Mueller and Grylka-Baeschlin
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The application of a tool for supporting shared decision making in primiparous women during early labour – a descriptive survey of obstetric health care professionals' opinion

Antonia N. Mueller[1] and Susanne Grylka-Baeschlin[1*]

Abstract

Background Interventions in maternity health care settings often need to be studied within everyday clinical work and with the contributions of the staff. Therefore, the health care workers on-site play an important role for research success. This explains why it is necessary not only to focus on the outcomes of the research project itself, but also to study the whole process.

Objective This study aimed to evaluate maternity care providers' satisfaction with the use of a preliminary long version of a standardised tool for supporting shared decision making in women during early labour.

Methods A cross-sectional survey was distributed to $n=607$ maternity care professionals working in the study sites which applied a tool to support shared decision making in primiparous women in early labour. The data was collected using RedCap®. It was analysed descriptively, and logistic regression modelling was applied to find associations between the application of the tool and care as well as work organisation.

Results A total of 110 health care professionals answered the online survey including 95 (86.4%) midwives and 15 (15.3%) obstetricians. $N=36$ (43.9%) midwives stated that they found the tool helpful in the provision of care, whereas 46 (56.1%) did not agree. There was great dissatisfaction with the length of the preliminary tool. The tool adversely impacted the timely management of early labour care. Midwives with greater work experience (OR 0.82, $p=0.02$) and a higher workload (OR 0.97, 0.02) were less likely to agree that the tool facilitates their work organisation. Additionally, midwives with more work experience (OR 0.86) and a higher workload (OR 0.96) found the tool less likely to be useful for care provision. The implementation of the tool was challenging for many midwives (40.2%) and some feel their competencies are threatened by the tool (20.7%).

Conclusions The involvement of maternity care providers in research is crucial for the success of projects, but they face challenges. Implementing a preliminary tool in clinical practice led to dissatisfaction mainly due to lack of time and partial understanding of its purpose. Providing adequate training and supportive leadership can help improve their understanding and satisfaction.

Keywords Health care professionals, Research process, Research involvement, Maternity care, Health care interventions

*Correspondence:
Susanne Grylka-Baeschlin
susanne.grylka@zhaw.ch
Full list of author information is available at the end of the article

Background

Evidence-based practice in health care is essential for optimal patient care [1]. This explains the necessity of research on interventions in health care services to understand health related consequences [1, 2]. However, in order to clarify the reasons for unexpected intervention failures or unforeseen consequences it is also important not only to focus on the primary outcome of the study, but also to give equal attention to the study processes [2].

Researchers often rely on on-site staff for recruitment of potential study participants or for the implementation of an intervention being tested [3, 4]. However, several aspects facilitate or hinder care providers' involvement in research [1, 3, 4]. A positive research culture within the institution is crucial for an optimal study process [1, 3]. In contrast, an overload of many simultaneously running research projects can be overwhelming for the staff on-site since the heavy workload of health care providers leaves hardly enough time to engage with the research process [4]. This explains why one major barrier to facilitating research seems to be the lack of time [1, 4]. Additional organisational support is therefore needed [4]. Also, the personal attitude impacts the success of the study process. This means that health care providers feel animated to participate if they understand the value that the study brings to practice. However, there was some hesitancy whenever it was feared that maternity care providers would put a patient or client at risk if they were asked to participate in the study [1, 4]. Also, some health care providers stated conflicts with their role as a clinician. Daly et al. [4] explained, that some maternity care providers did not feel competent enough to be involved in the study process. Also here, good training and possible rewards could work as facilitators for the research process [1, 3, 4].

Context

The current literature has shown that the management of the latent phase of labour, also referred to as early labour, has its pitfalls [5]. There is an existing gap on consensus regarding its diagnosis which not only leads to diverse management strategies [6, 7], but might also jeopardise a positive birth experience for women and their partners [8]. Many childbearing women face the challenge of recognising labour onset on their own and seek professional help [5]. Yet, due to several factors, health care professionals support the recommendation that women should stay at home during the latent phase of labour. Firstly, women with hospital admission early in labour often undergo a cascade of medically unjustified interventions which possibly lead to negative birth outcomes such as caesarean section or admission of the infant to a neonatal intensive care unit [9, 10]. Secondly, institutional resources such as staffing, work load of midwives or clinical policies affect the decision of a childbearing women's hospital admission during the latent phase of labour [7, 11]. This leads to the risk that women and their partners lack professional support during such a vulnerable phase of childbirth, leaving them frustrated and often unsatisfied with the care [5, 12]. Such cases are not only unsatisfactory for women, but also for midwives and clinicians themselves [11]. As described by Eri et al. [13], midwives often dislike sending couples home as they acknowledge that they need a different form of care. Yet, institutional pressures leave them to decide otherwise [11, 13].

