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An audit of antenatal education facilitated by physiotherapists in Western Australian public hospitals

Abstract

This paper reports on the delivery of antenatal education by physiotherapists in Western Australia in 2012, including the location of antenatal education providers, number of mothers attending, qualifications of physiotherapists involved, allocation of physiotherapy hours, the content of the education, and strategies used to enhance learning in the classes. A survey was emailed to the physiotherapists in 31 hospitals with maternity services that were funded by the Department of Health Western Australia. Antenatal education facilitated by a physiotherapist was provided at 25/30 (83.3%) hospitals. Four physiotherapists had postgraduate women's health qualifications and all the antenatal education classes provided information about pelvic floor muscle exercises. There was a wide variation in pelvic floor muscle exercise prescription. Fewer than 50% of first-time mothers who give birth in the public sector have attended physiotherapy facilitated antenatal education classes.

Keywords: Antenatal, education, physiotherapy, pelvic floor muscles, Western Australia.

Introduction

Western Australia (WA) has an area of approximately 2.5 million square kilometres, one-third of the land area of Australia. Health regions for WA are shown in Figure 1¹. Health professionals in WA deliver antenatal education (ANE) in hospitals funded by the Department of Health of Western Australia (DoHWA). In WA, babies are delivered in 31 rural and metropolitan hospitals. In 2010 there were 30,843 deliveries and 13,065 (42.4%) of women were giving birth for the first time².

ANE is a method to inform prospective parents about pregnancy^{3,4} and caring for newborn babies^{5,6}. The principles of health promotion can be used with ANE to positively influence parenting knowledge and maternal self-efficacy^{6,7}. ANE classes are taught with a variety of pedagogical strategies used in adult education such as: ice breakers, problem solving, discussion, and practical activities during the class^{8,9}. These teaching strategies may promote involvement and participation of prospective parents and increase learning^{6,7,10}.

A physiotherapist from New Zealand recently reviewed the evidence pertaining to physiotherapy-related topics commonly taught at ANE and during the perinatal period^{11,12}. This review concluded that there is strong evidence that pelvic floor muscle (PFM) exercises are effective for treating and preventing urinary incontinence. There is also limited evidence that progressive muscle relaxation and breathing may provide benefits during labour and delivery, while an individual exercise programme may reduce back and pelvic pain¹¹.

The prevalence of urinary incontinence during pregnancy or after birth is between six and 67%¹³. The International Continence Society (ICS), The National Institute for Health and Clinical Excellence (NICE) guidelines and other researchers recommend that PFM exercises be taught in the ante- and postnatal periods and state that PFM exercises are the first-line conservative management for urinary incontinence in this situation¹⁴⁻¹⁹. Another recommendation is that physiotherapists who deliver information on continence receive appropriate education and training²⁰.

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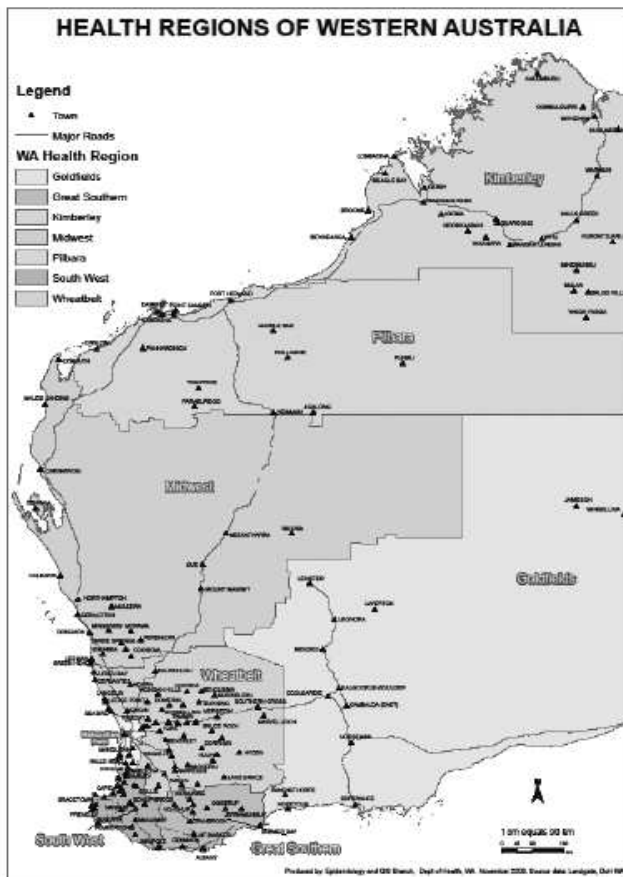
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Competing interest statement

The authors have each declared they have no relevant competing interests

Figure 1: Map of the health service regions of Western Australia¹



Study aims

The purpose of this study was to identify the scope of ANE classes in WA. This included an estimate of the number of pregnant women participating in ANE, the postgraduate qualifications of the physiotherapists facilitating ANE classes, and the allocation of hours to ANE services provided by physiotherapists employed in hospitals funded by DoHWA. Other important research outcomes were to identify the education strategies used to enhance the learning for class participants, topics facilitated by physiotherapists during ANE, and specifically what information was provided to women about PFM exercises.

