

ORIGINAL RESEARCH

Postpartum psycho-educational interviews to promote adaptation in new mothers: A preliminary study

Chantal Razurel^{*1}, Valérie Avignon², Pascale Gerdy², Jocelyne Bouton²

¹University of Applied Sciences Western Switzerland, Geneva, Switzerland

²Department of Obstetrics and Gynaecology, Lausanne University Hospital (CHUV), Lausanne, Switzerland

Received: April 29, 2016

Accepted: August 22, 2016

Online Published: September 17, 2016

DOI: 10.5430/jnep.v7n2p1

URL: <http://dx.doi.org/10.5430/jnep.v7n2p1>

ABSTRACT

Objective: Adapting to the birth of a child can be stressful for new mothers. Caregivers (nurses and midwives) lack the tools to adequately assist with this adaptation. A perinatal psycho-educational interview was developed and systematically implemented on a daily basis for all mothers hospitalized postpartum in the maternity ward of our institution. Our first objective was to assess whether this psycho-educational interview was used systematically by care personnel, and whether it provided them with a greater sense of purpose in their professional role. Our second objective was to assess whether use of this interview decreased new mothers' perceptions of stress and improved their perceived adaptations to motherhood.

Methods: An assessment before (T1) and after (T2) implementation of the psycho-educational interview (intervention) was carried out with 60 caregivers and 250 mothers.

Results: The results show 41% of mothers in this study received two or more interviews during their hospital stay. Caregivers' job satisfaction was seen to increase ($t = -3.2$; $p < .05$), and feelings of frustration towards their work decreased ($t = 2.65$; $p < .05$). Mothers felt less stressed and less worried in T2 ($t = -2.4$; $p < .05$).

Conclusions: These encouraging results show an increase in the use of this treatment in the postpartum setting, with desirable effects. Further studies should be carried out to consolidate these preliminary results.

Key Words: Midwifery, Postnatal education care, Perceived perinatal stress, Parental self-efficacy

1. INTRODUCTION

1.1 Postpartum period

For new mothers, the birth of a child entails a substantial degree of upheaval, which requires a process of adaptation.^[1] The early postpartum period is a profound experience for mothers and tends to be accompanied by a high level of stress.^[2] During this period, each mother will have specific and multidimensional needs,^[3] and to develop a sense of competency, they require help, guidance and support.^[1] Yet the literature shows that most currently available postpartum care falls short of mothers' expectations and needs.^[4,5]

In particular, 57% of mothers deem their care to be impersonal^[6] and 50% believe their emotions are not taken into consideration during this period.^[4] The information that new mothers receive is at times contradictory,^[5,7,8] insufficient,^[9,10] or too much to absorb in a short time frame.^[5,11] Hence, currently available postpartum care does not seem to allow new mothers to get to grips with the various events they view as being stressful.

1.2 Stress

Lazarus and Folkman defined the notion of perceived stress as an individual's specific perception of their environment.^[12]

*Correspondence: Chantal Razurel; Email: chantal.razurel@hesge.ch; Address: University of Applied Sciences, Western Switzerland, Geneva, Switzerland.

Stress is therefore a dynamic and singular process that is actively developed by an individual facing an adverse situation; it does not necessarily relate to an objective fact, but is the result of an individual's own assessment. This assessment is done in stages: the primary assessment allows the individual to characterize the event by posing the question "Is this event a threat to my state of equilibrium?" This assessment will depend on the individual's personality and the context, but also their beliefs, representations and knowledge.^[13] A secondary assessment allows the individual to take stock of their personal resources to cope with the event in question. Thus, in the postpartum setting, if the mother deems an event to be beyond her resources, the event will then be perceived as stressful.

