Response to the letter to the editor regarding our article: “The immediate effects of pelvic compression belt with a textured sacral pad on the sacroiliac function in pregnant women with lumbopelvic pain: A cross-over study”

Bahareh Delshad, Elaheh Zarean, Gillian Yeowell, Ebrahim Sadeghi-Demneh

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A recent letter to the editor has given us the opportunity to elaborate further on the design and findings of our study (Delshad et al., 2020). We would like to thank Dr. Mojtaba Soltani-kermanshahi and colleagues for taking an interest in our article. They commented that the wash-out period was not defined in our cross-over study, and this could have obscured the results of the study with regard to carry-over effects that might have occurred between study conditions. The authors would like to respond to this comment and to clarify some points in our study.

First, we selected a cross-over design in a study in which neither health condition (lumbopelvic pain) or intervention (pelvic compression belt) had a life-threatening risk. This practice follows the recommendations of contemporary epidemiologists for ongoing chronic disorders in which participants may not sustain long-term trials (Senn, 2002). Second, the study hypothesized that compression on the pelvis with a belt would increase the intra-articular compression in the sacroiliac joint to improve lumbopelvic stability. It was considered that all possible effects of the pelvic belt would disappear once the belt was taken off, and the mechanical force was no longer applied to the pelvis. The mechanical effectiveness of the pelvic compression belt on the lumbopelvic stability has been shown with a radiologic study (Mens et al., 1999). Further research has reported that fitting a pelvic compression belt with the force under a critical level (50 N), as used in our study, prevents any adverse effect on the peripheral circulation and allows circulation to the skin and tissues placed underneath the pelvic belt to be maintained at a healthy level (Damen et al., 2002). Third, the fact that we found significant differences between the intervention and control (no belt) conditions suggests that there was a negligible carry-over effect once the pelvic compression belt was removed, and evidence of effects were limited to the period of wearing the belt.

Last but not least, this was a proof-of-concept study following the MRC (Medical Research Council) framework for complex interventions (Craig et al., 2008) to explore the immediate results and possible adverse effects that an intervention might have on the participants. Therefore, this study fulfilled its objective and

showed that using a compression pelvic belt is a feasible and effective intervention to improve pelvis stability in pregnant women with lumbopelvic pain. The authors recognized some limitations in the article that restrict the applicability of the results. Readers should be cautious about interpreting the implications of the study for clinical practice and research until upcoming studies with longer-term investigations confirm the findings of this exploratory study.

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