The existing need in improved early labour services has led to various measures such as telephone triage, home visits [7], or the use of early labour lounges where women in early labour are admitted to the hospital, but only transferred to the birth unit in established labour [14]. A standardised procedure in managing early labour has currently been realised [15]. Within the GebStart study, a tool has been developed to provide evidence-based and structured advice to primiparous women to determine if hospital admission should be considered.

Intervention description

The preliminary version of the standardised GebStart-tool consisted of 32 items that aim to evaluate women's support needs during early labour. These items assessed physical and emotional symptoms, coping strategies and resources of primiparous women with diverse response categories, all of which were individually scaled. At the onset of labour, women contacted the hospital mainly by telephone. The midwife in charge assessed the situation by asking all items of the tool. Subsequently, a summarised score of the items led to one of the following decision options: *staying at home, check-up at the hospital or hospital admission*. The tool has been tested in six different hospitals within the German-speaking part of Switzerland on 394 primiparous women with singleton pregnancy and cephalic presentation without planned caesarean section or induction of labour. Subsequent analysis was used for item reduction and validation and to assess the tool's potential positive or negative impact on obstetric outcomes.

Aim

This study aimed to evaluate maternity care providers' satisfaction with the use of the preliminary long version of the standardised GebStart-tool during early labour.

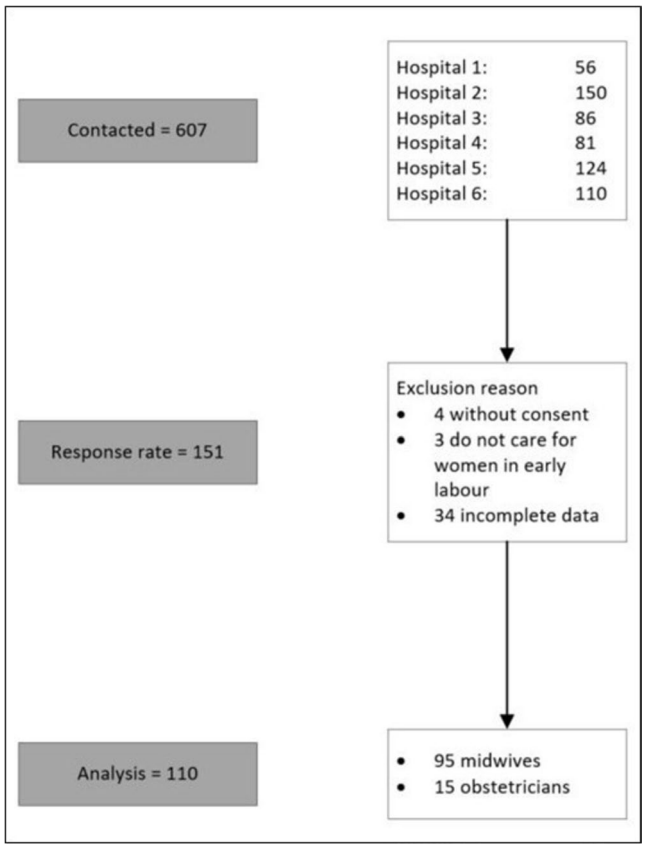

Fig. 1 Recruitement flow diagram

Methods

This cross-sectional survey was part of the larger GebStart study which developed and validated a tool for supporting shared decision making in primiparous women in the latent phase of labour [15, 16]. For reporting the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines were followed [17] (Annex 1).

Participants and sampling

The aim was to recruit all maternity health care providers who care for women in early labour and who applied the GebStart-tool either via telephone, on first personal contact with the women or both. A total of 607 maternity care providers were contacted to fill out the questionnaire of which 151 returned a response. Four records were excluded from analysis because informed consent was not given, and three records were not analysed because these participants did not care for women in the latent phase of labour. Another 34 surveys were not included due to incompleteness (Fig. 1).

Data collection

A survey was developed especially for this study to explore its aim and to comprehend the perspectives of midwives regarding changes to their professional roles and to assess the quality of care [18–21] (Annex 2). The survey consisted of demographic data and included questions regarding satisfaction with early labour care and application of the tool. Also, the validated German version of the subscale 'client interaction' by Turnbull et al. [18] was used to understand patient relationship of the health care professionals and was adapted regarding latent phase of labour [21]. Furthermore, it was developed to understand possible associations of the application of the tool on the care provided and the work organisation of midwives and obstetricians. Questions regarding the facilitation of the GebStart-tool on the care and work organisation of health care professionals during the latent phase of labour ranged from 1 (strongly disagree) to 5 (strongly agree). The survey was programmed using REDCap®—a web based application to manage online surveys and collect data [22]. The URL link of the survey was distributed via e-mail by the principal investigator and the study midwives onsite of the GebStart

study. The URL link was not closed after completion from a certain IP address since the participants needed to have the possibility to complete the survey at their workplace. Otherwise, they would not have been able to fill out the survey at the same computer.

