

Mothers' Experiences with Baby Scales in the First Two Weeks Post Birth: A Qualitative Study

Joy Noel-Weiss¹ and Nancy Schoales Lada²

¹School of Nursing, University of Ottawa, 451 Smyth RGN3249C, Ottawa, ON, Canada

²Health, Public Safety and Community Studies, Algonquin College, Ottawa, ON, Canada

*Corresponding author: Joy Noel-Weiss, School of Nursing, University of Ottawa, 451 Smyth RGN3249C, Ottawa ON Canada K1H 8M5, Tel: 1-613-562-5800 x7669; Fax: 1-613-562-5443; E-mail: Joy.Noel-Weiss@uottawa.ca

Received date: Feb 7, 2014, Accepted date: April 24, 2014, Published date: April 30, 2014

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Abstract

Introduction: Health care professionals are divided on the topic of routine weight measurements for healthy breastfed newborns. This study presents interviews with a subset of participants from a larger study. The interviews provided an opportunity to look at weighing babies from a different perspective, specifically, when mothers are routinely weighing their babies and when they have use and control of a baby scale.

Objective: To describe women's experiences using baby scales and weighing their babies daily in their own homes during the first two weeks postpartum

Methods: Qualitative descriptive design comprised of telephone interviews in a mid-sized Canadian city. Eight participants were from a larger study about newborn weight loss.

Results: The overall theme to emerge from the data was "the baby scale as a tool" and five subthemes emerged: builds confidence; fosters reassurance; offers convenience; provides information; and satisfies curiosity.

Conclusions: This study produced new information about how breastfeeding mothers felt about using baby scales in their own homes. Contrary to what some might assume, weighing babies did not cause mothers distress and worry; it usually provided reassurance. Any discussion about regularly weighing healthy newborns assumed clinicians would weigh the babies. Giving women control of the baby scale might affect breastfeeding outcomes.

Keywords: Babyscales; Breastfeeding; Newborn; Maternal confidence; Postpartum; Qualitative study; Weight

Introduction

In the nursing and medical literature, health care professionals are divided on the topic of routine weight measurements for healthy breastfed newborns. Some clinicians reason that the measurements will have a negative impact on maternal breastfeeding confidence, while others maintain that an early weighing policy has positive implications for judging a newborn's progress; especially for early diagnosis of hypernatremia [1,2]. Overall, the evidence about the effects of weighing breastfed babies is weak and evidence presented frequently takes the form of letters to the editor or opinion pieces [1,3,4].

McKie et al. favour weighing babies when midwives make home visits and they determined that breast feeding duration was not affected by these routine weight measurements [5]. Their study included interventions that supported breastfeeding, which makes it difficult to determine if the supportive interventions balanced out the potentially detrimental effects of routine weighings. MacDonald et al. suggest that weight measurements provide an objective evaluation that is superior to other assessment methods [6]. Sachs et al. on the other hand, questioned the use of routine weight measurements and suggested most babies are weighed more often than the clinical

practice guidelines recommend. Sachs et al. questioned if a mother's confidence in her ability to breastfeed can be undermined by too frequently assessing newborn weights [7,8].

The evidence and opinions in the literature assumed infant weight would be measured intermittently and by health care providers, especially nurses, physicians, and midwives, as part of an assessment of the infant's overall well-being. There is a lack of research about routinely weighing infants (e.g., daily or weekly) from the mothers' perspective, especially when the mothers have care and control of the scale and are weighing their babies. To our knowledge, the only relevant studies involved preterm babies, which included test weighing (i.e., weighing the baby before and after a feeding to try to determine the amount the baby consumed) as opposed to daily weights [9-11].

Methods

In a recent study about newborn weight loss [12], participants weighed their infants for 14 days as part of the data collection. Participants in the original study received a portable electronic baby scale, provided by the researcher, after the birth of their babies. For the study protocol, participants weighed their babies every 12 hours for 72 hours and then daily from day 4 to day 14. Participants took the study baby scale home with them (or had the scale with them, in the case of home births). The baby scales were picked up from participants' homes when their infants were two weeks old.

