

# **Midwives' attitudes towards supporting normal labour and birth – a cross-sectional study in south Germany**

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**Objective:** Supporting healthy and normal physiological birth is part of the global maternity care agenda. Rising rates of interventions have been attributed to several factors, including characteristics, attitudes and preferences of childbearing women and their care providers. In this paper, the application of a scale that measures midwives' attitudes towards supporting normal labour and birth is described as well as factors that are associated with favourable attitudes, such as general self-efficacy, years in midwifery practise, and primary practise setting.

**Designs:** In this cross-sectional study an online questionnaire was sent out via e-mail to midwives in two regions of South Germany. The questionnaire contained a validated general self-efficacy scale, a 38-item instrument that measures attitudes towards supporting normal birth among German midwives and questions about midwives' practise experiences and educational preparation.

**Findings:** On average, participants (n = 188) were 39 years old (SD=10.3), and had 12 years of experience caring for women during labour and birth (SD=9.6). Multivariate modelling revealed that higher general self-efficacy, working primarily in out-of-hospital settings and having provided intrapartum care for fewer years were significantly associated with midwives' favourable attitudes towards supporting physiological birth (variance explained  $R^2=29.0\%$ , n=184). General self-efficacy (1.4%) and years of work experience (3.3%) contributed less of the variance in the outcome than work setting (24.5%). Sources of knowledge about normal birth were not significantly associated with the outcome and reduced the overall variance explained by 0.2%.

**Conclusions:** The study has shown that, compared to work setting, the general self-efficacy of German midwives, years providing intrapartum care and sources of knowledge about normal birth had comparatively little impact on their attitude towards supporting normal physiologic birth. Increasing exposure to out-of-hospital birth among German midwives throughout education and practise and fostering the skills and confidence necessary to

support normal birth in hospital settings are important strategies to decrease unnecessary obstetric interventions.

#### Highlights

- German midwives who practised primarily in birth centres or at home scored significantly higher on a scale that measures attitudes towards supporting normal birth. Work setting explained nearly 25% of the variance in scale scores.
- Midwives with higher general self-efficacy scores and midwives with fewer years of experience caring for childbearing women scored significantly higher on the scale, but these variables explained very little variance in scores.
- The findings have implications for expanding practise options for midwives, as one strategy to increase the numbers of normal births in Germany.

Keywords: self-efficacy, normal physiologic birth, support, midwife, birth setting, out of hospital birth

## Introduction

In high resource countries, the numbers of normal births have declined over the past few years, from 80% in 2000 to 73% in the year 2011 (OECD, 2013), while caesarean sections are on the rise. In Germany almost every third baby is delivered via caesarean section (Mikolajczyk et al., 2013). Caesarean sections are associated with short- and long-term risks, such as higher rates of respiratory morbidity of the newborn, a problem that can persist into adulthood (Morrison et al., 2005; Crump et al., 2011). Women who experience a caesarean section also report less optimal mother-baby bonding and are less likely to breastfeed (Chalmers et al., 2010). Women with previous caesarean sections are more likely to experience complications in subsequent pregnancies (Liu et al., 2007; Marshall et al., 2011; Curtin et al., 2015) and caesarean sections are also more costly to the healthcare system, compared to vaginal deliveries (Henderson et al., 2001, OECD, 2013).

Midwives provide women-centred, evidence-based and cost-effective maternity care (Renfrew et al., 2014). Midwifery care is associated with good maternal and newborn health outcomes in low and high resource countries (ten Hoop Bender et al., 2014). Low risk women who are cared for by midwives during pregnancy and birth, compared to women attended by physicians, experience lower rates of interventions and are more likely to give birth vaginally (Janssen et al., 2009; De Jong, 2009; Sandall et al., 2015). In other words, midwives play a central role in supporting normal physiologic birth (ICM, 2010; Fullerton, 2011; Renfrew et al., 2014; Hodnett et al., 2012; Wiklund et al., 2012; Sandall et al., 2015).

One would expect that countries with higher midwifery coverage have a higher proportion of normal births and a lower caesarean section rate. However, in Germany, where the law requires that midwives attend every birth, the caesarean sections rate is comparable to that of other high resource countries, where midwives attend less than 25% of births (Kelleher & Brewin, 2011, Bourgeault, 2014). Many different factors might help explain this phenomenon, including the organisation of maternity care and the characteristics and attitudes of childbearing women and their care providers. The focus of the current study is German midwives' attitudes towards supporting normal birth and associated factors.

