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Experiences of South African multiparous labouring women using the birthing ball to encourage vaginal births



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ABSTRACT

The article explores the experiences of South African multiparous labouring women on their use of the birthing ball during the first stage of labour. The authors used a qualitative research approach using unstructured audiotaped interviews as the data collection method and data were collected over a period of one calendar month. The sample for the study were women who were six hours to six weeks post-delivery, had at least one child already, used the birthing ball, were on no medication, and had delivered a live infant. The sample consisted of twelve purposively selected participants, two of whom were used for the pilot study. The data analysis method was Data Analysis Spiral. The authors made use of an independent coder to assist with coding the data and three major themes were identified. The results revealed that the labouring women experienced the birthing ball as a useful labour tool, as shortening the labour process and as empowering them during labour

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1. Background to the study

Labour and delivery have long been accepted to be a painful experience. While pain in labour is universal, it is also an individual experience for each woman and therefore perceived differently by each labouring woman (Littleton & Engebretson, 2013:598). The experience of pain in labour is often considered a comforting experience, a bond among women who are in labour and a fundamental truth that confirms the special sense

of achievement (Macdonald & Magill-Cureden, 2011:845). It is the biological role of women and also experiences which affirm the importance of the contribution of women to society. Nevertheless, some women experience pain as a deterrent to vaginal birth and opt for caesarean section deliveries (Boutsikou & Malamitsi-Puchner, 2011:1519). The use of the birthing ball could assist with alleviation of pain and encourage vaginal deliveries. Globally, the rate of caesarean section deliveries is increasing which is a cause of concern to medical doctors and midwives (Gibbons et al., 2010:7).

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The World Health Organization (WHO) states that no region in the world is justified in having a caesarean section rate greater than 10–15%, determined as the number of caesarean section deliveries over the total number of live births (Gunnervik, Sydsjo, Sydsjo, Selling, & Josefsson, 2008:438). Despite this requirement, caesarean section delivery rates have increased dramatically (Gunnervik et al., 2008:438; Lee & Kirkman, 2008:449). In more developed countries, the rate ranges between 6.2% and 36% with an average of 21.1% per total live births, while in less developed countries a variation is recorded between 3.5% and 29.2% with an average of 14.3% (Betran et al., 2007:100). Such high percentages of caesarean section deliveries are of concern.

In South Africa, the increase in caesarean section deliveries has been noted in both public and private health care. The rate in the private sector has increased to up to 70% per total number of live births per year (James, Wibbelink, & Muthige, 2012:406; Keeton, 2010:13). As a result, giving birth surgically in South Africa is often perceived by the public as 'normal' and 'safer' than vaginal delivery (Schlosberg & Templer, 2010:37). Literature indicates that the use of the birthing ball can have a positive effect on the labouring woman and indeed the choice of delivery (Mirzakhani, Hejazinia, Golmakani, Sardar, & Shakeri, 2015). However, there is generally little mention or use of the birthing ball in most South African delivery units especially in the Eastern Cape Province.

2. Problem statement

In the public sector within a specific metropolitan municipality in the Eastern Cape Province doctors perform up to 12 caesarean section deliveries per day and an average of 20 per week. Such statistics are a cause for concern and the use of the birthing ball may act as a counterweight to the trend of rising caesarean section deliveries. The birthing ball is a specialised type of inflatable physical therapy ball that was introduced to South Africa twelve years ago (Perez, 2000:12). The gentle movement of the labouring women on the birthing ball is thought to promote optimal physiological positioning of the pelvis which reduces pain during contractions and the "tightening up" process while in labour (Perez, 2000:21). The use of the birthing ball allows the woman to use positions that encourage activity and pelvic mobility and to shift their weight for comfort. The birthing ball further promotes a desirable upright posture and allows for the relief of pressure and decreased muscle strain (Littleton & Engebretson, 2013:595) and this presumably reduces labour pain. The birthing ball encourages descent of the foetal head into the pelvic brim which is suitable for labour and vaginal birth becomes easier. The outcome of all these movements is a less painful labour of limited duration, which enables the woman to take greater control of her

To share all this information with the labouring woman would be useful; however such communication could also be difficult. The present authors believe that the impact of the birthing ball on labour could be explained through the direct words of the women who have made use of it.