In light of this stress, a new mother resorts to coping strategies that will allow her to change the problem (i.e., to resolve, reduce, or defer it), to change herself (control her emotions, cognition, physiological state), or to seek external support.^[12] The literature has shown that the coping strategies mothers use are linked to the risk of depressive symptoms, with some strategies being more functional than others.^[14-18] We have noted, however, that when coping mechanisms are dysfunctional, the perception of stress is exacerbated and a mother's feeling of competency is reduced.^[19]

Research has also shown that women's perceptions of the social support they have or do not have could equally impact on their stress levels and feelings of competency.^[20] The more satisfied mothers are with the social support available to them, the less concerned they are by stress, and the more their feelings of competency are increased.^[5]

Stress can, however, have substantial repercussions for women's psychological health, such as their anxiety or risk of depression, particularly in the early postpartum period.^[2,21-23] It is therefore important to boost mothers' resources to deal with and decrease this stress. However, despite the fact that intervention in the early postnatal period has been documented as highly relevant, few studies have addressed this issue.^[24-26]

The study by Chabrol et al. was based on intervention at multiple levels, mixing educational, support-based and cognitive-behavioral approaches.^[25] An interview was held within 72 hours of giving birth. The results showed that a preventative intervention performed in the first postnatal week reduced the number of women who went on to develop depression, and also helped women to accept follow-up treatment, if needed. However, participants in this study were women who presented with an elevated risk of postnatal depression, and they were not aimed at prevention.

The study by MacArthur et al. was based on a redefinition of perinatal care by way of specifically identifying the mother's needs and enabling her to find solutions to address these needs.^[27] In this study, detection of depressive symptoms was done systematically using the Edinburgh Postnatal Depression Scale (EPDS). This intervention allowed significant improvement of mothers' psychological health at four months postpartum. It is regrettable, however, that the methods used to identify mothers' specific needs were not more explicit.

Finally, an investigation developed in Australia showed that if caregivers interview new mothers during the postpartum period for 20 to 30 minutes every day, they can better assess and appropriately respond to the specific needs of each woman.^[26] In this study, however, the interview process was not described or explicitly outlined. MacArthur and her team state that "guidance for health professionals on how to provide such care, however, may be necessary".^[24]

As we have seen, several studies have shown the importance of implementing personalized care to respond to mothers' specific needs and improve their adaptation during the early postpartum period. However, models of care to achieve this aim are lacking. Furthermore, this gap results in a high level of dissatisfaction among caregivers, who find it difficult to see the purpose of their work during the early postpartum period.^[28,29] Importantly, the literature shows a tight link between patient satisfaction, and the satisfaction of medical staff.^[30-32] We have developed a psycho-educational interview to specifically address this issue in the perinatal period.

1.3 Hypothesis and aims

We hypothesize that the psycho-educational interview will allow a greater degree of purpose to be restored to postpartum caregivers, and that it will be a useful tool to define mothers' specific needs, thereby decreasing their stress and anxiety while increasing their feelings of competency during the initial postpartum process. This study's aims were twofold: to assess whether this type of interview can be used and integrated by care staff in a systematic way, and whether it fits with their professional role; and to assess whether this type of interview decreases mothers' capacity to find suitable ways to address new situations.

2. METHOD

2.1 Research design

Since the new provision of a care model concerned all nursing staff (midwives and nurses) from the entire postpartum services,^[33] a "before and after" design was chosen for this study.

2.1.1 Setting

This study was carried out at Vaudois University Hospital (Lausanne, Switzerland), which is a public hospital managing all risk levels with an average of 3,000 deliveries per year. An initial study (T1) took place between February 3, 2014 and March 30, 2014. A second study (T2) was carried out between December 1, 2014 and January 31, 2015. These two studies compared the two modes of treatment (no interview and postnatal interviews).

2.1.2 Intervention

The aim of the psycho-educational interview is to help mothers find solutions to their needs by potentiating their resources, and decreasing their perception of the stress associated with a difficulty to adapt to motherhood.^[34] The steps involved in a psychosocial interview are: Reception and identification of the aims, investigation according to the aims, decisions, and conclusion of the meeting.^[35] This interview uses the techniques of reformulation, recovery and explanation to promote expression, and it relies on the principle of non-judgmental attitude. The interview has a semi-directive structure and four stages: The first stage aims to establish the nature of women's stress and requires the mother to be confronted with potentially stressful events, as determined by the post-delivery perceived stress inventory (PDPSI stress scale).^[2] Upon confrontation, mothers are assessed as to whether these events surpass their personal resources, thus triggering stress. If these events do trigger stress, then stage two of the interview is conducted. The second stage aims to alter women's perception of the stressful event(s) by exploring their representations/beliefs about that event. At the same time, the caregiver provides educational information to deconstruct these links and to help them view the event from a different, less threatening perspective. Both these first stages can reveal instances where mothers' stress levels lead to dysfunctional coping strategies, thereby sustaining the feeling of not being competent enough as a mother. The aim of stage three, therefore, is to encourage mothers to optimize their coping strategies by evaluating their ability and functionality to cope, and by considering other, more functional strategies. Since the literature has shown that women's perception of social support can influence the effects of stress by moderating its impact on her psychological health, the aim of the fourth stage is hence to increase the adequacy of social support in terms of the mothers' expectations. This is achieved by getting them to express their needs in terms of those around them and the professionals supporting them. As recommended in Schmieid's research,^[26] this psycho-educational interview can be implemented daily with each woman, with the aim to optimize their adaptation to motherhood.