Ethical consideration

Each participant received a written participant information sheet with the URL via mail. Informed consent was obtained via REDCap®. All participants were informed that withdrawal from the study was possible at any time point and without explanation. The GebStart study including this survey was approved by the Ethics Committees of Zurich and North-western and Central Switzerland (BASEC-Nr. 2021–00687).

Data analysis

Continuous data were reported using mean and standard deviation or median with minimum and maximum as it was appropriate for the distribution of the variables. Absolute and relative frequencies were computed for categorical data.

A sumscore of all questions regarding the aspect of care provision during early labour and the aspect of work organisation was calculated. To perform bivariable and multivariable analysis these sumscores were then binary divided into "not helpful" and "helpful" with a cut-off point at the median [23]. Spearman's correlation was used to investigate the association between demographic data and the sumscores of care provision and work organisation. Logistic regression modelling with the binary outcome variables care provision and work organisation and the potential demographic predictors was done to test for an association of several independent variables on the outcome. A stepwise backward elimination process was applied to determine the best model of fit in logistic regression. Analyses were performed using Stata 17 [24] and the significance level was determined at $p < 0.05$.

Results

A total of 110 health care professionals answered the online survey including 95 (86.4%) midwives and 15 (15.3%) obstetricians (Table 1). The median age of the sample was 34.0 years with a minimum of 24.0 and a maximum of 63.0 years. Most participants were Swiss ($n=78$, 70.9%) followed by German ($n=20$, 18.2%). Half of the participants obtained a bachelor's degree, whereas almost a third had vocational education and 9.1% achieved a master's degree and 12.7% finished their PhD. The work experience amounts to an average of 11.3 (9.7) years. The median length of hospital employment was 6.25 (0.25–32.08) years with a median of 80.0 (30.0–100.0) percent workload.

Relation between the application of the tool and care provision

Care during the latent phase of labour was provided by all participants. On a likert scale of 1 (very unsatisfied) to 10 (very satisfied), health care professionals showed a median of 7 (range 3–10) with regards to their overall satisfaction with the care they can offer during the latent phase of labour. Almost half of the midwives (36 (43.9%)) stated that they found the GebStart-tool helpful in the provision of care, whereas 46 (56.1%) did not agree. A total sumscore of 25 points was possible for questions regarding care provision and its association with the GebStart-tool. The median sumscore resulted in 14 points with a range from 6–23 points. Half the midwives agreed that the GebStart-tool facilitates the understanding of the women's physical or emotional state, yet most midwives disagreed that the tool facilitated the choices of further management processes such as sending the couple home or admitting them to hospital. The majority disagreed that the tool jeopardised the individual care of primiparous women.

Logistic regression showed that midwives with foreign nationality had a 2.76 higher chance of being satisfied with care provision under the application of the tool compared to Swiss midwives (Table 2). There is a significant relationship between education ($p=0.04$), professional experience ($p=0.02$), and workload ($p=0.01$) and the midwives' opinion of whether the tool facilitated care provision. Midwives with a university degree showed an OR of 0.30 compared to midwives with vocational education. Midwives with more work experience (OR 0.86) and a higher workload (OR 0.96) found the tool less likely to be useful for care provision. Furthermore, there was a higher chance for midwives to assess the tool as useful regarding care provision with more years of hospital employment and less useful if they showed greater overall satisfaction with early labour care.

Relation between the application of the tool and work organisation

The median sumscore on the aspect of work organisation and its relation with the tool resulted in 18 points with a range from 7–29 points with an overall maximum possibility of 35 points. When asking if the GebStart-tool facilitates time management while giving early labour care, many midwives strongly disagreed ($n=35$, 42.7%) or were more likely to disagree ($n=39$, 47.6%). The result was very similar as to whether the tool relieves the