Noel-Weiss et al. were aware of the controversy around routine newborn weight measurements [12]. The researchers were prepared to stop the study if the participants were distressed or showing signs that frequent weight measurements were influencing how they were managing breastfeeding (e.g., use of formula supplementation).

The original research study provided an opportunity to ask mothers how they felt about using the baby scales daily in their homes and about how they felt when the scale was taken away. The purpose of this study was to describe breastfeeding mothers' experiences with using baby scales to weigh their babies, at regular times, during the first two weeks postpartum.

This qualitative descriptive research study used individual telephone interviews for data collection. Participants were recruited from the newborn weight loss study [12], and potential participants were invited when the researcher phoned to complete the final questionnaire at two weeks postpartum. Informed consent was signed when the researcher picked up the baby scale from the participants' homes at two to three weeks postpartum. The University of Ottawa Research Ethics Board provided research ethics approval for this study.

Participants

A purposive sample ($n = 8$) was recruited and included a cross-section of the mothers from the original study ($N = 109$). The sample included first-time and multiparous women. Some participants were still breastfeeding while some participants had not met their breastfeeding goals and had weaned. The original study had been a convenience sample and, overall, the participants were a homogenous group of well educated, upper-income women in committed relationships. They were especially motivated to breastfeed and had above average breastfeeding goals. 12 Nine participants were recruited near the end of the original study and eight interviews were completed. The interviews confirmed what the researcher had found during closing interviews with the original 109 participants.

Data Collection

The first author interviewed mothers by telephone at least two weeks after the scale had been picked up. The timing allowed mothers a few weeks without the scale. The rationale was to provide time for the experience to settle and to give mothers time to form an opinion about how they felt once the scale was gone.

Interviews were guided with several semi-structured questions and prompts. The main question was, "How did you feel about weighing your baby every day?" During the discussion, the interviewer might also ask about how it felt if the baby had not gained weight and if the baby had been weighed at other places or by other people (e.g., doctor's office, public health clinic).

A second question was about usual routines with the scale. Prompts with this question included asking where they kept the scale, when and who weighed the baby, and if they ever weighed more than once a day. At one point, the interviewer asked all participants if they thought the daily weighings affected how they managed breastfeeding. During the latter part of the interview, the interviewer asked how mothers felt after the scale was returned and how the partner or family responded to having the scale in the house. As a final question, mothers were asked if they would use a baby scale for their next baby or if they would suggest using a scale to a friend.

Data analysis

We used qualitative research methods, specifically, coding of transcripts of interviews for identification of deriving themes, to guide analysis of the interviews [13-17]. The purpose of conventional content analysis is to derive themes and concepts from the text [18]. The goal for this research study was to describe women's experiences with using scales to weigh their babies routinely in the first weeks following birth. Therefore, the first obligation was to report their experiences and use themes to help organize the descriptions. We used a combination of line by line coding and overall analyses to identify patterns and themes.

Constant comparison and data saturation, as recommended by Strauss and Corbin [19], were used. Interviews were guided by the interviewer's experience with previous interviews (i.e., constant comparison). The telephone interviews were tape recorded, transcribed verbatim, and transcriptions were double checked for accuracy. Because we lost access to the group when the original study ended, we cannot be confident that saturation was reached, but the researcher was confident that the cross-section of participants mirrored the general consensus expressed by the original study's participants.

After the final interview had been transcribed, the two authors separately coded the transcriptions, first line by line then grouping the concepts as they emerged. Throughout the coding, the authors met to discuss their progress and to reach a consensus regarding categories and themes. Both authors are experienced postpartum nurses and lactation consultants who have completed previous qualitative research studies.

Results

The overall theme we found in the interviews with women who had participated in this study was "baby scales as a tool". This overall theme and five subthemes emerged from the data. The five subthemes, in alphabetical order, were: builds confidence; fosters reassurance; offers convenience; provides information; and satisfies curiosity.

As Participant B stated, "I thought it was a really good tool to have and it made me, I would say, it made me less anxious." In addition to collecting data for the original study, mothers used the information provided by the tool (i.e., the baby scale), for their own purposes. Participant H also described the scale in terms of a tool, saying, "It was kind of like the gauge to know if she'd (her baby) gotten what I thought she'd gotten (when breastfeeding)."