The potential value of the study

The value of the study is two-fold, in that it could benefit the labouring woman and the midwife. The labouring woman who is exposed to the information shared by the participants in this study may be encouraged to make use of the birthing ball during labour, avoid a caesarean section and have a vaginal birth. Thus the labouring woman will make an informed decision, take control of her labour and override the unnecessary option of surgery.

Midwives, on the other hand, acquire in-depth knowledge of the physiological process of labour while using the birthing ball and, in so doing, enhance their approach to the support of labouring women. Midwives are provided with the opportunity to practice the skill of vaginal delivery as well as experiencing the feeling of satisfaction for successfully supervising labour towards a vaginal delivery.

Objective

The objective of the study was to explore and describe the experiences of South African multiparous labouring women using the birthing ball in order to encourage the choice of vaginal births.

5. Research design and methods

The research methodology for this study was qualitative and involved in-depth interviews.

5.1. Research methods

Traditional methods in qualitative research were applied in this study.

5.1.1. Site and entry to the site

The site for conducting the study was a metropolitan municipality in the Eastern Cape Province. The participants were interviewed either in their homes or a in private wards in whichever hospital they delivered. Participants came from a range of socio-economic backgrounds, therefore striking a balance in terms of private and state hospital settings. The ethnicity of the participants ranged from African, White and Coloured and they were all able to converse in English. Entry to the hospital and access to the birth registers followed once the necessary permission from the relevant authorities was obtained.

5.1.2. Population and sampling

The population for this study consisted of women who had delivered vaginally and had used the birthing ball. The women were contacted telephonically if they were discharged already and asked for an appointment to talk about the needed participation. Appointments were made with those who were still in hospital to visit them at home and it was only at home where it was explained about the request for them to be a participant. Hence, none of the gate keepers would know

which of the women participated. Thus, the sample was chosen confidentially and purposively as it consisted of participants who had been intentionally or purposefully selected because they had certain characteristics related to the purpose of the research (Rebar, Gersch, Macnee, & McCabe, 2011:110). Purposive sampling allows the researcher to select participants based on personal judgment about which ones would be the most informative (Polit & Beck, 2012:739), hence the use of specific inclusion criteria.

5.1.3. Inclusion criteria

The inclusion criteria were: the participants had to be multiparous women, have used the birthing ball for at least 60 min during labour, and not used the birthing ball before their current labour and subsequent vaginal delivery. The participants had to be within six hours to six weeks post-delivery. Such a period was proposed in order to meet and interview participants as soon as possible while they could still remember the labour process, while also giving them sufficient time to recover from the birth. In so doing the researcher was sensitive to the ethical requirements of respect and privacy and not imposing on the women. Most importantly, the participants should had to have gone full term, and have had live and healthy babies to avoid causing emotional harm (Parahoo, 2006:112).

5.1.4. Pilot study

A pilot study was conducted to test the suitability of the design and methods, the chosen data collection method and the overall interview question posed to the participants. The pilot study was conducted by one of the researchers using participants from the same municipality and hospital. The pilot study was conducted a week before the main study using the same methods as those of the main study. Two women were purposively selected as the sample for the pilot study. The findings of the pilot study confirmed the feasibility of the main study as there were only minor interviewing skill-related concerns that needed some attention before commencing with the main study.

5.1.5. Data collection methods

Data collection commenced by accessing birth registers to select the suitable participants. To access the birth registers the researchers made use of midwives as gatekeepers (Johl & Rengenathan, 2010:42), but protected the privacy of the participants from the gatekeepers. The birth registers were crucial to access as they contained all the necessary information for sampling purposes. Only selected information such as personal details and contact numbers, physical address and mode of delivery was used for the purposes of the study.

