

**An investigation into medical practitioners' knowledge of exercise during pregnancy guidelines.**

Journal:	<i>Australian Journal of Rural Health</i>
Manuscript ID	Draft
Manuscript Type:	Short Report
Keywords:	education/training, health and exercise issues, Womens health, rural/remote GP and rural medicine education, professional development for rural health practitioners

## **An investigation into medical practitioners' knowledge of exercise during pregnancy guidelines.**

### **Introduction:**

Increasing physical activity (PA) behaviours among Australian pregnant women is recognised as a national health priority.<sup>1</sup> This priority arises from the well-established link between physical activity during pregnancy and health benefits for both mother and her unborn child. Furthermore, inactivity among pregnant women is linked to increased likelihood of inactive children, which contributes to greater risk of childhood and adulthood morbidity.<sup>1</sup> Despite this, research suggests that less than 35% of Australian pregnant women are sufficiently active to meet exercise during pregnancy guidelines<sup>2</sup> which recommend pregnant women accumulate at least 150 minutes of moderate-vigorous PA per week, consisting of both aerobic and resistance-based activity.<sup>3</sup>

The priority to increase PA among pregnant women is further amplified in rural, regional and remote Australia where pregnant women report lower levels of PA, poorer maternal outcomes, and less access to specialist healthcare services.<sup>4</sup> As a result, medical practitioner's in these communities are often required to provide a wider range of antenatal care services, including the provision of PA advice and counselling.<sup>5</sup> Previous international research suggests that a lack of knowledge of the exercise during pregnancy guidelines among practitioners has contributed to medical practitioner's not actively engaging in PA counselling with pregnant women, and that when advice is provided, it is not always reflective of current evidence-based guidelines.<sup>5</sup> However, little is known about Australian medical practitioner's knowledge of exercise during pregnancy guidelines. Therefore, the aim of this present study was to provide insight into this by exploring the knowledge of PA during pregnancy guidelines among a sample of regionally-based Australian medical practitioner's.

### **Participants, methods & results**

All medical practitioner's practicing in the Rockhampton (Central Queensland) area (n = 80–90) at the time of this study were invited to participate in a short questionnaire investigating their knowledge of PA during pregnancy. Participants were asked to provide their level of agreement (agree, I don't know, disagree) in response to seven statements that

1  
2  
3 mirror current recommendations provided within Australian evidence-based PA during  
4 pregnancy guidelines. Fifty medical practitioner's responded (response rate 55–62%) who  
5 were mostly women (58%), aged 25–34 years (40%), and practicing less than five years  
6 (40%).  
7  
8

9  
10 As shown in Table 1, the majority (90%) of medical practitioner's agreed that PA is  
11 beneficial to the mother, while fewer agreed that PA is beneficial to the baby (70%). Most  
12 agreed that active women (76%) and previously sedentary women (72%) should participate in  
13 PA during pregnancy. Medical practitioner's agreed that pregnant women should participate  
14 in flexibility training (76%) more than aerobic training (48%) and resistance-based training  
15 (22%).  
16  
17  
18  
19

20  
21 Table 1. Overview of medical practitioner's views on PA during pregnancy (n = 50)  
22  
23

#### 24 25 **Comment**

26  
27 While PA during pregnancy is widely recognised as beneficial to the mother and her unborn  
28 child, the present findings suggest medical practitioner's in regional areas may lack  
29 knowledge pertaining to the type of PA that pregnant women should be participating in when  
30 compared to current evidence-based practice guidelines. Specifically, medical practitioner's  
31 in this study reported low levels of agreement to statements recommending pregnant women  
32 participate in aerobic and resistance-based training, yet showed high agreement to flexibility  
33 training. This is despite flexibility training not being recommended during pregnancy due to  
34 an already increased laxity to joints and tendons.<sup>3</sup>  
35  
36  
37  
38  
39

40  
41 Given the significant role that medical practitioner's can play in helping pregnant women to  
42 become more physically active,<sup>4,5</sup> it is recommended that national medical education bodies  
43 provide appropriate training and professional development opportunities to medical  
44 practitioner's regarding the types of PA that pregnant women should be participating in.  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

References

1. Australian Medical Association. AMA Obesity Position Statement. Internet. 2016 [Cited Jan 2017]. Available from: <https://ama.com.au/>
2. Wilkinson S, Miller Y, Watson B. Prevalence of health behaviours in pregnancy at service entry in a Queensland health service district. *Australia New Zealand Journal of Public Health* 2009; **33**: 228-233.
3. Hayman M, Brown W, Ferrar, K *et al.* Sports Medicine Australia Position Statement: Exercise in Pregnancy and the Postpartum Period. Internet. 2016. [Cited Nov 2015]. Available from: <http://sma.org.au>
4. Dobson A, Byles J, Dolja-Gore X *et al.* Rural, remote and regional differences in women's health: Findings from the Australian longitudinal study on women's health. Australian Government Department of Health and Ageing. 2011: 1-134.
5. Joy E, Mottola M, Chambliss H. Integrating exercise is medicine into care of pregnant women. *Current Sports Medicine Reports* 2013; **12**: 245-247.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Table 1. Overview of medical practitioner's views on PA during pregnancy (n = 50)

	Agree	I don't know	Disagree	Chi square comparison
	n (%)	n (%)	n (%)	
1 *PA during pregnancy is associated with health benefits for the Mother	45 (90)	3 (6)	2 (4)	$p=.075$
2 *PA during pregnancy is associated with health benefits for the Baby/Unborn child	35 (70)	14 (28)	1 (2)	$p<.001$
3 *Overall, most active women should be encouraged to continue their regular PA routine during pregnancy	38 (76)	8 (16)	4 (8)	$p<.001$
4 *Overall, a previously sedentary woman, with an uncomplicated pregnancy, should be encouraged to commence PA during pregnancy	36 (72)	10 (20)	4 (8)	$p<.001$
5 *Overall, healthy pregnant women should be encouraged to participate in resistance-based	11 (22)	19 (38)	20 (40)	$p<.001$

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

training

6 \*Overall, healthy pregnant 24 (48) 12 (24) 14 (28) *p*<.001

women should be encouraged to  
participate in an aerobic-training

7 Overall, healthy pregnant women 34 (68) 12 (24) 4 (8) *p*<.001

should be encouraged to  
participate in a flexibility-  
training

---

\* *donates 'agree' is the desired response.*