Research shows that the personal attitudes of maternity care providers are associated with the way they practise and the options they present to women in their care

(Vedam et al., 2009, McGurgan et al., 2001). For example, women who are eligible for a vaginal birth after caesarean (VBAC) are more likely to have a successful VBAC if they are under the care of obstetricians who have less trait anxiety and better coping skills (Yee et al., 2015). Similarly, the attitudes of German midwives towards supporting normal birth might be associated with their sense of self-efficacy, i.e. their trust in their ability to manage difficult situations (Bandura, 1977). No studies to date have examined this link, but there is evidence to suggest a significant association between health professionals' behaviour (e.g. communication and time management) and self-efficacy (Lim et al., 2004; Manojlovich, 2005). Midwives' educational and practise experiences might also be associated with their attitudes towards normal birth. Vedam and colleagues (2009) found that exposure to home birth during midwifery training and practise was associated with significantly higher scores on a scale that measured certified nurse midwives' favourable attitudes towards planned home birth. Finally, midwives with less work experience might be less confident in their skills and support normal birth less. Other studies have shown a link between years of clinical experience and care provider attitudes and behaviours (Verhaeghe et al., 2015, Vedam et al., 2014a).

The purpose of the current study was to assess factors that might be associated with German midwives' attitudes towards normal birth. More specifically, we examined the association between midwives' attitudes towards supporting normal birth and their self-efficacy, years caring for childbearing women, sources of knowledge acquisition about normal birth and primary work setting.

## **Methods**

In this cross-sectional study an online questionnaire was sent out via e-mail to midwives in two regions of Germany (Baden-Wuerttemberg and Bavaria) at the end of November 2014. A reminder was sent out at the end of December 2014. Data were collected between November 24<sup>th</sup> 2014 and January 3<sup>rd</sup> 2015. A sample size of 111 was deemed adequate, to derive results with an effect size of 0.3,  $\alpha=0.05$  and  $\beta=0.95$ . The survey included questions about socio-demographics, sources of knowledge about normal birth and questions related to midwifery practise (such as years in practise and primary practise setting). Ten validated four-point Likert questions to assess general self-efficacy (Schwarzer and Jerusalem, 1995, 1999, 2014) were also included in the survey (Sample Item: "I am

confident that I could deal efficiently with unexpected events”). This tool has been used in 23 countries, including Germany (Schwarzer and Jerusalem, 1999).

#### *Development of the ‘Attitudes towards Supporting Normal Birth Scale’*

To assess midwives’ attitudes towards supporting normal birth, a new measure was developed. The initial pool of items included 61 items (Zinsser, 2015). The items were informed by scientific evidence on normal birth (Alfirevic et al., 2006; Kennedy et al., 2006; Davis, 2010; Sharts-Hopko, 2010; Gau et al., 2011; Hodnett et al., 2011; ACOG, 2014). Specifically, items were included that describe midwifery practises that are known to be associated with higher rates of normal birth (see selected sample items in Table 1). For the purpose of this study, normal birth was defined as the birth of a singleton in the vertex presentation between 37 and 42 weeks of gestation and excluded medical induction of labour, centrally acting analgesia or epidural analgesia, episiotomy, forceps, vacuum delivery or caesarean section (WHO, 1996; RCM, 2007; Petersen et al., 2013).

Midwives were asked to rate their level of agreement with each item on a six point Likert scale. Higher scores indicated more positive attitudes towards supporting normal birth. Prior to pilot testing of the survey, the items were reviewed by five midwives who had special expertise in communication skills. This helped to ensure clarity, pertinence, readability and the meaningful order of items in the survey. Next, the survey was pilot tested with 32 midwives (living outside of the target regions of Baden- Wuerttemberg and Bavaria). The survey was finalised with the help of feedback from the 32 midwives who had pilot tested the survey, and a final review of the items by the five midwives.

The internal consistency reliability of the scale was assessed via Cronbach’s Alpha. Although the internal consistency reliability of the 61-item version of the scale was adequate ( $\alpha=0.88$ ), we opted to only include items with corrected item-to-total correlations that exceeded 0.3 (i.e. 38 items). Using this cut off score ensures that items measure one latent construct, makes the scale faster to administer in the future and increased the internal consistency reliability to 0.90. The reliability for the general self-efficacy scale was  $\alpha=0.78$ .

#### *Statistical analysis*

Percentages and means were calculated to describe the sample. Midwives’ general self-efficacy scores, age, years working as a midwife, years providing intrapartum care,

knowledge acquisition about normal birth (midwifery education, continuing education, both or none; scores ranged from 0-2) and midwives' primary work setting (out-of-hospital, hospital, no intrapartum care; response options were dummy-coded, with hospital as the reference category) were considered as independent variables in a linear regression model. Because of high collinearity between three independent variables (age, years working as a midwife, years providing intrapartum care), only one of these three independent variables was retained in the linear regression model (years providing intrapartum care). Independent variables were entered into the same model, but in separate blocks, to examine the percentage of variance contributed by each independent variable. The outcome variable was the mean score on the '*Attitudes towards Supporting Normal Birth Scale*'. SPSS version 22 was used for all analyses. The study was approved by the ethics committee at Hannover Medical School (6.10.14; Nr. 2427-2014).

