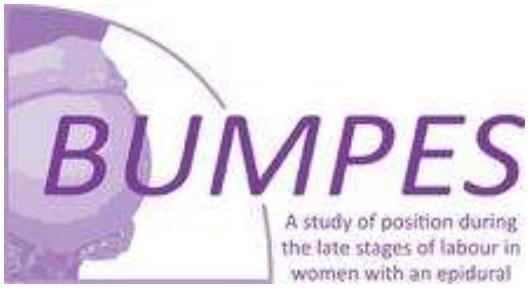
The BUMPES Study

(**B**irth in **U**pright **M**aternal **P**osition versus lying down position, in women with a low-dose **E**pidural, in the **S**econd stage of labour)



Why was the BUMPES study needed?

Epidural analgesia is the most effective form of pain relief in labour and approximately 30% of women in the UK choose to have an epidural each year. However, research studies suggest that epidural analgesia prolongs the second stage of labour (from when the cervix is fully open to when the baby is born) and makes it more likely that women, particularly those having their first baby, will need the help of forceps or ventouse to give birth. This is called an 'instrumental delivery'.

The evidence about the increased chance of needing an instrumental delivery comes mostly from studies carried out some time ago when women had very 'strong' epidurals, which made their legs numb and severely limited their ability to move around. In recent years, epidurals which combine a low-dose anaesthetic with pain-killers have come into use and these have helped reduce the number of women needing an assisted delivery, perhaps because they allow women to be more mobile. Nonetheless, women who have an epidural are still more likely to have forceps or ventouse than women who don't.

Prior to BUMPES, some studies had already looked at whether the position a women was in during the second stage of labour might affect the likelihood of assisted delivery. However, these studies were small or of poor quality and therefore the results were not very reliable.

Therefore, a high-quality study was needed to find out whether women giving birth for the first time who have a low-dose epidural, and are supported to be as upright as possible during the second stage of labour, were more likely to have a vaginal birth without forceps or ventouse than women who have a low-dose epidural but lie down on their side during the second stage of labour.

What kind of study was BUMPES?

BUMPES was a Randomised Controlled Trial (RCT). This is the very best form of study to answer questions about whether a particular behaviour (such as being in a certain position during labour) makes a difference to a particular outcome (such as the chance of having a vaginal birth without forceps or ventouse). In BUMPES, the question asked was whether being in an upright position for the second stage of labour, rather than being in a lying-down position, leads to more vaginal births in women giving birth for the first time who have an epidural.

In an RCT, people are randomly put into two (or more) groups to test a specific drug, treatment or intervention. One group has one intervention and another group has a different intervention or no intervention at all. In the case of BUMPES, one group of women were encouraged to be in an upright

position for the second stage of labour, and the other group were encouraged to lie down on their side. Various measurements (data) are taken and the data are analysed statistically to see whether there are any differences between the two groups. RCTs are very reliable because the people who take part in the study are allocated randomly to different groups. In the case of BUMPES, randomising the women who took part meant that any differences in the number of women having a vaginal birth without forceps or ventouse would be due to their different positions, rather than to any characteristics of the women themselves (such as their age or whether their labour was induced or not).

Who took part in the BUMPES study?

All the women who agreed to take part in the BUMPES study were 16 years or older and expecting their first baby. None of the women were having twins. All the women were giving birth at 37 weeks of pregnancy or more, so their babies were 'term' - that is they were neither premature nor overdue. All of the babies were in the head down position during labour.

How many women took part in the BUMPES study?

There were 3093 women in the study, and 41 UK hospitals took part.

When was the BUMPES study carried out?

The study was carried out between October 2010 and January 2014.

How was the BUMPES study carried out?

As BUMPES was an RCT, women were randomly allocated either to be upright in the second stage of labour, or to lie down on their side. The women could not choose which group they were allocated to, and nor could the midwives looking after them as a computer program did this. If a woman found the position she had been allocated uncomfortable during the second stage of labour, or she needed to be in a certain position for medical procedures, she was free to change her position.

Women who were allocated to an upright position could sit straight up in bed or on a chair, kneel, stand or sometimes, if the woman was able to, walk about. Women who were allocated to a lying-down position could lie on either side, supported by a pillow. The study collected lots of information on women's labours and births, including how long the second stage of labour lasted and whether the baby was born without help or with forceps or ventouse. Other data, such as the baby's APGAR score (a method used to quickly summarise the health of a newborn baby), whether the baby went to the Special Care Unit, whether the woman had a serious tear or other problems following the birth, and how she felt about her birth, both immediately afterwards and a year later, were also collected.

All the data collected were entered onto a computer in such a way that no individual could be identified from the information saved, which was then sent to the BUMPES research team. The researchers analysed the data statistically to see if there were different outcomes for the women who had been in the upright group compared with those in the lying down group, or for their babies.

What were the findings of the BUMPES study?

When all the data from the 3093 women who took part in the study were analysed, it was found that women in the upright group were significantly less likely to have had spontaneous vaginal birth (i.e. births without forceps or ventouse).

Upright group

- 548 women had a vaginal birth without forceps or ventouse. This amounts to 35.2% of all the women allocated to the upright group.

Lying down group

- 632 women had a vaginal birth without forceps or ventouse. This amounts to 41.1% of all the women allocated to the lying down group.

This result is described as significant because statistics tell us that it is very unlikely that the result happened by chance. The likelihood is that the result really was due to the position in which the women gave birth.

There were no differences in women's satisfaction with their care in labour between the two groups. Most women were satisfied with their overall birth experience (between 82% and 85%) and most women were satisfied with the position they were in during the second stage of labour (over 85% in each group). In both groups about a third of women felt they were not able to move as much as they wanted.

Most women were able to remain in the position they were allocated during the second stage of labour. About 75% of women reported that they were "mostly upright" in the upright group and slightly fewer (about 70%) reported that they were mostly "lying down" in the lying down group.

There were no differences between the two groups in terms of the physical and psychological health of the women and their babies, either in the short term or one year later, or other important outcomes such as initiation of breastfeeding.

How will the BUMPES study affect women who have babies in the future?

As there is now clear evidence that women expecting their first babies, who have a low-dose epidural in labour, are more likely to have a vaginal birth without forceps or ventouse if they lie down on their side in the second stage of labour, midwives should now encourage these women to consider using this position if they are comfortable to do so.

The results of the BUMPES study do not mean that women with an epidural should be persuaded against their wishes to use a lying down position in the second stage of labour. Women should always be free to choose whichever position they prefer. However, midwives need to tell women what the research says about different aspects of labour. The BUMPES study is the largest and most recent study that can help women make a choice about their position in the second stage of labour if they have an epidural.

It is important to understand that the results of the BUMPES study do not apply to women having their second or subsequent baby, or to women who do not have an epidural during labour.

The full report of the BUMPES study is published in the British Medical Journal:

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