Qualitative research is concerned with in-depth descriptions of people or events thus data are collected through such methods as interviews and participant observation (Nieswiadomy, 2012:46). To acquire the necessary information, the research methods included audio-taped unstructured interviews and field notes. An unstructured interview is free-flowing, with its structure being limited only by the focus of the research. Unstructured interviews are conducted in the manner of a normal conversation, except that they have a

particular purpose (Brink, 2011:152). The question posed to all the participants was: "Tell me, how it was for you when you were using the birthing ball during labour?" Additional probing questions were asked depending on the responses and data needed. There was no set pattern or order for asking additional questions. Some questions were posed differently for different participants in order to enhance clarity but the focus of the questions was similar. The interviews were conducted over a single calendar month and lasted for an average of 30 min each.

5.1.6. Data analysis

Generic qualitative research seeks to identify themes and subthemes from data collected and analysed that explain those perspectives (Merrian, 2009:27). Data saturation was the focus point for determining discontinuation of data collection and thus finalise the sample size (Burns & Grove, 2009:364). Data saturation was the indication for discontinuing data collection and for formally engaging with data analysis using the Data Analysis Spiral method (De Vos, Strydom, Fouché, & Delport, 2005:403).

5.1.7. Trustworthiness

The researcher enhanced the trustworthiness of the present research through the application of Guba's model of trustworthiness as described in Polit and Beck (2012:585). This model emphasises the criteria of credibility, transferability, dependability and confirmability (Polit & Beck, 2012:585). Credibility was achieved through prolonged engagement during interview sessions, provision of a private environment for the interview sessions and allowing participants to tell their own stories. Transferability was achieved through a nominal purposive criterion-based sample, exploration and descriptive approach and continuous data analysis to determine data saturation. Dependability was achieved by means of the use of an independent coder, a full description of design and the methods of the study. Confirmability was achieved by means of using multiple sources for data collection such as field notes and an audio-recorder. An extensive literature control was undertaken to support discussions and statements made.

5.2. Ethical considerations

The ethic considerations that were observed in this study were voluntary participation, no harm, confidentiality, informed consent and the use of an institutional review board. Permission to conduct the research was requested and granted by the local university as well as the healthcare authorities of the Eastern Cape Province and the relevant public and private maternity units.

Potential participants after being identified from the relevant public and private maternity units' delivery registers were approached at least one week before the interviews and were given time to make a decision about participating. The participants were given verbal and written information regarding topic of the study, purpose and data collection methods including the use of the audio-recorder. The participants were informed of the objectives, possible risks and benefits of the study before asking them to sign consent forms (Polit & Beck,

2012:730). All participants voluntarily participated and were informed that they were allowed to withdraw at any time during the research process if they wished to do so. Provision was made for referral to a psychologist should it be needed.

6. Findings and discussion

The objective for the present study was two-fold: to explore and describe the experiences of South African multiparous labouring women using the birthing ball, and to use the findings to encourage the choice of vaginal births. Twelve women with an age range of 29–36 years of age (mean age = 33 years), gestational period range of 37–39 weeks gestational period and a mean gestation period of 38 weeks participated in the study, two of whom were interviewed for the pilot study. The obstetrical profiles of these women are presented in Table 1. Three major themes and several sub-themes were identified. The findings from the analysis of the data are presented in Table 2.

