

Use of compression garments during pregnancy and post-partum: a patient satisfaction survey of SRC Health garments

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Abstract

Introduction

During pregnancy, low back pain and pelvic girdle pain are widespread and some healthcare professionals consider these conditions “normal”. There are also less common but equally debilitating conditions of pregnancy such as vulval varicosity.

After delivery, women often experience ongoing pain and functional issues from both vaginal deliveries and caesarean sections – ongoing low back pain, pelvic girdle pain, vulval varicosities, urinary incontinence and diastasis of the rectus abdominis.

Physical therapies and/or the use of a support belt are typical treatment options. While belts can help to reduce pain, compliance can be poor because of discomfort and poor fit.

Although considerable research has demonstrated the benefits of compression garments for wound management, oedema and other conditions, little research has investigated their use during pregnancy and post-partum.

As part of SRC Health’s ongoing research and development program, two online patient satisfaction surveys (one for the pregnancy garments and one for the recovery garment) were developed with three primary aims: to provide insight into the quality of the garments; to provide preliminary information about potential areas for garment improvement; and to more fully appreciate clinical effectiveness.

Methods

Treating physiotherapists and obstetricians recruited patients for two online patient satisfaction surveys: one for compression shorts or leggings during pregnancy (73 subjects) and one for those using shorts during post-partum recovery (90 subjects).

Results

All 73 (100%) of the women wearing either the pregnancy shorts (55%) or pregnancy leggings (45%) had pregnancy-related conditions, with 59% indicating low back pain, 51% pelvic instability, 26% pelvic joint inflammation, 23% vulval varicosities, 23% sciatica, 14% varicose veins of the upper thigh and 4% indicated “other” conditions. Fifty-

Introduction

Compression garments (CGs) have been used as a therapeutic option for a number of conditions including wound management, oedema, deep vein thrombosis (DVT), varicose veins and to aid sports performance and recovery (MacRae et al., 2011). In general, the therapeutic action of compression is thought to be through the application of mechanical pressure to support or stabilise underlying tissues.

CGs can have positive physiological impacts in DVT management (Ramelet, 2002) and improve healing time of venous leg ulcers (O’Meara et al., 2012). Research has also shown that CGs can help during sports by improving blood flow and oxygenation of muscle and improving joint awareness through proprioception (MacRae et al., 2011).

While physiological conditions such as wound management,

eight per cent (58%) of women reported the garments were very or extremely comfortable, 36% slightly or moderately comfortable and 5% reported the garments were not comfortable at all. Eighty-five per cent (85%) of the women wore the garments between six and 24 hours per day and 84% thought the garments provided adequate compression, 85% reported that the pregnancy garments reduced the discomfort of their pregnancy-related condition and 89% of women reported that they would recommend the garments to other mothers.

Of the women wearing the recovery garment, 46% had a vaginal delivery (38% with stitches), 54% had a caesarean section and 58% reported significant stretching of the abdominal muscles. Eighty-five per cent (85%) of the women found the recovery garment extremely or very comfortable and 15% found the garment moderately comfortable. Eighty-four per cent (84%) reported the garment had adequate support/compression, with 81% reporting adequate support/compression for wounds. Eighty-eight per cent (88%) of women reported the garment was easy to put on, 90% said it was easy to take off, 96% said it was more comfortable to lift, feed and bathe their baby while wearing the garment and 88% found it easier to get in and out of bed wearing the garment. Seventy-three per cent (73%) of women wore the garment for between 11 and 24 hours per day. Almost all women (99%) reported that they would recommend the garments to other mothers.

Conclusion

These surveys demonstrate that SRC Health’s pregnancy and recovery compression garments were comfortable and able to be worn for long periods of time. Respondents overwhelmingly reported that the compression garments improved their symptoms and that they would recommend the garments to other women who are pregnant or in post-partum recovery.

These results are very promising but further controlled trials examining the comparative effectiveness of compression garments for pregnancy and post-partum recovery are encouraged.

oedema, DVT and varicose veins are also experienced by pregnant women and those recovering from giving birth, research and randomised-controlled trials have not been performed to examine the effectiveness of CGs during pregnancy or post-partum, even though CGs might be both cost effective and therapeutic.