Members of the postpartum care staff were first trained to use the psycho-educational interview in a theoretical and simulated practice training session that took place over two days between April and November 2014.^[34] Each caregiver was supervised throughout the training period, and their use of the procedure was analyzed to establish any impediments or limitations that might be encountered in the clinical setting.

After training the whole care team, mothers should systematically be interviewed by care staff for 20 to 30 minutes each day. To provide consistency from one day to the next, despite changes in care personnel, a document summarizing the use of the psycho-educational interview, and outlining the follow-up actions required, was added to the nursing file. This document allowed caregivers to refer to what had been said in previous interviews, thus maintaining a genuinely personalized clinical course and avoiding any contradictory statements.

2.2 Participants

2.2.1 Caregivers

At T1, caregivers, including midwives and postpartum care nurses, were selected for the study to establish whether use of the psycho-educational interview intervention had an effect on job satisfaction. Only caregivers who worked at the hospital throughout the change in care routine were invited to participate in the second part of the survey (T2), thus excluding new employees who arrived between the two stages of the study.

2.2.2 Mothers

All French-speaking women staying at Vaudois University Hospital after having given birth were selected for the study to establish whether use of the psycho-educational interview intervention decreased new mothers' stress and/or improved their feelings of competency in motherhood.

2.3 Variables

2.3.1 Caregiver's questionnaire

To evaluate caregivers' job satisfaction, a questionnaire was developed between an expert caregiver, a psychologist specialized in the area of perinatal psychological issues, and an epidemiologist specialized in hospital environment satisfaction questionnaires (see Table 1). Prior to its general distribution for the study, the questionnaire was tested with several care givers to assess its understanding and accessibility. The questionnaire is focused on caregivers' satisfaction with their professional role within the postnatal service, and the appropriateness of the tools available to them to carry out their job. The Cronbach's alpha indicates good homogeneity ($\alpha = 0.73$). The questionnaire included 12 questions that could be rated between 0 (very unsatisfied) and 5 (very

satisfied). For item 9, which asked about caregivers' sense of frustration, the rating ranged between 0 (little frustration) and 5 (very frustrated). For item 12, which asked about caregivers' overall satisfaction, the scale ranged from 1 (unsatisfied) to 10 (very satisfied).

2.3.2 Mothers' questionnaires

Mothers taking part in the study were asked to fill in two questionnaires. First, mothers were asked to complete a sociodemographic questionnaire in order to obtain and itemise general data about the participants, and their birth experience.

To measure mothers' perceptions during the postpartum period, a new questionnaire was devised by the same team, described above (see Table 3). This questionnaire comprised 13 items, rated on a Likert scale ranging from 1 (not at all) to 5 (wholly). The questionnaire focused on the consideration given to women's needs, as well as on the disposition of the care-providing team (e.g. "Did you have the impression that staff took note of your situation to find solutions for you?" and "Did the information that you were provided help you feel less anxious or stressed?"). The questionnaire was tested with about 30 mothers prior to its wider distribution for the study to assess its understanding and accessibility. The Cronbach's alpha also indicates good homogeneity ($\alpha = 0.82$).

2.4 Data collection

Distribution and collection of the caregivers' questionnaire was done by Vaudois University Hospital's quality control unit in a confidential and anonymous, computerized manner. To optimize the response rate, caregivers were sent two reminders by email.