6.1. Theme 1: the participants experienced the birthing ball as a useful labour tool

Historically, vaginal birth was the accepted mode of delivery until the 20th century. Women were delivered at home under the supervision of family members, a traditional birth attendant or a district midwife (Macdonald & Magill-Cureden, 2011:14). Vaginal birth would be celebrated and the woman praised for a successful birth and especially when she started to

Table 1 $-$ Participants obstetrical profile.					
No.	Age	Gravity Parity	Position	Mode of delivery	Gestation
1.	34	G ₂ P ₁	ROA	NVD	38 weeks
2.	29	$G_2 P_1$	LOA	NVD	39 weeks
3.	36	$G_2 P_1$	LOA	NVD	39 weeks
4.	33	$G_2 P_1$	LOA	NVD	38 weeks
5.	31	$G_2 P_1$	ROA	NVD	38 weeks
6.	33	$G_2 P_1$	LOA	NVD	37 weeks
7.	35	$G_2 P_1$	ROA	NVD	39 weeks
8.	36	$G_3 P_2$	ROA	NVD	38 weeks
9.	34	$G_3 P_2$	ROA	NVD	38 weeks
10.	32	$G_2 P_1$	LOA	NVD	38 weeks
11.	29	$G_2 P_1$	LOA	NVD	38 weeks
12.	34	G ₃ P ₂	ROA	NVD	37 weeks

Key: NVD = Normal Vertex Delivery; ROA = Right Occipito Anterior; LOA = Left Occipito Anterior.

breastfeed. At the start of the 20th century hospitalisation took over and the supervision of birth became a medical entity thus affecting both supervision and the mode of delivery (Macdonald & Magill-Cureden, 2011:18). Technology was introduced as a monitoring measure, thus allowing for the diagnosis of cephalo-pelvic disproportion, abnormal lie and position as well as foetal distress. All these diagnoses are related to the decision for performing a caesarean section delivery (Sellers, 2012:483) which has now common place in obstetrics, making vaginal birth an option rather than the main mode of delivery. The voices of the participants provide encouragement for the use of the birthing ball as a tool to encourage the progress of labour and consequently the outcome of a vaginal birth.

6.2. Sub-theme 1.1: participants experienced the birthing ball as a useful labour tool as it relieved their pain and allowed them to relax and be comfortable

In the present study the participants stated that the birthing ball had assisted them to cope with labour pain and they regarded it as an essential tool for coping with on-going contractions and helping them to relax. The sitting position in labour was the most preferred by the participants, hence their eagerness to use the birthing ball. The birthing ball was found to be most useful for the relief of back pain. As Participant 7 expressed it: "...and I thought it was actually quite helpful. If you bounced or moved to the side, it does alleviate the backache because you are able to rotate your hips on it.

Similarly, participants in a study conducted by Kwan, Chan, and Li (2011:62) found it comfortable to use the birthing ball during the labour process. This correlated with the experiences of the participants in this study. For instance, Participant 6 stated that:

"The labour was definitely easier with my second. It didn't seem as painful and using the ball at home the night before was enough to help me cope and I didn't feel like... I didn't even know it was labour until I got to the hospital. I felt quite cheated afterwards. (Laughing) I realized that, when I got there and I was 9 cm dilated that I had been in labour the whole night before thinking that these were just intense Braxton-Hicks. So yes it did help to ease it and make it a lot more manageable."

Participant 4 also responded positively, feeling that:

"The ball started to help me, especially controlling my pain. It really helped me a lot with my pain because I was not focused on the pain. Secondly, it helped me because I did not feel so much in my lower back, because when you lie down it feels like the pain really sits right there and it does not want to go anywhere. It really helped me because I did not feel so much in my lower back..."

Table 2 – Birthing ball experiences of labouring women.				
Theme	Sub-theme			
 The participants experienced the birthing ball as a useful labour tool. The participants experienced the birthing ball as shortening the 	It relieved pain and allowed them to relax and be comfortable It helped to promote mobility during labour It decreased the number of active pushes during delivery			
labour process.	It increased their contractions and resulted in a quicker delivery			
3. The participants experienced the use of the birthing ball as empowering during labour	It introduced an element of fun which decreased their fear and resulted in a more positive labouring experience It allowed them to feel more in control of their labour			

Besides experiencing pain relief, participants also described experiencing the softness of the ball as contributing to an easier labour. In this regard, Participant 4 stated: "...I also figured that it helped me with my lower back because when I stood up I felt like my lower back was really painful and I needed to sit on the ball. It was like a relief, it felt like all the pain went into the ball; it just relieves a lot of my pain." Similarly, Participant 2 stated: "...it felt good to sit on the ball..." Participant 1stated that: "...it was nice and soft", while Participant 5 expressed that "...when they put me on the birthing ball the pain was relieved...it just [was] more bearable..."