The most common conditions experienced by women during pregnancy are low back pain (50–70%), pelvic girdle pain (24–50%) and vulval varicosities. These conditions interfere with everyday activities and are so widespread that some healthcare professionals consider them “normal” (Ho et al., 2009; Wang et al., 2005). Current treatments include physiotherapy, a pelvic support belt, rest and avoidance of activities (Wang et al., 2005). Multi-modal interventions to relieve these conditions are considered the best approach (George et al., 2013; Pennick

et al., 2013; Leung et al., 2005; Ninia et al., 1996).

During post-partum recovery, women experience considerable ongoing pain and functional issues from both vaginal deliveries and caesarean sections. In addition to ongoing low back pain, pelvic girdle pain and vulval varicosities, diastasis of the rectus abdominis (DRA or abdominal muscle separation) is common and requires therapeutic intervention (Opala-Berdzik et al., 2009). Other problems that can continue post-partum for up to 18 months include upper back pain and extreme tiredness. Women who gave birth with a vaginal delivery report genital trauma, perineal pain, sexual problems and urinary incontinence (Brown et al., 1998, Leeman et al., 2009). Lifelong concerns with clinical issues such as urinary incontinence can be the result of abdominal dysfunction. Caesarean section can result in persistent low back pain, severe pelvic girdle syndrome (Bjelland et al., 2013), wound healing problems and pain and risk of DVT from immobility due to major abdominal surgery.

Pelvic support belts are effective in helping with low back pain and pelvic girdle pain (Depledge et al., 2005) by providing support. However, belts tend to have poor compliance because they can cause skin irritation, tend to roll up and buckle during sitting, are difficult to adjust and are difficult to fit to provide adequate back support (Ho et al., 2009).

The functional characteristics of the compression garments used in this current study have been developed through innovation in design and manufacture (patented). A core component of SRC Health's design is to facilitate appropriate muscle activation. This is because it is considered that excessive or inappropriate compression can deactivate muscles resulting in potential adverse effects. The garments are designed for use from 12 weeks to 40 weeks of pregnancy and for use immediately after delivery up to three months post-delivery or until the abdominal muscles are healed.

Results

Patient satisfaction – Pregnancy garments

All 73 (100%) of the women wore either the pregnancy shorts (55%) or pregnancy leggings (45%). The majority of women began wearing the CGs at later stages of their pregnancies, with 47% beginning between 21 and 30 weeks and 47% at more than 30 weeks (Figure 1). Women reported a variety of pregnancy-related conditions, with 59% indicating low back pain, 51% pelvic instability, 26% pelvic joint inflammation, 23% vulval varicosities, 23% sciatica, 14% varicose veins of the upper thigh and 4% indicated "other" conditions (Figure 2). The most common treatment options used by the women were physiotherapy (56%), no treatment (27%) or support belt (21%) (Figure 3).

For comfort level, 58% of women reported the garments were very or extremely comfortable, 36% slightly or moderately comfortable and 5% reported the garments were not comfortable at all (Figure 4).

Eighty-five per cent (85%) of the women wore the garments between six and 16 hours per day, and 84% thought the

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Methods

Two online patient satisfaction surveys were developed on SurveyMonkey: one for women using the compression garments during pregnancy (either SRC Pregnancy Shorts or the SRC Pregnancy Leggings) and one for those using SRC Recovery Shorts during post-partum recovery (Table 1).

Patient recruitment was ongoing and performed by treating physiotherapists and obstetricians. Inducements were not offered to patients for participation. SRC Health supplied the garment and sent the questionnaire to the subjects.

Subjects recruited for the pregnancy garment were all selected because they suffered with pain (one of five conditions) that was not responding to traditional treatment. Patients gave consent and responded to the survey between February and November 2015.

The recovery group were recruited prior to delivery and it was recommended they wear the garments for between 10 and 12 weeks.

Seventy-three women gave consent and responded to the pregnancy survey and 90 responded to the recovery survey. All data was de-identified and provided qualitative information about the use of the garments.

The respondents did not have to answer every question and were able to skip questions. Results from de-identified questions and questions with few responses (for example, very few women gave their age) are not in this report.

garments provided adequate compression, 85% reported that the pregnancy garments reduced the discomfort of their pregnancy-related condition and 89% of women reported that they would recommend the garments to other mothers.