Methodology

Physiotherapists who facilitated ANE and were employed by DoHWA at all maternity hospitals were invited to take part in the study. A survey of physiotherapists at 31 sites was used to gather data from physiotherapists working in the seven rural health regions of WA and two urban health regions of WA's capital city, Perth, managed by DoHWA¹. Women who attend ANE in these health care settings are mainly between 30 and 40 weeks' gestation.



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Survey design and data collection

The survey questionnaire was mainly based on important topics about ANE as discussed in review papers about physiotherapist-led ANE^{11,12,21}. There were also items about the time and frequency of ANE within DoHWA. Three women’s health physiotherapists who conduct ANE classes reviewed and tested an initial draft survey. Two of the physiotherapists had completed a master’s degree in continence and women’s health. Following feedback, some questions were modified to clarify meaning and the survey format was streamlined to avoid repetition or ambiguity. After a final review from these three physiotherapists, the final survey form consisted of 30 items, which included open and closed questions.

The survey took about 15 minutes to complete. The items measured seven main constructs: location and number of attendees; qualifications of the physiotherapists; allocation of hours the health professional was involved; class content; education strategies used; and PFM education. The survey was emailed using a secure online link to physiotherapy managers working at the 31 public hospitals providing obstetric services in WA.

Results are presented using numbers and proportions responding to each question tabulated using a spreadsheet.

Ethical approval

The study was approved by The University of Notre Dame Australia and DoHWA Human Research Ethics Committees.

Results

Location and number of attendees

Physiotherapists were involved in ANE at 25/30 (83.3%) of the public hospitals throughout WA. One site did not respond, one site did not provide any ANE and four sites in the rural area only provided ANE by midwives. Also in the rural area, three sites provided ANE facilitated by a private physiotherapist due to the unavailability of a physiotherapist employed by the DoHWA.

Twenty-six physiotherapists from 31 health sites completed the online survey. These 26 physiotherapists responded to all 30 items. Five physiotherapists who did not respond to the emailed survey or the reminder emails were contacted by telephone and four provided partial responses to the questionnaire, while one did not respond. The responses suggest that 2,844 women attended ANE classes with physiotherapy input. Data from the DoHWA² indicated that of 13,065 women giving birth for the first time, 7,434 gave birth in public hospitals. Since the ANE classes surveyed did not include ANE classes for women who speak languages other than English (CALD) and the Aboriginal Torres Strait Islanders (ATSI), data for these women were

Table 1: Physiotherapy and midwife contact hours during ANE based on 21 responses

Contact type	Hours of contact: Median (Range)
Physiotherapy	2 (0.5 to 8)
Midwife	6.5 (0 to 12)
Combined physiotherapy and midwife	8 (6 to 15)

excluded from the calculation, which meant that 6015 women who gave birth for the first time in the public sector were eligible to attend ANE classes. Therefore, it is estimated that 47.3% of these women attended ANE.

Qualifications of physiotherapists

Of the physiotherapists who facilitate ANE and responded to the survey, 13/21 (61.9%) reported they had been practising as a physiotherapist for more than nine years. Four out of 21 (19%) physiotherapists reported that they had completed a short course in physiotherapy specialising in continence and women’s health or were completing a postgraduate qualification in continence and women’s health.

Allocation of hours

The time of the week that classes were held varied. Physiotherapists reported that 18/21 (85.7%) held classes during weekday evenings, 6/20 (30%) held classes at weekends, and 5/21 (23.8%) held classes during the weekday working hours. The number of classes conducted per course was between two and six sessions. The total number of participant contact hours with health practitioners delivering the ANE is shown in Table 1. At one site ANE, a total of eight hours, was delivered by a physiotherapist alone.

Class content

Physiotherapy-related topics taught by physiotherapists at ANE are shown in Table 2.

Education strategies

Strategies used by physiotherapists to facilitate learning during ANE are summarised in Table 3. Of the respondents, 19/21 (90.5%) said that PFM exercise practice was done in the classes. No classes conducted a formal evaluation of any potential knowledge gained by the participants.

PFM education

Education on PFM function and exercises were included in every class taught by a physiotherapist. Twelve (57.1%) physiotherapists

Table 2: Content of antenatal education by physiotherapists

Topic	Responses N=22(%)
Antenatal topics	
Pelvic floor muscle — function	22 (100)
Pelvic floor exercises	22 (100)
Functional pelvic floor exercises	21 (95.5)
Back care	21 (95.5)
Posture	21 (95.5)
Back pain	21 (95.5)
TENS* in labour	20 (90.9)
Exercise during pregnancy	19 (86.4)
Pelvic girdle pain	18 (81.8)
Relaxation	18 (81.8)
Pelvic floor muscle dysfunction	18 (81.8)
Labour — positions	16 (72.7)
Perineal massage	15 (68.2)
Urinary incontinence	15 (68.2)
Good bladder habits	14 (63.6)
Constipation	14 (63.6)
Co-contraction — transversus abdominis/pelvic floor	13 (59.1)
Labour — stages	13 (59.1)
Good bowel habits	12 (54.5)
Postnatal topics	
Exercise	18 (81.8)
Urinary incontinence	17 (77.3)
Breast problems	15 (68.2)
Haemorrhoids	11 (50.0)
Prolapse	10 (45.5)
Faecal incontinence	8 (36.4)
Perineal pain	8 (36.4)
Perinatal resources	
Websites	11 (50.0)
Books	2 (9.1)

Note: * Transcutaneous electrical nerve stimulation

recommended a 10-second hold when contracting PFM. Two physiotherapists recommended the women base the time the contraction is held on their ability to hold and then build up to a 10-second hold. The number of recommended repetitions ranged from 30 to 100, including one recommendation that PFM be repeated as often as possible throughout the day.