The birthing ball seemed to absorb the pain and pressure of participants which resulted in a comfortable position during a very uncomfortable time. It provided support in the perineum and relaxed the muscles of the pelvis and back which also resulted in an easier labour for participants.

6.3. Sub-theme 1.2: participants experienced the birthing ball as helping to promote needed mobility during labour

Participants found the birthing ball to be helpful in maintaining the movement needed to facilitate progress in labour. Congruent with this statement, Perez (2000:19) states that when labouring women use the birthing ball, the muscles of their bodies do not become fatigued so easily. The following responses illustrate these experiences. Participant 4 stated that: "You are only bouncing. ...the stress is off your body, it is more on the focus of the ball, because you are not using muscle tone or anything that I know of. The more pain I had, the more I jumped and I was not stiff after birth." Similarly, Participant 3 verbalised: "I remained active by bouncing, so I felt energetic. And you have a lot more energy when you bounce on the ball all the time."

Based on these participant experiences, the birthing ball appears to be an essential tool to promote mobility during the first stage of labour as it facilitates mobility while allowing the muscles of the women's bodies to relax, which results in less pain being experienced.

6.4. Theme 2: the participants experienced the birthing ball as shortening the labour process

Labouring women with previous birthing experience may expect prolonged pain, difficulty in mobilisation, and prolonged labour and birth, thus influencing their choice of a birthing mode. The use of the birthing ball by the participants modified negative expectations; the labouring women started to enjoy and be in greater control of their labour. Consistent with the more positive experience of the participants was the fact that they did not use pain medication as the labour process was shortened, and labour was more tolerable, a finding that is supported by previous research (Christiaens, Verhaeghe, & Bracke, 2010:278).

6.5. Sub-theme: 2.1 participants experienced the birthing ball as shortening the labour process as it decreased the number of active pushes during delivery

The active pushing stage of labour usually lasts about 50 min in primigravidas and 20 min in multigravidas (Littleton & Engebretson, 2013:464). In this regard, Unzila and Norwitz

(2009:6) advise a safe duration of not more than two hours for the second stage of labour. Participants in this study experienced shorter labour and delivery, consistent with findings in a study conducted by Silva, de Oliveira, da Silva, and Alvarenga (2011, 24:5:656) that found that the birthing ball was responsible for a shortened labour duration as it promoted the descent of the foetal presenting part. In this regard, Participant 3 said: "Also the head moved down quite early on. And the urge to push was there. And I was able to breathe with the contractions. I also did not push for very long, it was just a couple of pushes then he was born." Other related responses were:

Participant 5: "I really think it helped me to quicken my labour. Because with my previous birth... my actually active labour was 20 minutes long, whereas with this birth being under control with my breathing and using the ball I actually had five minutes of active pushing labour. It was just so quick; even I was shocked at how quick it was."

Participant 2: "...and the contractions were quite intense. And then I did the circular motion on the ball ...and then the next round when I had the contraction, I felt that the pushing feeling was there and I said no that is it. And it was just a few pushes and then the head flew out like a ball."

Participant 5: "I was in quite a bit of pain because the baby's head did not want to descend but when they put me on the birthing ball... and I think in about 15 minutes the baby's head was engaged."

Some participants reported that after their first experience of labour they were fearful of pushing for a prolonged time, but with the use of the birthing ball the situation was different as they felt the head move down much more quickly.