Questionnaires for the mothers were distributed by the project director (who was not directly involved in the provision of care) to all women who could understand and speak French. These questionnaires were filled out during their postnatal stay. At the end of their stay in hospital (approximately four days postpartum), mothers were provided with an information sheet and consent form. Questionnaires were filled out and handed back to staff upon leaving hospital. A postage paid return envelope was available if the patient wished it. T1 questionnaires were distributed before the psycho-educational interview training. T2 questionnaires were distributed two months after the psycho-educational interview training.

During the second assessment (T2), the number of daily interviews was itemized for each mother. Thus, if use of the daily interview was to be systematic, the change in practices had to be assessed and accounted for in an objective manner, to take into account the realities of this change resulting from the reorganization.

2.5 Statistical methods

Most statistical analyses were performed with SPSS software version 22 (Chicago, Illinois, USA). Chi-squared and independent *t*-tests were used to evaluate the changes between T1 and T2. To allow greater synthesis of results for the maternal satisfaction survey, answers including "moderately satisfied," "dissatisfied," and "very dissatisfied" were combined (= 1), as were "very satisfied" and "satisfied" responses (= 2). The different items were analyzed independently, and not with a global score. The one-way ANOVA test was used to analyze the effect of specific variables on mothers' overall satisfaction (question 13 of the satisfaction questionnaire).

3. RESULTS

This observational study was reported in accordance with the STROBE (Strengthening the Reporting of Observational studies in Epidemiology) guidelines.^[36]

3.1 Caregivers

Of the 60 caregivers who were contacted to take part in T1, 44 replied to the entire questionnaire, amounting to a response rate of 73.3%. In T2, 54 caregivers were contacted and 35 replied, amounting to a response rate of about 65%.

The results show that several items exhibit significant differences between T1 and T2 (see Table 1). It can be seen that, compared with T1, caregivers have a much greater sense of purpose in T2, particularly in terms of their support role ($t = -2.4$; $p < .05$; Cohen $d = 0.08$). They also have a greater level of satisfaction regarding their workplace after the intervention. Here, caregivers particularly state they are more satisfied that their organization can adequately achieve patient care objectives ($t = -2.2$; $p < .05$; Cohen $d = 0.06$). Finally, the caregivers' feelings of frustration are less after the intervention than before ($t = 2.65$; $p < .05$; Cohen $d = 0.09$). It should be noted that the overall level of satisfaction among caregivers after the intervention was significantly higher ($t = -3.2$; $p < .05$; Cohen $d = 0.06$).

3.2 Mothers

During T1, 253 women out of 418 who stayed in the postpartum ward answered the questionnaire (response rate 60.5%). During T2, the response rate was 47.9% (263 women out of 549 answered the questionnaire).

Of the 250 mothers who were followed between 1 December 2014 and 31 January 2015, 28.4% did not receive an interview during their hospital stay, 31% received a single interview, and 41% received two or more interviews. It was also noted that primiparous mothers received a greater number of interviews during their stay: 43% of primiparous mothers received two or more interviews while 39% of multiparous women received two or more interviews.

Table 1. Comparison of staff satisfaction between T1 and T2

	T1 (n = 44)		T2 (n = 35)		F	t-test	p-value*
	Average	(SD)	Average	(SD)			
Is the issue of support for mothers in postpartum care of primary importance to you?	4.89	(0.321)	4.97	(0.169)	9.108	-1.418	.160
Do you think the issue of support for mothers in postpartum care is seen as a high priority by the leadership of the Department of Gynaecology and Obstetrics?	3.84	(1.153)	4.39	(0.659)	4.636	-2.478	.015
Do you feel adequately trained to provide the necessary instructions to parents during the postpartum period?	4.29	(0.673)	4.41	(0.609)	0.016	-0.847	.400
Do you feel adequately trained to provide optimal follow-up of mothers during the postpartum period (are you able to adapt ways of communicating depending on the situation)?	3.98	(0.801)	4.23	(0.770)	0.341	-1.404	.164
Do you have clear professional aims regarding mothers' treatment during the postpartum period (do you have a clear role as a caregiver during the postpartum period)?	4.05	(0.899)	4.29	(0.676)	1.480	-1.335	.186
Are you satisfied with these professional objectives?	3.78	(0.988)	4.09	(0.765)	3.982	-1.482	.143
Is the workplace set up in such a way for you to optimally achieve your care objectives?	2.73	(1.265)	3.29	(0.710)	10.882	-2.298	.024
Do you manage to perform your work duties in the hours that are set?	3.11	(1.262)	3.37	(0.770)	7.692	-1.061	.292
Does your work engender a feeling of frustration?	2.86	(1.407)	2.14	(0.845)	14.960	2.651	.010
Do you feel that the documents in the current nursing file are adequate to ensure you can track mothers' clinical follow-up?	3.34	(1.122)	3.46	(1.036)	0.070	-0.452	.653
Generally speaking, when you have finished your shift, do you have the feeling that you accomplished your tasks as well as you might have wished (that is to say, in keeping with the values that you deem important)?	3.43	(0.873)	3.66	(0.725)	1.321	-1.226	.224
Using the scale below, what is your overall level of professional satisfaction?	5.89	(1.845)	7.17	(1.636)	2.205	-3.231	.002

