pregnancy. The importance of holistic assessments during pregnancy alongside tailored care planning was emphasised, as demonstrated in the following example: "to conduct comprehensive and systematic health assessments across the lifespan and communicate the findings to others; and develop, plan and provide person-centred care" (Curriculum F).

In this theme, critical inquiry was emphasised as an important skill for student midwives to develop, as demonstrated in the following example: "critically investigating trends and research to enable you to provide women with valid information that can assist them to make choices for their care" (Curriculum C). Related learning activities regarding communication of health outcomes, included communication of risks and outcomes related to pregnancy, and an emphasis on the importance of relevant, individualised advice, for example; "communication skills for working with women who have complex health needs and who require additional procedures" (Curriculum L).

**Subtheme 2: Lifestyle and health status during pregnancy.** There was a strong emphasis in the midwifery curricula on teaching students about risk identification and assessment, to develop students'

skills in assessing the health status of pregnant women. Case studies were utilised as one mode of applied learning to explore risk factors, public health initiatives, current research and trends in health promotion and disease prevention. A typical example from a unit guide is provided: “Explore the role of the midwife as a health educator in providing advice regarding healthy lifestyle choices during pregnancy” (Curriculum D). Whilst universities differed in their delivery of this content, many course outlines emphasised the importance of the health status of women during pregnancy, and were active in their facilitation of this information.

The importance of the pregnant woman's weight gain, nutrition and physical activity was generally interwoven into education and management of women's health status and other health conditions during pregnancy, without an overt focus on lifestyle factors. General guidance was provided on risk factors such as drug, alcohol and smoking behaviours and balanced nutrition, as well as on health conditions such as obesity, diabetes and cardiovascular disease. There was very little mention of exercise, with only one learning outcome retrieved that referred to exercise education; “Education and preparation for birth and parenting: health promotion resources for childbirth (e.g. nutrition, dental care, physical activity and pelvic floor health)” (Curriculum L).

### 3.2. Theme 2: weight management advice in any population

Only one subject outline from the curricula retrieved made reference to weight management advice explicitly. In this case, students could practice their skills in an applied manner, as depicted in the following excerpt: “In a simulated environment, demonstrate skills in specific aspects of midwifery as public health practice including smoking cessation, limiting weight gain, promotion of breastfeeding and health promotion” (Curriculum H). However, several content areas may have led to skills in communicating weight-related advice or interventions. These content areas included the assessment of a patient's Body Mass Index (BMI) and information on nutrition and its impact on pathophysiology and functioning; for instance, “nutrients, their source, functions, requirements and the needs of special groups” (Curriculum P). Another topic area that potentially taught weight management advice was a mental health subject where students were taught about possible causes of, and interventions for, eating disorders. Although weight management may have been a component in broader health promotion topics, our analysis suggested that there was a lack of specific training related to advising pregnant women on weight management.

### 3.3. Theme 3: health behaviour change in any context

Learning outcomes on health behaviour change addressed health challenges generally, alongside the identification and management of maladaptive health behaviours. Two subthemes were identified during analysis for this theme: 1) using evidence-based strategies, and 2) mental health management.

**Subtheme 1: Using evidence-based strategies.** Midwifery students were encouraged to critically evaluate the available research and evidence and encouraged to use appropriate interventions. Evidence-based strategies were not mentioned in all course outlines, but the importance of a strong evidence-base for interventions was a common thread throughout learning outcomes presented in curricula. Students were asked to consider a variety of sources in planning interventions; for instance, “Using population health studies and national health education campaigns, students will learn how to develop their role as an educator and promote strategies for individuals and communities to work towards prevention of these problems” (Curriculum R). Whilst evidence-based strategies were promoted more broadly, a small number of course outlines recommended behaviour change strategies such as health coaching and motivational interviewing as being effective tools. Of those that made specific mention of motivational interviewing,

approximately one week was spent learning motivational interviewing techniques. This technique was then applied in a discussion of a relevant behaviour during pregnancy such as blood glucose control and insulin administration.