Patient satisfaction – Recovery garments

Of the women wearing the recovery garment, 46% had a vaginal delivery, 54% had a caesarian section and 58% reported significant stretching of the abdominal muscles.

For comfort level, 85% found the recovery garment extremely or very comfortable and 15% found the garment moderately comfortable (Figure 5). Eighty-four per cent (84%) of the women reported the garment had adequate support/compression. In terms of post-partum wounds, 81% reported adequate support/compression for any wounds, 8% reported inadequate support/compression for wounds and 11% reported no post-partum wounds.

The garment was widely reported as easy to use: 88% reported the garment was easy to put on, 90% said it was easy to take off and 96% said it was more comfortable to

lift, feed and bathe their baby while wearing the garment. Seventy-three per cent (73%) of women wore the garment for between 11 and 24 hours per day (Figure 6) and 88% found it easier to get in and out of bed wearing the garment. Nearly all of the women wearing the recovery CG (99%) reported that they would recommend the garments to other mothers.

Discussion

The patient satisfaction feedback shows that in the majority of cases the compression garments worn during pregnancy and post-partum recovery were comfortable and helped to reduce pain and provided physical support for women. Most women found the garments comfortable and wore them for a number of hours each day. An overwhelming majority of women wearing the recovery garment found it more comfortable to perform everyday activities such as lifting, feeding and bathing their babies.

Interestingly, although it has been recommended that compression garments be worn from early in pregnancy when venous distension and increased venous pressure commence (Ramelet, 2002), the majority of women in this survey did

not commence wearing the pregnancy garment until after 21 weeks.

This patient feedback survey is limited by the qualitative nature of the survey and the resultant inability to perform statistical analysis. Nonetheless, the rate of satisfaction was high, with most respondents stating their mobility and everyday life was improved and most stating they would recommend the garment.

With little evidence base for CGs in pregnancy and post-partum recovery, caution in recommending CGs has been suggested for clinicians (MacRae et al., 2011). Furthermore, comparison between CGs will be difficult until international performance standards for garments are agreed upon (O'Meara et al., 2012).

This patient feedback survey indicates that a detailed randomised-controlled trial examining the effectiveness of CGs in reducing prenatal and post-partum pain is highly recommended and urgently needed.

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Table 1: Patient satisfaction survey questions*Pregnancy Questions*

1. What is your name?
2. How old are you?
3. Where do you live?
4. Who was your referring doctor/physiotherapist?
5. At what stage in your pregnancy did you begin to wear the Pregnancy Garment?
6. How many weeks pregnant are you at the time of completing this survey?
7. How many children have you previously had? (Note: Excluding your current pregnancy)
8. In previous pregnancies, did you suffer with...[list of conditions]?
9. In previous pregnancies, did you wear any type of garment/belt to aid you with any of the above conditions?
10. If you answered "Yes" to previous question, how effective was that garment/belt?
11. During your current pregnancy, what conditions are you suffering with?
12. What treatment, besides your SRC garment, do you currently have to help manage your condition(s)?
13. What size garment are you wearing?
14. Which type of SRC garment are you wearing
15. How comfortable is this garment to wear?
16. Do you feel there is adequate compression in this garment?
17. Has this SRC garment reduced the discomfort associated with your conditions?
18. Is the garment easy to get on?
19. Is the garment easy to get off?
20. How many hours per day have you worn this garment?
21. Would you recommend this garment to other mothers?
22. We would appreciate any other comments and feed back that you would like to give.

Recovery Questions

1. What is your name?
2. Who was your referring doctor or physiotherapist?
3. What hospital did you attend?
4. What state/territory do you currently live in?
5. What is your age?
6. How many children have you had, including your current birth?
7. Was this birth...[vaginal or cesaerean]?
8. Do you have significant stretching of your abdominal muscles?
9. What size garment are you wearing?
10. How comfortable is this garment to wear?
11. Do you feel there is adequate support/compression in this garment?
12. Do you feel there is adequate support/compression in this garment for any wound areas?
13. Is the garment easy to get on?
14. Is the garment easy to get off?
15. Is it more comfortable to lift, feed, and bath your baby with this garment on?
16. Do you find it easier getting in and out of bed whilst wearing this garment?
17. How many hours per day have you worn this garment?
18. Would you recommend this garment to other mothers?
19. We would appreciate any other comments and feed back that you would like to give.