* p-values < .05 were considered statistically significant

Table 2. Comparison of mothers' satisfaction levels between T1 and T2

Questions	T1 (n = 253)		T2* (n = 102)		F	t-test	p-value
	Average	(SD)	Average	(SD)			
1. Did you feel you were well received by the service upon your arrival?	1.96	(0.186)	1.97	(0.170)	0.338	-0.301	.764
2. Did you have the impression that staff took the time to listen to you?	1.95	(0.221)	1.95	(0.217)	0.034	-0.092	.927
3. Did you sense that the staff understood your situation?	1.97	(0.165)	1.96	(0.195)	1.247	0.522	.603
4. Did you have the impression that staff took your situation into account to find solutions for you?	1.97	(0.177)	1.92	(0.270)	14.2	1.597	.113
5. Did your exchanges with staff help you find solutions that you found to be satisfactory?	1.96	(0.196)	1.97	(0.170)	0.896	-0.5	.618
6. Did these solutions help you feel confident?	1.93	(0.252)	1.95	(0.217)	1.77	-0.7	.485
7. Did the information provided by the staff help you feel less anxious, less stressed?	1.90	(0.360)	1.97	(0.170)	26.93	-2.473	.014
8. During your stay, did it ever occur that a staff member told you one thing, and another staff member something entirely different?	1.08	(0.278)	1.07	(0.254)	0.986	0.511	.61
9. Did that make you feel uncomfortable?	1.20	(0.405)	1.13	(0.341)	5.186	1.153	.252
10. When different advice was offered, did the staff explain to you why?	1.57	(0.497)	1.62	(0.490)	1.56	-0.579	.564
11. Was this explanation enough for you?	1.74	(0.442)	1.70	(0.464)	0.792	0.452	.663
12. Did you get the impression that your lifestyle was respected?	1.91	(0.291)	1.92	(0.270)	0.778	-0.451	.652
13. Overall, what is your opinion of the care you received from the postpartum service?	1.02	(0.141)	1.02	(0.141)	0.000	-0.005	.996

* Only women who had at least two interviews were included in the T2 analysis.

In the results presented below comparing mothers’ perceptions, only those women who received two or more interviews are included.

Sociodemographic results

Women’s demographic variables at the two time points (T1 before, and T2 after intervention) are represented in Table 3. At T2, only the mothers who received two or more interviews during their stay (n = 102) were taken into account, so as to adequately assess the effect of the psycho-educational interview.

With the exception of the “marital status” variable, socio-demographic variables did not present any significant differences. However, ANOVA showed that marital status did not have an effect on the overall level of the mothers’ satisfaction ($F(4.493) = 1.4; p = .229$), hence the two groups may be compared.

ANOVA and regression analyses conducted to assess whether sociodemographic variables influenced the level of satisfaction of the mothers did not reveal significant outcomes, there were no different groups (such as Parity, for example) to compare the groups between T1 and T2.