**Subtheme 2: Mental health management.** Mental health management and intervention featured as a subtheme to behaviour change strategies, suggesting an expectation that midwives would conduct therapeutic interventions for patients with mental health and behavioural concerns. One task included a written extended response question regarding “comprehensive assessment and management (including associated pharmacology) of a client with a selected mental health disorder” (Curriculum G). Mental health subjects included education and management of specific disorders and skills that could be used to manage common disorders. One learning outcome required the demonstration of “interventions for women and/or their partners at risk of depression, anxiety and related disorders” (Curriculum M). Therapeutic communication was highlighted as an integral skill for students, such as active listening and a strengths-based approach. Student midwives were also encouraged to collaborate with other care providers.

## 4. Discussion

In the current study, thematic analysis was used to investigate a priori themes on weight management in pregnancy. We found that curricula contained a variety of teaching methods, skills and training exercises on health promotion throughout pregnancy, lifestyle management, and identification of risk factors. Students were taught about evidence-based pregnancy management, including the importance of BMI, weight gain in pregnancy, diet and physical activity on maternal health and pregnancy outcomes using educational tasks, case studies, research tasks and simulated scenarios. The various approaches frequently emphasised the importance of clinical judgement and autonomous clinical practice, in conjunction with critical enquiry and sourcing reputable evidence. The focus of the curricula, however, was mainly on high-risk pregnancies, and less on lifestyle factors and health outcomes for the general population. Further, the curricula was limited in relation to teaching student midwives about management of gestational weight gain, and the use of behavioural change techniques to achieve weight management goals.

Undergraduate and Postgraduate midwifery courses for preparation to practice in Australia are required to be 1) accredited by the Australian Nursing and Midwifery Accreditation Council, and 2) provide comprehensive education for the commencement of a professional career in midwifery and the commensurate responsibilities of the role. Whilst health promotion generally was a prominent focus in midwifery curricula, it is imperative that midwives have a sound understanding of the importance of lifestyle factors for maternal, fetal and infant health outcomes, as well as the skills to communicate and intervene to facilitate behaviour change before pregnancies develop complications. A specific focus on weight management advice and effective behaviour change skills was missing from all but one unit.

Maternal BMI status can have a significant effect on pregnancy outcomes (Heslehurst et al., 2014), and some interventions to lower weight gain during pregnancy have been found to be efficacious (Agha et al., 2014; Rogozińska et al., 2017). Teaching skills in managing weight management and behaviour change to midwifery students would be beneficial. These skills may include advising on diet and physical exercise, alongside weight monitoring and motivational counselling for management of weight, as these aspects have been found to be successful in lowering gestational weight gain (Agha et al., 2014; Walker et al., 2018). The consensus based recommendations in the Clinical Practice Guidelines (Department of Health, 2018) may be a good basis for teaching these skills, as the guidelines recommend that women are given the opportunity to be weighed and encouraged to self-monitor weight gain at each antenatal visit. Further, the guidelines

recommend that health professionals discuss weight change, diet and physical activity at each visit with all women.

This study had some methodological limitations. Firstly, not all Australian midwifery course outlines could be obtained, due to a number of barriers related to intellectual property and/or access to some universities' courses. However, despite sample size limitations in this audit, the content approached saturation as evidenced by repetition of data in the themes. A second limitation was the limited insight into some of the more specific content areas taught, such as lecture outlines, tutorial foci and textbook chapters. This level of detail was not the intended focus of the current study, however more detail would have provided extra information as to how, and to what extent student midwives are taught specific content areas. Future research could identify a specific skill set and investigate the surrounding education, assessment and application for emerging midwives. Finally, dual degree students may have undertaken mental health nursing units, thereby increasing their knowledge of managing behaviour change.

## 5. Conclusion

There is a strong focus on health promotion throughout pregnancy in midwifery training in Australia. Current training includes risk identification and lifestyle management, and there is an emphasis on the importance of clinical judgment and autonomous clinical practice. More guidance, however, is required to effectively skill midwives to address weight gain during pregnancy, and to have a thorough understanding of the behavioural techniques that can be used to limit gestational weight gain where necessary. Specifically, midwives should be confident in advising women on diet and exercise management, weight monitoring and counselling for management of weight during pregnancy. The findings from this study have implications for universities in the development of future midwifery practice curricula.

## Declaration of interest

The authors have nothing to declare.

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