6.6. Sub-theme: 2.2 participants experienced the birthing ball as shortening the labour process as it increased their contractions and resulted in a quicker delivery

The intensity of each uterine contraction generally determines the duration of labour (Littleton & Engebretson, 2013:472). For labour to progress properly the primary power of contractions needs to increase accordingly (Littleton & Engebretson, 2013:477). In a study conducted by Kwan et al. (2011:62), labouring women felt a greater intensity and more frequent contractions when using the birthing ball. However, the participants in this study experienced the pain as shortlived. For example, Participant 3 stated:

"They just started, firstly quite far [apart] then got closer. The lady said that it will be good to get into the bath because it is going quite quickly. But I thought not yet, so I bounced around a little more and again it went really, really fast. ... and about half an hour later it was over."

Based on these statements it would seem that the participants who had used the birthing ball felt that using it appeared to have resulted in a faster and less painful labour.

6.7. Theme 3: the participants experienced the use of the birthing ball as empowering during labour

The participants expressed a feeling of empowerment as they had learnt to focus on the birthing ball rather than the pain and, in so doing, they were less able to account for the duration of their pain. Indeed, participants expressed an experience of both a shortened labour and birthing process. While

focusing on the ball the participants were able to obey instructions and have input on some of those instructions, thus making the labour process more tolerable and the relationship with the midwife more positive. It has been established that women tend to bear down with the slightest urge or sensation, despite being discouraged from doing so given the related complications that could occur (Macdonald & Magill-Cureden, 2011:389). In this study, the participants found that they could control such feelings until the birth took over, hence allowing for an incident-free vaginal delivery.

6.8. Sub-theme: 3.1: participants experienced the use of the birthing ball as empowering, and introducing an element of fun which decreased their fear and resulted in a more positive labouring experience

Erwin (2013:138) stated that to ensure a positive labouring experience, one needed to distinguish between pain and suffering to comprehend the role of self-efficacy and coping strategies in the management of pain. Participants in this study felt confident and calm, and as a result could cope better with the labour process. For instance, Participant 4 stated: "I felt that I could really cope... helps with actually being calm and relaxed. I was more in charge of my body... I also think that you have to have a sound mind." Similarly, Participant 7 stated: "I knew I was scared. Because I knew what was coming. And I was trying to stay calm and that is why I used the ball... I said: You need to calm down... otherwise you are not going to get anywhere. I think it is very much a mind thing when it comes to labour. So use the stuff that is there and try to calm yourself down."

Further, Participant 4 experienced her calmness as being beneficial to the unborn baby: "I actually think the birthing ball calms your baby down as well because you being calm, your baby is calm and then there will be fewer complications with your baby." As much as the birthing ball created calmness, it was also fun. For instance, Participant 4 said: "Look at me, my husband did not even know I was in pain. I was having a ball on the ball. I was having so much fun so that's why I would definitely recommend it. I think the ball is very effective."

The experience of empowerment was fulfilling to these women and made them feel that they were in control of the birthing situation as discussed in the next sub-theme.

6.9. Sub-theme: 3.2: participants experienced the use of the birthing ball as empowering as it allowed them to feel in control of their labour

According to Christiaens et al. (2010:268), personal control is one of the main determinants of maternal satisfaction with childbirth. The present participants appear to have been satisfied with the labour experience as evidenced in their dialogue and therefore they may have experienced themselves as being in greater control of their labour and consequently found their labour to be comparably much better than the previous one. Participant 3 stated in this regard: "...and with the last labour I did not feel as in control as this labour. I was more involved and had an active labour with the ball."

As illustrated by the participants, the key element to having a positive birthing experience appears to be the ability to control their labour with regard to the pain relief options that they could use, as well as their own mind-set concerning the labour experience. The birthing ball appears to allow the labouring woman to be in control of her labour. Also, it is clear from the responses of the participants that the birthing ball has the potential to make a vaginal birth less frustrating as there is less pain, shorter labour and provides an opportunity to be empowered.