Table 3. Demographic data

Variables	T1		T2		t	χ^2	p-value
	Average	(SD)	Average	(SD)			
Age	31.7	(4.8)	32.7	(5.1)	-1.7		.09
Parity	1	147 (58.1)	56	(54.9)		0.877	.831
	2	73 (28.9)	31	(30.4)			
	3	29 (11.5)	12	(11.8)			
	4	4 (1.6)	3	(2.9)			
Marital status	In a relationship	57 (22.5)	27	(26.5)		13.54	.009
	Married	183 (72.3)	64	(62.7)			
	Divorced	10 (4.0)	6	(5.8)			
	Single	3 (1.2)	5	(4.9)			
Method of giving birth	Unassisted	139 (55.2)	47	(46.1)		5.56	.062
	Instruments	37 (14.7)	11	(10.8)			
	Caesarean	76 (30.2)	44	(43.1)			
Neonate hospitalized	Yes	30 (12.7)	15	(14.7)		0.245	.620
	No	206 (87.3)	87	(85.3)			
Type of room	Private room	84 (35.6)	38	(37.3)		0.085	.77
	Double room	152 (64.4)	64	(62.7)			
Nationality	Swiss	118 (46.6)	48	(47.1)		1.47	.832
	Other European	87 (34.4)	39	(38.2)			
	African	22 (8.7)	8	(7.8)			
	Asian	10 (4)	2	(2)			
	American	16 (6.3)	5	(4.9)			

For a more concise readout of the results, the “moderately satisfied/minimally satisfied/not at all satisfied” ratings were regrouped as = 1, and the “very satisfied/satisfied” ratings as = 2. The results shown in Table 2 compare the level of satisfaction between the two groups: T1 (before intervention) and T2 (after intervention).

It can be seen that mothers felt significantly less stressed and less anxious in T2 than in T1 ($t = -2.4; p < .05$; Cohen d = 0.02) though there were no significant differences in other aspects of the questionnaire.

4. DISCUSSION

4.1 Use of the interview

As highlighted at the beginning of this article, there is currently no detailed description or evaluation of a tool that can be integrated into postpartum care services with the aim to improve the care of women during the postnatal period. The results of this preliminary study, which provided an initial assessment of an easy-to-use, innovative and targeted approach, showed that the psycho-educational interview we employed was well integrated into the postpartum care ser-

vice at Vaudois University Hospital. Further, it allowed the identification of specific patient needs, and particular care issues to be monitored on a day-by-day basis. As seen in our caregivers' questionnaire, this underlies caregivers' perception that care was improved during this postpartum period of hospitalization.

Our study also revealed that, following a period of hesitation owing to the change in practice involved with this new procedure, use of the interview became more and more systematic throughout the study. This important result shows the compatibility of this tool with the role of the caregiver. This can otherwise be a limiting factor, as revealed by the research of Schmied, who showed that only 11% of mothers received a daily interview of 20 minutes.^[26] It is important that the psycho-educational interview is used systematically with all mothers; otherwise, there is the risk that caregivers may select only certain women according to perceived need. Indeed, the present study revealed that primiparous mothers received a greater number of daily interviews than multiparous women. However, research has shown that mothers' stress during this postpartum period is not dependent on specific variables, and can be experienced by all mothers, regardless of, for example, birth method or age.^[2]

4.2 Effect of the interview on staff satisfaction

While some studies indicate that, in the context of wider maternity care services, the work of postpartum caregivers is often underappreciated,^[28] the results of our study show that by re-evaluating postpartum work with the inclusion of daily psycho-educational interviews, caregivers felt less frustrated about their work. This result may be explained by the fact that the intervention performed is consistent with the reality of the situation(s) care staff encounter, but it can also be explained by the coherence between the objectives expected by the leadership team of the Department of Gynaecology and Obstetrics, and by the means and procedures put in place to better meet those objectives, thereby providing caregivers with a greater sense of purpose and achievement to their work.

4.3 Effect of the interview on mothers' satisfaction

The results of the present study reveal positive effects of the psycho-educational interview on postpartum women's adaptation to motherhood; mothers felt significantly less anxious and less stressed in T2. This concurs with the work of Shorey,^[37] which indicated that a postpartum psycho-educational intervention increases mothers' sense of self-efficacy and decreases the risk of depression at six and 12 months postpartum. In our study, we were not able to obtain evidence for a significant difference in mothers' perceptions

of confidence (item 6 of the questionnaire on mothers' perceptions); however, this assessment was done very early on (at four days postpartum), which may explain this difference. In the same way, stress levels were not shown to be significantly different between T1 and T2. Because postpartum stays were very short (3-4 days), the mothers in our study may have been consumed by this first stage of adaptation, which inevitably entails a high level of stress.