## Results

Responses from 205 midwives were received; 17 were excluded (10 midwifery students and 7 midwives living outside the target regions), for a final sample size of 188. The mean age of participants was 39.4 years (SD=10.25, range: 22 -73). Midwives had practised on average 14.9 years (SD=10.45, range: 1-47), and spent on average 11.8 years (SD=9.62, range: 1 -44) providing intrapartum care. Eighty midwives (42.6%) reported working mainly in a hospital, 80 (42.6%) midwives provided antenatal and postnatal care but did not attend births and 24 midwives (12.8%) reported that they mainly worked in a birth centre or as a homebirth midwife; 4 (2.1%) midwives were mainly teachers in midwifery. Most respondents (n=147; 78.2%) believe that midwives support normal birth, 97.3% (n=183) reported that they personally support normal birth and 91.5% (n=172) believed that midwives should support normal birth more. When asked how midwives learned about normal physiological birth – with the option of multiple answers - 90.4% (n=170) ticked the box "I learned about physiological birth during midwifery education". Continuing professional education was reported by 50.5% (n=95) of midwives and 22.3% (n=42) of midwives checked other sources of knowledge acquisition about normal physiological birth (colleagues; work shadowing in out-of-hospital-births settings; academic literature;

miscellaneous sources, such as their own birth); 2.1% (n=4) stated no education on the topic of physiological birth.

Midwives scored an average of 30.28 points (SD=3.29, range= 20 - 40) on the general self-efficacy scale. The mean score of the 38-items *Attitudes towards supporting normal birth Scale* was 186.78 (SD=20.87, range: 127 - 226). Scores were normally distributed.

Most of the differences in attitudes towards supporting normal birth (24.5%) were accounted for by work setting. Midwives who worked primarily in homes or birth centres and those who did not provide intrapartum care both had significantly higher scores on the scale, compared to midwives who worked primarily in hospitals (Table 2). Midwives with fewer years in practise had significantly higher scores, indicating more favourable attitudes towards supporting normal birth among less experienced midwives. Years in practise accounted for an additional 3.3% of the variance in the outcome. Midwives with higher self-efficacy scores had significantly higher scores on the scale. By adding self-efficacy to the model, an additional 1.4% of variance in the outcome could be explained. Finally, sources of knowledge about normal birth were not significantly associated with midwives' attitudes towards supporting normal birth and including this variable in the model slightly reduced the explanatory power of the model. Overall, the independent variables explained 29% of differences in attitude scores.

## **Discussion**

Results from this study show consensus among participants that German midwives should do more to support normal physiologic birth. Work setting, years in practise and general self-efficacy were all significantly associated with attitudes towards supporting physiological birth. Working primarily in out-of-hospital settings was most strongly associated with the outcome and contributed most of the variance in scores. These findings are not surprising, given that midwives who practise primarily in out-of-hospital settings have more exposure to normal physiologic birth. In addition, midwives likely choose out-of-hospital practise settings because the medicalized hospital culture constrains their ability to practise autonomously and support women in achieving a normal birth (O'Connell & Downe, 2009). Midwives who work in hospital settings report that time pressure (resulting in early interventions), and excessive risk management strategies challenge their ability to 'hold the

space' for women and support normal physiological birth (Carolan -Olah et al., 2015; Seibold et al., 2010).

Midwives' mean self-efficacy scores were higher, compared to the average score from a representative sample of Germans aged 14-95 years (Schumacher et al., 2001). Higher self-efficacy scores among midwives (compared to the general population) are to be expected, given midwives' level of professional responsibility. Midwives with a stronger belief in their capacity to manage difficult situations had significantly higher scores on the *Attitudes towards promoting normal birth Scale*. Other researchers have documented midwives' attributes that are linked to the promotion of normal birth, such as experience with strategies to support physiologic birth (e.g. psychological support, non-pharmacological pain relief), confidence in their skills and determination to resist mainstream practise (Carolan –Olah et al., 2015).

Contrary to our initial assumption, midwives who had provided intrapartum care for more years scored lower on the scale. In line with the findings from the current study, Vedam et al. (2009) found that younger age was associated with more positive attitudes towards planned home birth among American certified nurse midwives. One explanation for these results might be differences in the way younger versus older midwives were educated about normal birth. Research points to more work commitment among staff with less work experience (Sinni, 2014). In line with these findings, less experienced midwives might be more motivated than more experienced midwives, who might feel demotivated through policies and restrictions placed upon their autonomy (Meng and Ma, 2015; Pollard, 2003). Generational differences might also explain variations in attitudes towards supporting normal birth among German midwives. Generation Y is more motivated by contributing to society, "helping others" and making a difference, when choosing a career path. For generation X the focus is more on "working to live" (Alexander, 2016; Fenzel, 2013).