Table 1 Characteristics of participants

Sociodemographic data	**Midwives and obstetricians *n* = 110**
Age, years; median (min – max)	34.0 (24.0–63.0)
Country n (%)	
Switzerland	78 (70.9)
Germany	20 (18.2)
Italy	2 (1.8)
France	2 (1.8)
Austria	1 (0.9)
Other	7 (6.4)
Duration of stay in Switzerland n (%)	
< 5 years	14 (43.6)
5–14 years	8 (25.0)
15–24 years	5 (15.6)
25–34 years	3 (9.4)
> 35 years	2 (6.3)
Education n (%)	
Vocational education	30 (27.3)
University; bachelor's degree	56 (50.9)
University; master's degree	10 (9.1)
University; PhD	14 (12.7)
Professor	0 (0.0)
Occupation n (%)	
Midwife	95 (86.4)
Obstetrician	15 (13.6)
Years of occupational experience, years; median (min – max)	7.4 (0.25–40.50)
Years of hospital employment, years; median (min – max)	6.25 (0.25–32.08)
Workload, %; median (min – max)	80 (30–100)

Table 2 Logistic regression with the outcome satisfaction with care provision using the GebStart-tool

Predictor	**Odds ratio**	**95% CI**	***p*-value**
Nationality Foreign (Reference Swiss)	2.76	0.76–10.00	0.12
Educational degree University (Reference higher education)	0.30	0.09–0.96	0.04
Years of work experience	0.86	0.75–0.97	0.02
Years of hospital employment	1.13	0.99–1.29	0.06
Workload	0.96	0.93–0.99	0.01
Overall satisfaction with early labour care	0.87	0.65–1.18	0.38

midwives emotionally in the provision of early labour care. Most midwives disagreed on that matter ($n = 70$, 85.3%). Also, 69 (84.2%) midwives disagreed that the GebStart-tool facilitates interdisciplinary collaboration. The opinions diverged in whether the tool helps to gain a good overview of the situation and to obtain informed consent of the procedure. Twenty midwives (24.4%) disagreed that the implementation of the GebStart-tool was difficult. More than a third found the implementation partially challenging ($n = 29$, 35.4%) and 40.2% ($n = 33$) agreed with that statement. With regards to whether the midwives felt their competencies were threatened by the tool, the majority ($n = 65$, 79.3%) did not feel this way while 20.7% ($n = 17$) agreed.

Logistic regression showed that there was a significant association of years of work experience and workload and the overall sumscore of statements regarding work organisation with the GebStart-tool (Table 3). Midwives with more work experience were less likely to state a facilitation of the tool to work organisation (OR 0.82, $p = 0.02$). Also, midwives with longer working hours found the tool less useful for work organisation (OR 0.97, $p = 0.02$). Midwives with a university degree had a 0.32- fold chance to find the GebStart-tool

helpful regarding work organisation compared to midwives with vocational education. Furthermore, midwives, with more years of hospital employment found the tool less helpful regarding work organisation (OR 0.97, $p=0.58$, whereas midwives who are overall satisfied with early labour care showed a 1.11 higher chance to agree on such facilitation.

Application of the tool

From the overall sample, 82 (74.6%) participants applied the GebStart-tool during the latent phase of labour. All of them were midwives. The tool was used via phone ($n=77$, 93.9%) and/or on personal contact ($n=27$, 32.9%). There was great variation regarding the satisfaction with the application of the tool. No midwife was fully satisfied with the application while 13 (15.9%) were rather satisfied and 37 (45.1%) were partially satisfied with the application of the tool. A total of $n=32$ (39.0%) stated dissatisfaction with the application of the tool. The majority fully or partially agreed that the GebStart-tool was too elaborate. Most participants found the tool to be clear ($n=65$, 79.3%) and 74.4% agreed that the items were reasonable. Reasons for non-application of the GebStart-tool were mainly because the health care professional was not in contact with a woman participating in the study ($n=17$, 15.5%). Others responded that they did not have the tool at hand or that the time investment of applying the tool was too high.

Discussion

This study investigated the satisfaction of health care professionals with the application of a preliminary version of a tool for supporting shared decision making in primiparous women during early labour. It also explored the usefulness of the tool regarding work organisation of health care professionals and care provided. Overall, health care professionals were satisfied with the care they provide during the latent phase of labour. Focusing on the GebStart-tool, only midwives applied the tool in their clinical practice either over phone or on personal contact. The items of the tool were clear, yet there was a great dissatisfaction with the length of the GebStart-tool. It therefore adversely impacted the time management of early labour care. While the midwives stated that the tool did not affect the care they provide during the latent phase of labour, it also did not jeopardise the individuality of care. The implementation of the GebStart-tool was challenging for many midwives while some midwives felt threatened in their competencies by the tool.