Five themes were subsumed under the overall theme of "baby scales as a tool". The first and most basic category was "provides information". Mothers collected information by measuring their babies' weights. The information led to the second category, "fosters reassurance", which seemed to be the key category with the majority of comments. "Offers convenience" was the third category, and the convenience became relevant to the mothers after discharge when they were home with their babies. "Builds confidence" showed itself a little later, and it might have been a stronger category if the interviews had taken place when the babies were older than about one month. A final category, "satisfies curiosity", combined concepts such as what happened and how mothers felt after the scales had been picked up and what others wondered regarding the babies' progress.

Provides information

A good tool provides information. The key information provided by using a baby scale at home during the first two weeks post birth is baby weights. Mothers seemed to like tangible, quantifiable measurements and most mentioned not needing to guess when a scale is available. The information about baby weights was associated with breastfeeding, and women frequently equated weight gain as a measure of breastfeeding success. Participant A stated, "You don't really know how much they're getting so it was nice to know that she was gaining weight." Participant C concurred when she said, "It's neat to watch the progress."

The mothers used the information they collected to make decisions and to confirm or deny the hunches they had about their babies' progress. In addition to using weight gains as a sign of adequate milk supply and milk transfer, mothers used a lack of weight gain as important information to catch problems early on.

To see how we were doing and see if it, it seemed like, 'cause sometimes I was way off, I thought we were doing really well and we weren't, and sometimes I thought that we hadn't done very well at all and we'd actually done quite well. Participant H

We could see from the interviews that the mothers tended to interpret the weights as a trend. They did not seem to focus on a single measurement. Participant F explained, "In general her weight was, you know, it would go up and down a little bit but it was kind of increasing so I wasn't too worried about that. I was happy to have the scale to see this." Later in the interview, Participant F reiterated:

Yeah, and there were a couple of times, because I did weigh her, you know, throughout the day at different times, like, if I would see it go down, I'd be - okay, I'll just wait and see what happens next time I weigh her and, you know, it would be fine, like it fluctuated sometimes.

Participant E provides an example of how mothers would not be concerned with a single weight:

There was just one [time that weight did not increase], I think the last weighing and the weighing just before that was the same, but [it was] just because the second last feeding, we had fed him right before we weighed him...So they ended up being the same weight.

To be able to interpret the information, mothers need baselines for comparison. Generally, newborns lose some weight in the first few days and then begin to gain weight [20]. Although the gain may not be consistent each day, it averages about one third to one ounce (10-30 grams) daily [20,21]. In one case, the mother had been given some misinformation and was left to worry about her baby's progress:

I don't even think she got to her ten percent [loss] but she was quite dehydrated and so they said to make sure she gained, I think it was three ounces a day, so I was weighing her every day and if one day she only gained one ounce ... it was stressful. Participant G

The mothers also used other information for signs of adequate feedings and to keep their perspective when they believed the weight change was not appropriate. For example, when Participant G indicated her baby's weight gain had not been enough, the interviewer directly asked about the other signs that the baby was fine aside from the weight. Participant G answered, "Oh lots of pees, lots of poops, and she was growing, like she was gaining a little bit so yeah and she was gaining weight."

Participant E acknowledged that without the scale there was no consistent, measurable information that her baby was gaining weight, but she said that over time, she noticed changes such as chubbier cheeks and outgrowing diapers and clothing.