The secondary objective of the study was to use the experiences of the labouring women as an encouragement for other women to choose vaginal births over caesarean section delivery. Judging from the responses of the participants it is clear that such encouragement is possible. For instance, Participant 9 praised the use of the birthing ball:

"I don't think anyone should even attempt a normal birth without a birthing ball. It is the most wonderful thing. I know, I had it all the time, I would go to the toilet and then I would come back, I want my ball. Where is my ball? I had to be on my ball. I love it (laughs). I had such a positive experience on the ball. It is probably one of the best inventions ever. Who ever thought about it, they are brilliant. After a normal birth, you are so tired but it is that amazing tired, that I think you would feel after running the Comrades [a national marathon race]. That sense of achievement."

Such an endorsement could be used to motivate other labouring women to use the birthing ball and to encourage the choice of a vaginal birth.

6.10. Recommendations

There are several recommendations that could be considered for clinical practice, education and research. The researchers recommend community empowerment by informing labouring women about the birthing ball and its benefits. A convenient platform for such awareness could be antenatal care clinic and labour wards where midwives would talk in person with the women. The use of media, outreach programmes and pamphlets would go a long way in assisting with information sharing. Clinical midwives should discuss and motivate each other to use the birthing ball in their different units.

Doctors, hospital administrators and nursing schools also need to be involved in this change, thus encouraging the vaginal delivery mode and to assist and support the use of the birthing ball. Future research should explore the perceptions of midwives on the use of the birthing ball, and how many women who have used the birthing ball return for another vaginal delivery?

6.11. Limitations

Targeting multiparous women only provided a one-sided opinion as primigravidae might have had different experiences. The pain of these two types of women is said to be different in extent, as the duration of labour is longer in the primigravidae. Interviewing the primigravidae as well may have given an idea of how effective the birthing ball is for all types of labouring women. The study was of a small scale and confined to one area and location. Most of the women (n=7) knew of the birthing ball and were easily convinced to use the ball whereas the rest heard about the ball for the first time.

7. Conclusion and recommendations

7.1. Conclusion

The objectives of the research were met as the participants during the interviews were able to describe the experience of using the birthing ball. If more women choose a vaginal delivery mode, it will assist midwives to enhance their skill of delivery of low risk vaginal deliveries. Such a skill will help to limit referrals of low risk women to the higher level of care that is required in caesarean section deliveries. Thus, the number of caesarean section deliveries should decrease. Further, labouring women both in private and public institutions will make informed decisions concerning delivery mode options, thus becoming more active in decision making processes that affect their care.

The present research was a qualitative study that used an explorative and descriptive contextual approach to collect data using unstructured audio-taped interviews. Three main themes emerged relating to participants' experience of the birthing ball as a useful tool during labour, which shortened the labour process, and which empowered the labouring woman during the labour process. The findings of this research endorse extant research that has found the birthing ball relieves labour pain, shortens the labour process and leads to labouring women being calmer, in greater self-control, and using less or no pain medication.

In conclusion, the present research explored a gap in the extant literature, that of a need to encourage women to opt for a vaginal delivery by explaining the advantages of using a birthing ball. As the findings of the present research are consistent with extant literature, the present study helps to confirm the benefits of the birthing ball to labouring women to choose the vaginal delivery mode.

REFERENCES

- Betran, A. P., Merialdi, M., Lauer, J. A., Bing-Shun, W., Thomas, J., Van Look, P., et al. (2007). Rates of caesarean section: Analysis of global, regional and national estimates. *Paediatric and Perinatal Epidemiology*, 21, 98–113.
- Boutsikou, T., & Malamitsi-Puchner, A. (2011). Caesarean section: Impact on mother and child. Acta Paediatrica, 100, 1518–1522.
- Brink, H. I. (2011). Fundamentals of research: Methodology for health professionals. Cape Town: Juta and Company.
- Burns, N., & Grove, S. K. (2009). The practice of nursing research: Appraisal, synthesis and generation of evidence (6th ed.). Saunders: Elsevier.
- Christiaens, W., Verhaeghe, M., & Bracke, P. (2010). Pain acceptance and personal control in pain relief in two maternity care models: A cross-national comparison of Belgium and the Netherlands. BioMed Central Health Services Research, 10(268), 1–12.