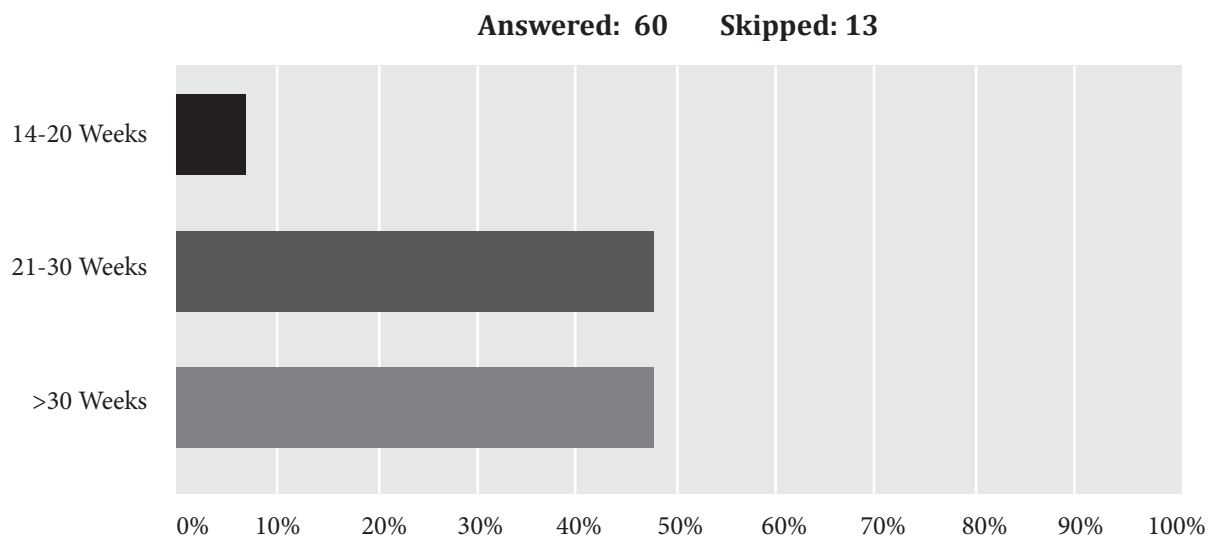
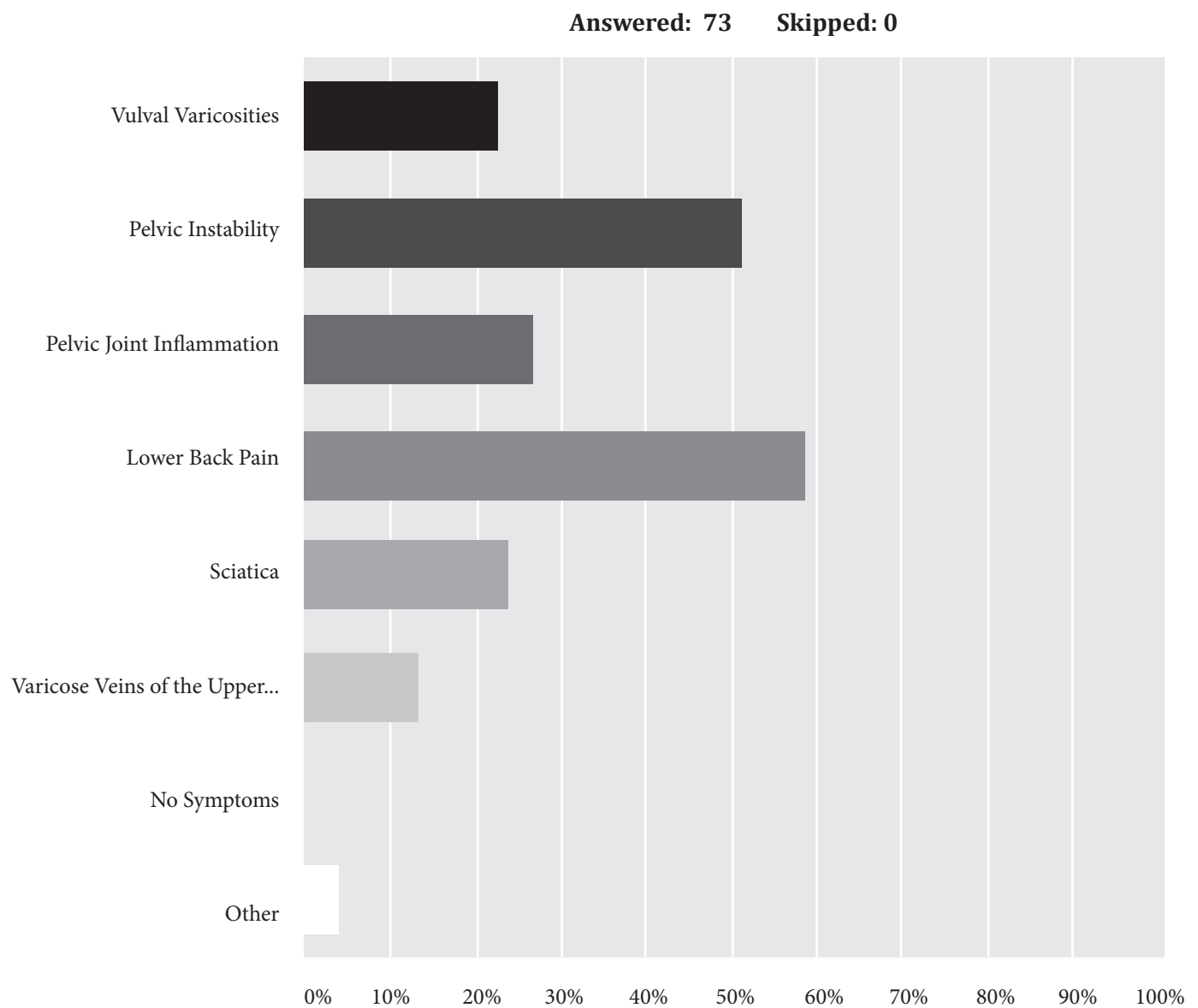
Figure 1: Stage of pregnancy when women began wearing a pregnancy compression garment**Figure 2: Conditions experienced by women during their current pregnancy**