4.4 Limitations and perspectives

The limitations of this research lie, to a large extent, with the before-and-after design of the study. All of the postpartum caregivers in the ward were trained to use the psycho-educational interview intervention, which is not as probative a method as a study comparing two separate groups (intervention vs. control). Results from before-and-after studies can depend on contextual changes (other than those being assessed), which can detract from the results. It will therefore be necessary to perform additional studies with an RCT design to convincingly establish an effect. In addition, the size difference between T1 (n = 253) and T2 (n = 102) samples in mothers can be considered a limitation of this study.

On the other hand, the evaluation in our study was carried out during the postpartum stay. It could be interesting to assess mothers' stress over a longer term, i.e., at a much later time than just at this first adaptation stage. Another variable that would be particularly interesting to assess during the postpartum period of adaptation to motherhood is the feeling of parental self-efficacy. To fully address the complexities associated with the birth of a child in a broader context, it would be pertinent to assess other outcomes, such as depression or also the mother's relationship with her child. Finally, our study revealed that not all women in our study took part in a daily interview, perhaps because the change in care protocol takes time to become fully implemented. Furthermore, this intervention involved the caregivers who provided the daily care for the women, yet one could ask oneself whether the physicians, who only saw the women upon their discharge, could have also been included in this program and whether this would have influenced the results. This is a notion that warrants further consideration.

5. CONCLUSIONS

The present study revealed that use of the psycho-educational interview as an intervention to assess mothers' stress and anxiety levels in the postpartum period of hospitalization confers benefits to both staff and new mothers. By using the interview technique, care staff revealed they have an increase in job satisfaction and a decrease in frustration levels, which is—we believe—evidence of caregivers' re-engagement

with their role in terms of feeling more useful and having a greater purpose within the context of new mothers' postpartum treatment, as well as feeling that they are making a positive difference. Furthermore, the psycho-educational interview is a very easy tool for caregivers to use, which can be progressively integrated into normal care procedures.

Use of the psycho-educational interview also revealed an increase in mothers' satisfaction levels, particularly regarding their psychological well-being; women felt less stressed and less anxious after having taken part in one or more daily interviews. However, the limitations of the study outlined above show the necessity for conducting more studies to

enhance the robustness of these preliminary results.

ACKNOWLEDGEMENTS

The authors would like to thank Ms Levi Brioschi (Director of Care of CHUV) and Professor Hohlfeld (Head of the Obstetrics and Gynaecology Department) for their support and Mr Cathieni (Head of Research at the Care Evaluation Unit at Vaudois University Hospital) for his valuable collaboration. The authors declare that no specific funding was received to carry out this study.

CONFLICTS OF INTEREST DISCLOSURE

The authors declare that there is no conflict of interest.