One of the main interests of the GebStart-tool was to understand women's care needs in early labour and to support the decision for or against hospital admission [15]. As mentioned by Eri et al. [13], midwives often feel frustrated with the care they provide in the latent phase of labour since institutional guidelines prefer late hospital admission. Although this study showed that health care providers were satisfied with early labour care they can offer, some midwives found benefits in the GebStart-tool to obtain an improved picture of the women's condition and in deciding on the procedure. A standardised procedure might convey safeness since it promotes good quality of care [7]. In particular, midwives with fewer years of work experience or lower workload felt the benefit of the application of the tool within their care provision since they possibly lack enough experience or routine in early labour care. It remains unclear if the tool might also support midwives with a more work experience and a higher workload. The tool was found to be too time consuming. Although such a procedure is necessary for scale development, it might lead midwives to reject the benefits if it interrupts their time management or their overall routine. Midwives with a higher educational degree were more likely to disagree that the application of the GebStart-tool was helpful in care provision. This seems controversial since further education often facilitates the interest in updating knowledge and skill [1, 4].

The stressful workload of health care professionals is a major reason why research is not implemented into practice [1, 4]. This goes in line with the findings from this study. Midwives with higher workloads were significantly less likely to agree that the GebStart-tool simplifies work organisation. The time investment of applying the tool was one reason why some health care professionals have not used it. With overall 32 items the tool was found to be too long to beneficially promote the organisation of work. Yet, it is standard procedure to apply a preliminary, longer version of a tool to statistically determine item reduction in the next step [15].

Table 3 Logistic regression of work organisation with the GebStart-tool

Predictor	Odds ratio	95% CI	*p*-value
Age	1.15	0.99–1.33	0.08
Educational degree University (Reference higher education)	0.32	0.09–1.10	0.07
Years of work experience	0.82	0.70–0.97	0.02
Years of hospital employment	0.97	0.86–1.08	0.58
Workload	0.97	0.94–0.99	0.02
Overall satisfaction with early labour care	1.11	0.82–1.50	0.50

It is necessary to understand people's characteristics and attributes that enhance motivation in participating in research [1, 4]. Some midwives felt their competencies were threatened by the tool. As found in this study, midwives with more work experience are more likely to be dissatisfied with the impact of the tool on work organisation. Since these midwives are already highly skilled in their practice and early labour care, they might not feel comfortable with change. To overcome such barriers and to promote sufficient training good leadership is needed in introducing the intervention into the clinical setting [1, 3].

Strengths and limitations

This study contributed to recognising barriers and facilitators in bringing science into maternity care. Especially in regard of a potential implementation of the tool in the clinical setting, this study has already shown possible challenges to consider beforehand. The sample contained health care professionals from different hospital settings with diverse resources. This helped to understand the different infrastructural aspects on performing research within the clinical setting. However, the sample size was rather small. It became difficult to understand the individual characteristics and their attribution to implementation science with such low number of participants. The study aimed to understand health care professionals' opinion regarding the application of the GebStart-tool into practice. To get a more profound picture of the subject, qualitative study designs or the usage of validated tools such as the theoretical domains framework (TDF) might be beneficial [25].

Conclusion

Involvement of maternity care providers in research is unavoidable and has a great impact on the success or failure of a research project. Therefore, it is necessary to know the motivations and challenges for clinical staff in contributing in a research project. The implementation of a preliminary tool in clinical practice for item reduction encountered some dissatisfaction with applying it. One major barrier was the great lack of time. This can be explained by the fact that a research project in practice usually runs alongside everyday clinical work. Also, the intention to reduce the length of the tool was only partially understood by the health care professionals. By applying adequate training and supportive leadership strategies to empower maternity care providers in their competencies an improved understanding and satisfaction can be supported.

Supplementary Information

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Supplementary Material 1.

Supplementary Material 2.

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Authors' contributions

ANM: Methodology, Formal analysis, Investigation, Resources, Data Curation and Writing – Original Draft. SG-B: Conceptualisation, Methodology, Formal analysis, Investigation, Resources, Data Curation, Supervision and Funding acquisition.

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Data availability

Data is available on reasonable request by the authors.

Declarations

Ethics approval and consent to participate

Each participant received a written participant information sheet with the URL via mail. Informed consent was obtained via REDCap®. All participants were informed that withdrawal from the study was possible at any time point and without explanation. The GebStart study including this survey was approved by the Ethics Committees of Zurich and North-western and Central Switzerland (BASEC-Nr. 2021–00687) and was performed according to the ethical standards of the Declaration of Helsinki.
The article is the authors' original work and has not received prior publication and is not under consideration for publication elsewhere. All authors have seen and approved the submission of the manuscript.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Author details

[1]School of Health Sciences, Research Institute of Midwifery and Reproductive Health, ZHAW Zurich University of Applied Sciences, Katharina-Sulzer-Platz 9, CH-8401 Winterthur, Switzerland.

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