Mothers generated and used information in other ways. For example, some did test weights (i.e., weighing before and after a feeding) and others weighed the diapers after the first three days, even though neither type of data were required for the original study:

I did get kind of crazy about weighing the diapers because we didn't have to weigh the diapers after the first three days [for the study] but I still wanted to weigh them because I found with the diapers it's really hard to tell if they're wet or not. Participant F

I would weigh her before feedings and sometimes part way through feedings and at the end of feedings.... I knew that it wasn't exact but I mean we were looking for... because sometimes I couldn't tell if she was getting kind of like forty mls or a hundred mls. Participant H

After the original study was complete and the scale had been picked up, mothers still wanted information that they could have gotten if the scale was still in their home. Participant H had the scale for an extra week, and then chose to rent one, and Participant D described wanting information to confirm her baby was doing well:

I was a bit worried that she was spitting up so much and I wasn't sure if she was gaining or not. I went to see the doctor because of it, but if I would have had the scale then I would have been satisfied knowing that she was okay because she was still gaining. Participant D

Fosters reassurance

The tool in this case, a baby scale, yielded weight measurements that fostered reassurance. Overall, the mothers described feeling reassured as their babies nursed and gained weight. Using the baby scale offered a tangible sign regarding how breastfeeding was going:

I don't know how much she drinks cause I'm breastfeeding, so I can't tell if she's drinking a lot or not enough, but from the scale and knowing that, oh, she went up, you know, 20 or 40 grams in one day, you're like, oh my gosh, she must be drinking well, you know, it's just very reassuring. Participant D

It [using the scale] was nice to know that she's gaining weight and that's how I know that she's getting enough food. Participant A

It [using the scale] was nice actually cause you like have the peace of mind knowing you know your kid's gaining enough weight. Participant B

It was not always a smooth path to reassurance. We found a range from reassurance that all was going well to relief that what was not working was caught early.

I don't think I would have made it as far as I did without the scale. [...] My confidence would have been way too shaky, but the reason I quit was just because we just weren't getting there and I just couldn't maintain schedule with her and the two year old at home. Participant H

In most cases, there were stressful times as breastfeeding got started. For some participants, measuring their babies' weight daily left them feeling ambivalent. Just asking the question, "What does my baby weigh today?" could cause stress, yet, not knowing did not seem to be the answer.

I was very glad I had the scale in the house so I could know if she was gaining but it was also really stressful 'cause if I wouldn't of had the scale I would have just kept feeding her, and I wouldn't have stressed about it every single day. So it was both good and bad. Participant G

For the original study, mothers weighed their babies daily from day 3 to day 14. The researcher then picked up the scale. In these interviews, mothers were asked about how they felt after the scale was picked up. Most had become accustomed to the reassurance of using the scale regularly and needed to make some adjustments:

I was nervous 'cause it was gone so I didn't have that constant reassurance that she was still gaining, but a little bit relieved because I knew that I was just making myself more stressed about her weight than I really needed to be because she was showing signs that she was fine. Participant G

Offers convenience

In addition to being effective, a good tool is convenient. All interviewees had comments about convenience or inconvenience. For the most part, mothers expected participation in the original study would be burdensome, and it was later they found having a scale at home also offered conveniences:

I didn't have to go to one of the clinics offered at the hospital or one of the centers; I could just do it at home so I liked it. ... It's handy to have it right at my fingertips, it was there to save me a lot of time and money by going out and going to the hospital, pay for parking. Participant B

I like weighing him at home better just because it was nice, I can undress him and take my time with it. At the doctor's office it's really uncomfortable. ... Initially I thought it was going to be a bit of a pain but then I was kind of excited about it ... Participant C

Mothers were asked about routines they had with the baby scale, and each described a combination of time and place. Often the routines were around feeding times or diaper changes when the baby was awake and undressed.

We changed her halfway through [a feeding], we would just get her naked, weigh her then get her dressed again. Participant A

[The scale] was right by the change table so it was real convenient; quickly whip him on there before he peed on me again. Participant C

Being part of the study added an unexpected element of inconvenience. For the original study, babies were weighed every 12 hours during the first three days. Most mothers kept the same timing for the daily weights because they were especially conscientious to collect the data for the study. It appears these factors were a burden the mothers would not have encountered if they were using the scale outside of a research study.