Our findings highlight the need for more exposure to home and birth centre births, e.g. longer internships in birth centres or more exposure to homebirth during midwifery education and practise. This might prove challenging as insurance premiums for German midwives who practise in out-of hospital setting were recently increased and liability insurance to protect midwives who attend births at home or in birthing centres will remain a challenging issue (DHV, 2015). While German midwives who are practising in out-of hospital settings are still able to obtain liability insurance, German insurance companies are

proposing new changes that would limit women's choice of birth place. For instance, German women who are past their due date and are planning an out-of hospital birth must get the permission of a physician first. Women without permission must pay out of pocket for their medical expenses. Such proposed changes limit women's choices, are not evidence based and seriously restrict midwives' scope of practise (DHV, 2015).

Attitudes towards supporting normal birth were not linked to learning about normal birth, through midwifery education or continuing professional training. These findings are contrary to other studies that found a significant association between educational exposure of maternity care providers and their attitudes about birth (Vedam et al., 2014a; Vedam et al., 2014b). Although sources of knowledge about normal birth were not associated with midwives' attitudes, a theoretical focus on normal physiologic birth and how to support physiologic birth must become a key aspect of German midwifery education. We also suggest that workshops should be offered for midwives on the topic of supporting normal birth in hospital settings. This will help midwives to gain more knowledge and could lead to significant changes in the way they support women during labour and birth (Russell et al., 2013).

Australian midwives reported that a primary facilitator of physiologic birth at the hospital was the level of support they received from other midwives and staff (Carolan -Olah et al., 2015). Senior midwives play central roles in shaping team behaviours and attitudes that may affect the safety and quality of service delivery. We suggest that strategies targeting senior staff to enhance their performance in their roles, particularly when training junior staff and role-modelling teamwork are important for the development and maintenance of a high quality and safe maternity service (Sinni, 2014).

One limitation of the current study is that no response rate could be calculated, because data privacy regulations prohibit disclosure of the number of midwives who were invited to participate in the survey. In addition, we received more responses from midwives who practise primarily in out-of hospital settings than would be expected if the sample was representative of the population of midwives who practise in Baden-Wuerttemberg and Bavaria. This limits the generalisability of findings. Finally, the cross-sectional design of the study prevents determination of cause and effect relationships. For example, we do not know if positive attitudes towards promoting normal birth caused midwives to practise in

out-of hospital settings or if working in these settings led to more positive attitudes towards promoting normal birth. Nevertheless, the findings contribute important information, i.e. self-efficacy plays a minor part in supporting physiological birth, compared to the work setting of German midwives.

### **Conclusion**

The study has shown that the general self-efficacy of German midwives, years providing intrapartum care and sources of knowledge about normal birth had comparatively little impact on their attitude towards supporting normal birth. The primary work setting was the most important factor. To increase the number of normal births in Germany, eligible women should have the option to give birth at home or in birthing centres, without having to pay out of pocket and without imposition of regulations by insurers that are not evidence based and restrict the scope of practise of midwives. Senior midwives should be offered additional training, to teach junior staff how to develop the clinical and personal skills necessary to support normal physiologic birth in the hospital setting.

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**Table 1: Selected sample items: attitude towards promoting normal birthscale.**

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In my opinion, childbearing women should not be disturbed by interventions.  
It is important to me to provide 1:1 support to women.  
I think that normal birth is disrupted by use of pharmacological pain relief.  
I think that a woman's inability to move when she wants affects the birth process.  
I try to monitor the fetal heart intermittently rather than continuously.  
I try to keep the membranes intact as long as possible.  
I encourage the woman to choose her own birth position.  
I favour an upright birth position.  
In my opinion, a second stage that lasts more than 2 hours can be normal.  
I try to clamp and cut the cord as soon as the umbilical cord stops pulsating.

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Sample items were informally translated from German into English; a formal forward backward translation should be undertaken before administering the scale to an English speaking sample.

**Table 2: Linear regression model to assess relationship between attitudes towards promoting normal birth and independent variables (n=184).**

	<i>B</i>	<i>SE</i>	<i>P</i>	<i>Adjusted R<sup>2</sup></i>
Block 1 Work setting: Out of hospital (ref: work setting hospital)	0.87	0.11	< 0.001	0.245
No intrapartum care (ref: work setting: hospital)	0.24	0.07	< 0.001	
Block 2 Years providing intrapartum care	-0.012	0.004	0.001	0.278
Block 3 General self-efficacy	0.023	0.001	0.038	0.292
Block 4 Sources of knowledge about normal birth	0.05	0.06	0.447	0.290