- De Vos, A. S., Strydom, H., Fouché, C. B., & Delport, C. S. L. (2005). Research at grass roots (3rd ed.). Pretoria: Van Schaik Publishers.
- Erwin, E. (2013). Critical incident analysis of the effect of self-efficacy on coping strategies in labour. British Journal of Midwifery, 21(2), 137–141.
- Gibbons, L., Belizan, J. M., Lauer, J. A., Betran, A. P., Merialdi, M., & Althabe, F. (2010). The global numbers and costs of additionally needed and unnecessary caesarean sections performed per year:

 Overuse as a barrier to universal coverage. World Health Report. Background Paper 30.
- Gunnervik, C., Sydsjo, G., Sydsjo, A., Selling, K. E., & Josefsson, A. (2008). Attitudes towards cesarean section in a nationwide sample of obstetricians and gynecologists. Acta Obstetrica et Gynecologica, 87, 438–444.
- James, S., Wibbelink, M., & Muthige, N. (2012). Delivery method choice in the South African private sector. British Journal of Midwifery, 20(6), 406–408.
- Johl, S. K., & Rengenathan, S. (2010). Strategies for gaining access in doing fieldwork: Reflections of two researchers. The Electronic Journal of Business Research Methods, 8(1), 42–50.
- Keeton, C. (2010). Death of the natural birth? Sunday Times, 21 March:13.
- Kwan, W. S. C., Chan, S., & Li, W. (2011). The birthing ball experience: Outcome evaluation of the intrapartum use of the birthing ball. Hong Kong Journal of Gynecology, Obstetrics and Midwifery, 11(1), 59–64.
- Lee, S. M. A., & Kirkman, M. (2008). Disciplinary discourses. Rates of cesarean section explained by medicine, midwifery, and feminism. Health Care for Women International, 29, 448–467.
- Littleton, L., & Engebretson, J. (2013). Maternity nursing care. United States: Delmar Cengage Learning.
- Macdonald, S., & Magill-Cureden, J. (2011). Mayes' midwifery (14th ed.). Edinburgh: Elsevier.
- Merrian, S. B. (2009). Qualitative research: A guide to design and implementation (2nd ed.). San Francisco: Jossey-Bass Publishers.
- Mirzakhani, K., Hejazinia, Z., Golmakani, N., Sardar, M. A., & Shakeri, M. T. (2015). The effect of birth ball exercises during pregnancy on mode of delivery in primiparous women. *Journal of Midwifery and Reproductive Health*, 3(1), 269–275.
- Nieswiadomy, R. M. (2012). Foundations of nursing research (6th ed.). New York: Pearson.
- Parahoo, K. (2006). Nursing research: Principles, process and issues (2nd ed.). Palgrave Macmillan.
- Perez, P. G. (2000). Birth balls: Use of physical therapy balls in maternity care. United States: Cutting Edge Press.
- Polit, D. F., & Beck, C. T. (2012). Nursing research: Generating and assessing evidence for nursing practice. China: Wolters Kluwer/ Lippincott Williams & Wilkins.
- Rebar, C. R., Gersch, C. J., Macnee, C. L., & McCabe, S. (2011).

 Understanding nursing research: Using research in evidenced-based practice (3rd ed.). Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins.
- Schlosberg, S., & Templer, A. (2010). Why a Caesar is not always best. Fit Pregnancy. April/May, 37–39.
- Sellers, P. M. (2012). Sellers' midwifery (2nd ed.). Cape Town: Juta. Silva, L., de Oliveira, S. M. J. V., da Silva, F. M. B., & Alvarenga, M. B. (2011). Using the Swiss ball in labor. Acta Paulista de Enfermagem, 24(5), 656–662.
- Unzila, A. A., & Norwitz, E. R. (2009). Vacuum-assisted vaginal delivery. Yale University: Reviews of Obstetrics and Gynecology, 2(1), 5–17.