Table 3: Education strategies during antenatal education by physiotherapists

Strategy	Responses N=21 (%)
Discussion	20 (95.2)
Practise pelvic floor exercises	19 (90.5)
Practise positions for labour	14 (66.7)
Practise back exercises	14 (66.7)
Evaluation form	14 (66.7)
Ice breaker	13 (61.9)
Group activities	13 (61.9)
Props — such as posters	13 (61.9)
PowerPoint	11 (52.4)
Brainstorming	11 (52.4)
Other practical activities	10 (47.6)
Digital versatile disc/video	8 (38.1)
Music	3 (14.3)
Quiz	1 (4.8)
Overheads	1 (4.8)
Evaluate knowledge/strategies gained by participants	0 (0)

Discussion

Physiotherapists facilitate ANE at 25 of 30 public health sites in WA; however, less than half of first-time mothers, who deliver at a DoHWA health site (public health service), are likely to receive PFM education from a physiotherapist. There was considerable variation in the number of hours of ANE delivered and some physiotherapists may have only 30 minutes to give antenatal education on physiotherapy-related topics.

All the respondents reported teaching PFM function. Functional PFM exercises, as recommended by guidelines²², were taught by all but one respondent. There was a large range of reported recommendations for PFM prescription and only about a quarter of recommendations followed guideline recommendations, namely eight to 12 near-maximal contractions, three times per day, holding each contraction for three to 10 seconds^{17,18,22,23}. Four responding physiotherapists had formal postgraduate qualifications in continence and women's health. In retrospect, a weakness of the study was not to ask about informal education, such as, for example: online reading, mentoring, or attendance at a one-off course. An explanation for the wide range of recommendations for PFM exercises may be related to the training which the physiotherapist has received.

Respondents reported that recommended adult education strategies^{6,8,10} were used during ANE. However, there was no evaluation from the pregnant women of the knowledge they gained or strategies learned, which may limit the ability of the physiotherapist to evaluate the ANE class to encompass various learning styles²⁴.

Around 47% of pregnant women delivering for the first time in the public sector attended physiotherapy-facilitated ANE in WA. The extraordinary distances and travel times in the rural areas of WA to access a class may be a reason why people do not attend¹. Consequently, research investigating new methods of delivering PFM education through ANE may be required in WA. E-health platforms are being developed and encouraged, by the Australian Health Informatics Council, with the aim of providing web-based information to improve the effectiveness and efficiency of the health care system and improve health outcomes²⁵. Web-based education is shown to be effective in other areas of health^{26,27}. Delivery of evidence and web-based PFM education programmes may be an alternative method of reaching pregnant women²⁷ who are unable to attend ANE or when ANE by a physiotherapist is unavailable. There would be scope for the web-based PFM programme to have subtitles in languages other than English to cater for women from CALD and ATSI communities. Alternatively, it may be feasible for a physiotherapist to liaise with midwives and provide PFM education during routine antenatal clinic visits.

A limitation of the survey was that private physiotherapists who facilitate classes were not included in the review and there are at least two large private hospitals that provide ANE in WA. Future research should aim to expand this survey to include collecting data from physiotherapists who provide ANE in private settings and to study the provision of ANE through culturally specific services.

Conclusions

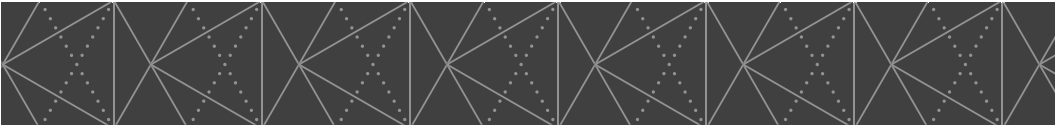
Physiotherapists are involved in many of the ANE classes funded by the DoHWA and a small number have postgraduate qualifications. The hours of ANE, provided by physiotherapists in WA, are variable. The provision of ANE by a private physiotherapist when a DoHWA staff member is unavailable, particularly in rural areas, may allow the continuation of a valuable service, not only in ANE but also in other areas of health. Alternatively, web-based education either in the antenatal clinic waiting room or in the home may be a viable alternative to attendance at ANE classes. All physiotherapists who conduct ANE classes teach PFM function and facilitation but there is limited adherence by physiotherapists to guideline recommendations for PFM exercise. Further research that investigates the access, interest and barriers for training of


physiotherapists in the area of continence and women's health is recommended.

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