Toward the end of the interview, the mothers were asked directly if they would use a scale with a future baby or if they would recommend a scale for other mothers. Although the consensus was that they would use one in the future or suggest it to a friend, there was one mother who was not certain:

Yeah, I would, especially somebody who is, you know, more of an anxious person, first time mom especially. Participant B

I would probably not unless I ran into the same sort of issues, like, because I wanted to check her weight. I probably would want to if I had an issue where she had lost weight. Participant G

Builds confidence

Under the theme "fosters reassurance", the focus was the baby, and mothers described their babies' signs of growth and good health as evidenced by weight gains. Not being able to measure how much a baby gets in a feeding can cause concern and worry. The theme "builds confidence" focused on the mothers and how they felt. Overall, as time went on, and it seems subsequent to being reassured, mothers described feeling less anxious or worried and increasingly confident.

It was nice to see how she was doing for weight wise and that, so I was happy. Participant D

We had the scale so that we had some confidence and we could tell if she was um, if she was gaining or losing, because he, with the first baby, he'd lost, I mean not dire amounts of weight, but more than you'd like for him to lose by the time we got to the hospital. Participant H

Satisfies curiosity

One of the uses mothers found for this tool was to satisfy curiosity. After information was gathered and mothers were reassured and more confident, curiosity seemed to surface. Participant C described, "...using it [baby scale] just out of curiosity at different times in the day." About a month after the scale had been picked up, Participant C found that she "...totally miss it 'cause I'm just curious and our [adult bathroom] scale just isn't the same." Participant A also described trying out the bathroom scale by first weighing herself holding the baby then taking a second measurement without the baby. She concluded it was not very accurate.

Participant B also expressed an interest about her baby's weight as time went on, and it appeared to be a matter of curiosity over a need to know.

Discussion

Interpretation of the weight measurements is significant. It seems mothers like tangible measurements to judge infant feeding. They also seemed to evaluate the weight measurements as a whole, a trend, and a single weight did not cause concerns. The value of this study is that it provides insight into the potential use of baby scales for supporting breastfeeding women.

With the original study, we were impressed by the reassurance most women described with using the scale. We had concerns that measuring their babies' weights would be unsettling, even threatening, but such concerns proved unwarranted and it seemed worthwhile to explore their experiences with interviews.

As we analyzed the interviews, we could easily identify end results such as confidence, convenience, and information. The common factor was that a tool, the baby scale, led to these end results. It seems significant that mothers oversaw the use of the baby scale and made any decisions regarding the measurements.

These interviews tell us about how mothers felt about using baby scales in their homes in the first two weeks postpartum. The value in this work lies in the unique voice it provides breastfeeding women. Its

strength comes from its roots in a larger study where participants were chosen purposively to represent the original sample of 109 women.

Its limitation is the small number and the fact the original group was a homogeneous group with higher than average rates of maternal education, family income, and committed relationships. A similar study with a large, diverse group would be warranted. A larger study should include women who have babies that are not doing well.

The debate in the literature about the benefits and burdens of routinely weighing newborns does not seem to apply when breastfeeding mothers have control of the baby scales. Although mothers collected data (i.e., baby weights) and reported them to the researchers, the information was only meant for research purposes. In addition to collecting data requested by the researcher, we found the participants used the scales in other ways they found useful. They used the baby scales to provide information; foster reassurance; offer convenience; build confidence; and satisfy curiosity. The results mirrored the findings of Hurst et al. when they researched use of baby scales with preterm infants [11].

It is important for women to have accurate information to inform their expectations. For example, if a mother is told her baby should achieve an unusually high daily weight gain, then failure to reach that goal leads to stress and worry for the mother. As clinicians, we must ensure accurate information when we consider providing baby scales for mothers to use.

Conclusion

We were surprised at these results, because we harboured suspicions that using the scales might lead to negative outcomes such as decreased maternal confidence and early weaning. As a result of the study, we began to think of using baby scales to weigh healthy term babies in quite a different light. As we planned the original study, we were not certain about the possible effect of daily weight measurements. The original study was designed with the understanding that if weighing babies daily negatively affected the breastfeeding relationship (e.g., babies were supplemented with formula because mothers were worried), then the study would be stopped. In the final telephone interviews to complete the last questionnaires at two weeks postpartum, the principal investigator discovered the participants found the scales useful and not intimidating. This evidence led to the interviews for this study. In the end, participants told us that baby scales were a good tool; a tool they found useful. The baby scale provided information, reassurance, and was generally convenient to use.

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