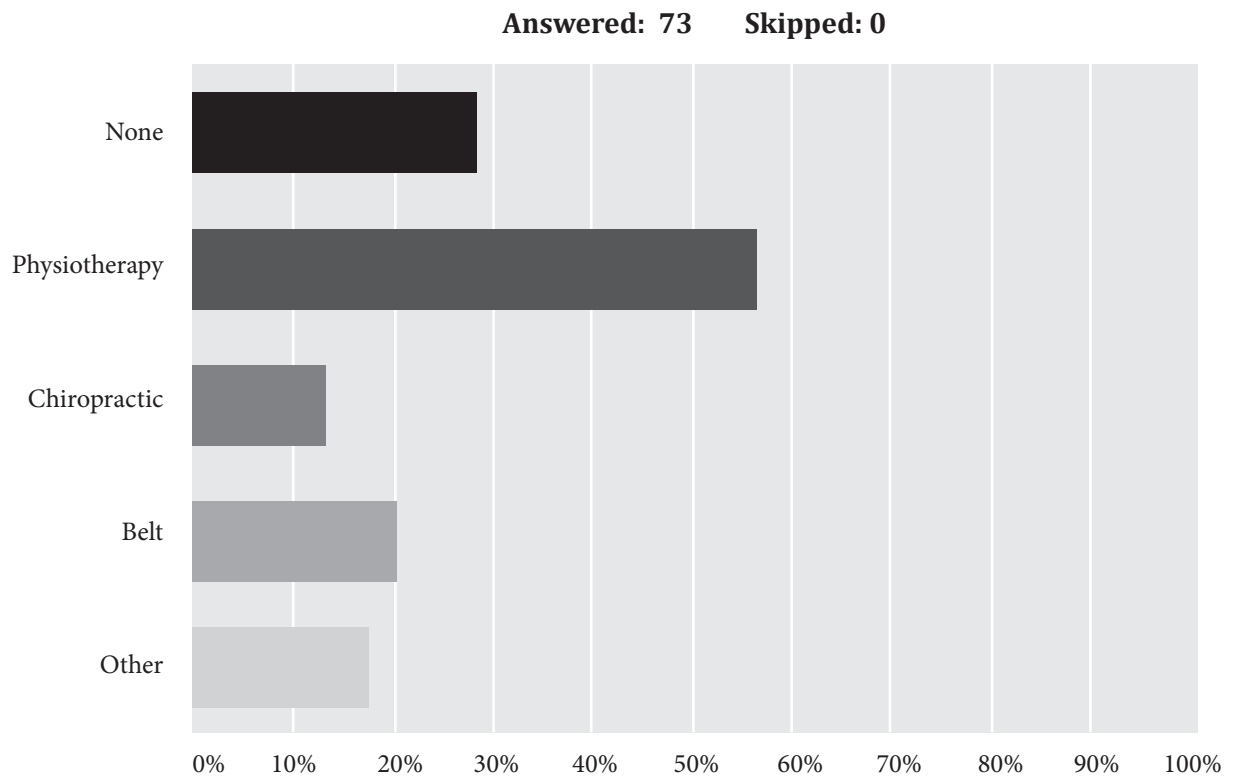
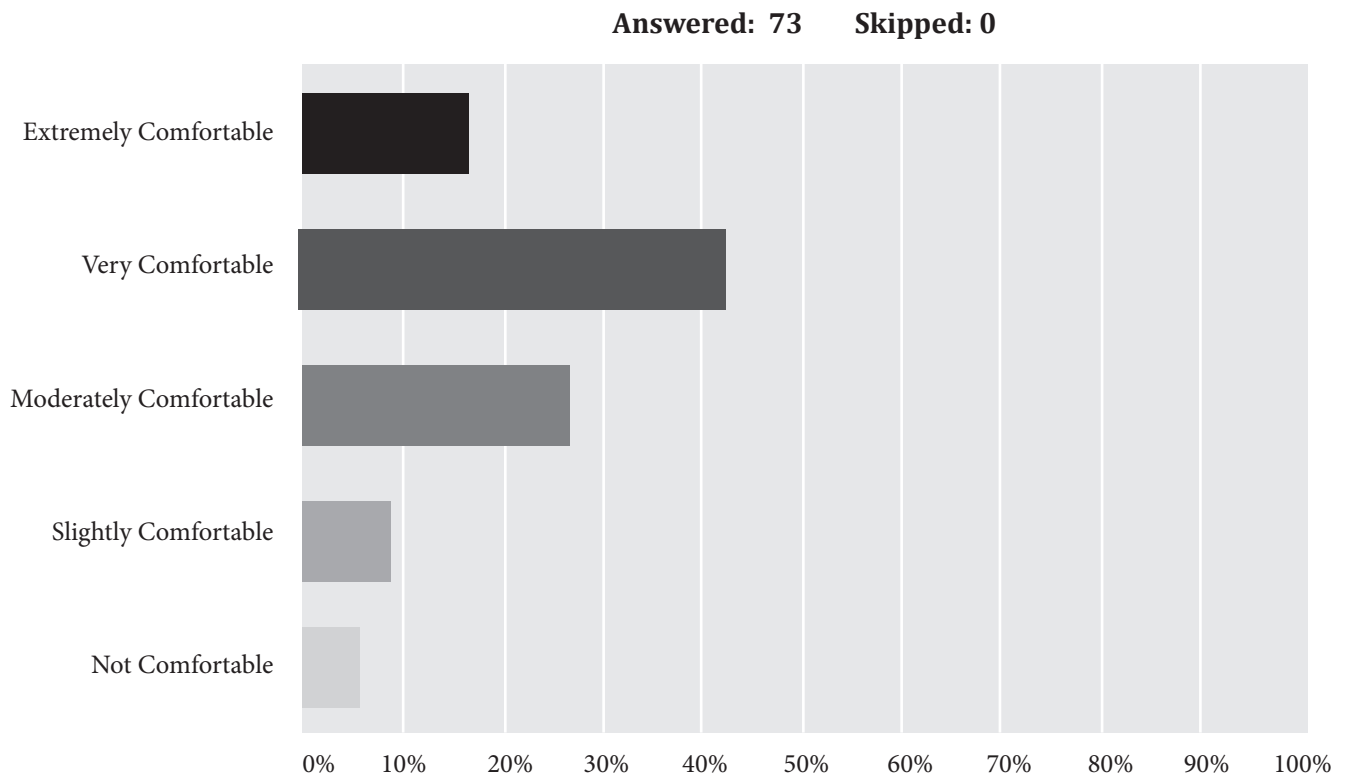
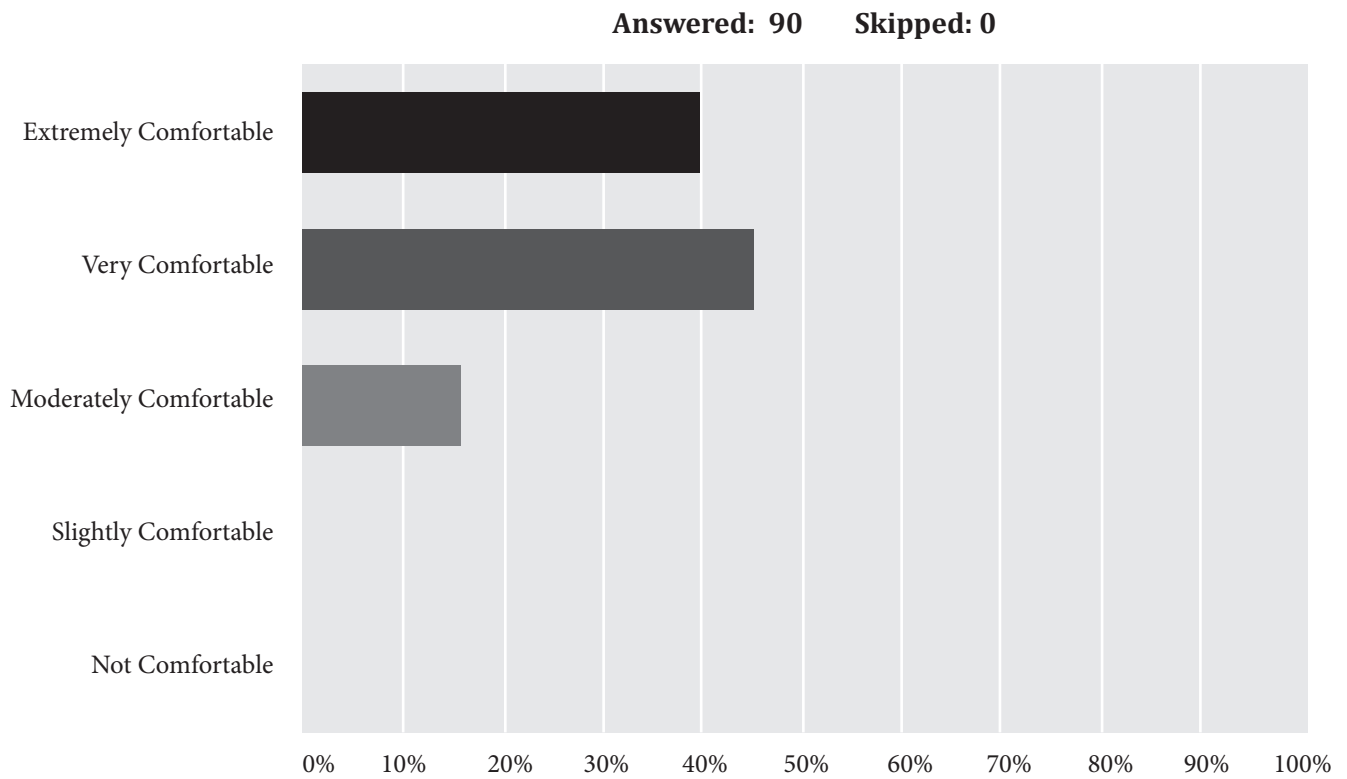
Figure 3: Other treatments used to manage current condition**Figure 4: Comfort level of the pregnancy compression garments**

Figure 5: Comfort level of the recovery compression garment**Figure 6: Hours per day women wear the recovery compression garment**