REFERENCES

- [1] Razurel C, Bruchon-Schweitzer M, Dupanloup A, et al. Stressful events, social support and coping strategies of primiparous women during the postpartum period: a qualitative study. *Midwifery*. 2011; 27: 237-242. PMID:19783333 <http://dx.doi.org/10.1016/j.midw.2009.06.005>
- [2] Razurel C, Kaiser B, Dupuis M, et al. Validation of the post-delivery perceived stress inventory. *Psychology, Health & Medicine*. 2014; 19(1): 70-82. PMID:23477659 <http://dx.doi.org/10.1080/13548506.2013.774431>
- [3] Rudman A, El-Khoury B, Waldenström U. Evaluating multi-dimensional aspects of postnatal hospital care. *Midwifery*. 2008; 24: 425-441. <http://dx.doi.org/10.1016/j.midw.2007.03.004>
- [4] Hildingsson IM. New parents' experiences of postnatal care in Sweden. *Women and Birth*. 2007; 20(3): 105-113. PMID:17702685 <http://dx.doi.org/10.1016/j.wombi.2007.06.001>
- [5] Fenwick J, Butt J, Dhaliwal S, et al. Western Australian women's perceptions of the style and quality of midwifery postnatal care in hospital and at home. *Women and Birth*. 2010; 23(1): 10-21. PMID:19632912 <http://dx.doi.org/10.1016/j.wombi.2009.06.001>
- [6] Redshaw M, Heikkilä K. Ethnic differences in women's worries about labour and birth. *Ethnicity & Health*. 2011; 16(3): 213-23. PMID:21500115 <http://dx.doi.org/10.1080/13557858.2011.561302>
- [7] Forster DA, McLachlan HL, Rayner J, et al. The early postnatal period: exploring women's views, expectations and experiences of care using focus groups in Victoria, Australia. *BMC Pregnancy and Childbirth*. 2008; 8(1): 27-27. PMID:18644157 <http://dx.doi.org/10.1186/1471-2393-8-27>
- [8] Frei AI, Mander R. The relationship between first-time mothers and care providers in the early postnatal phase: an ethnographic study in a Swiss postnatal unit. *Midwifery*. 2011; 27(5): 716-722. PMID:20542359 <http://dx.doi.org/10.1016/j.midw.2009.11.004>
- [9] Emmanuel E, Creedy D, Fraser J. What mothers want: A postnatal survey. *Australian Journal of Midwifery*. 2001; 14(4): 16-20. [http://dx.doi.org/10.1016/S1445-4386\(01\)80007-0](http://dx.doi.org/10.1016/S1445-4386(01)80007-0)
- [10] Waldenström U, Rudman A, Hildingsson I. Intrapartum and postpartum care in Sweden: women's opinions and risk factors for not being satisfied. *Acta Obstetrica Gynecologica Scandinavica*. 2006; 85(5): 551-560. PMID:16752233 <http://dx.doi.org/10.1080/00016340500345378>
- [11] Rudman A, Waldenström U. Critical views on postpartum care expressed by new mothers. *BMC Health Services Research*. 2007; 7(1): 178-178. PMID:17983479 <http://dx.doi.org/10.1186/1472-6963-7-178>
- [12] Lazarus RS, Folkman S. *Stress, appraisal and coping*. New York: Springer; 1984.
- [13] Coyne JC, Lazarus RS. Cognitive style, stress perception, and coping. In IL Kutash, LB Schlesinger (Eds.), *Handbook on stress and anxiety: Contemporary knowledge, theory and treatment* (pp. 144-158). San Francisco, CA: Jossey-Bass; 1980.
- [14] Faisal-Cury A, Rossi Menezes P. Prevalence of anxiety and depression during pregnancy in a private setting sample. *Archives of Women's Mental Health*. 2007; 10(1): 25-32. PMID:17187166 <http://dx.doi.org/10.1007/s00737-006-0164-6>
- [15] De Tychey C, Spitz E, Briançon S, et al. Prévalence de la dépression prénatale et stratégies de coping. *Neuropsychiatrie de l'enfance et de l'adolescence*. 2004; 52: 261-265. <http://dx.doi.org/10.1016/j.neurenf.2004.02.006>
- [16] van Bussel JC, Spitz B, Demyttenaere K. Depressive symptomatology in pregnant and postpartum women. An exploratory study of the role of maternal antenatal orientations. *Archives of Women's Mental Health*. 2009; 12: 155-166. PMID:19266251 <http://dx.doi.org/10.1007/s00737-009-0061-x>
- [17] Pakenham KI, Smith A, Rattan SL. Application of a stress and coping model to antenatal depressive symptomatology. *Psychology, Health & Medicine*. 2007; 12(3): 266-277. PMID:17510896 <http://dx.doi.org/10.1080/13548500600871702>
- [18] Honey KL, Morgan M, Bennett P. A stress-coping transactional model of low mood following childbirth. *Journal of Reproductive and Infant Psychology*. 2010; 21(2): 129-143. <http://dx.doi.org/10.1080/0264683031000124082>
- [19] Razurel C. *Rôle du stress perçu, du soutien social et des stratégies de coping sur la santé psychique des mères primipares et sur leur sentiment d'auto-efficacité parentale, en période périnatale* [Thesis]. 2013; Nantes, France: University of Nantes.
- [20] Razurel C, Kaiser B. The role of social support satisfaction on the psychological health of primiparous mothers in the perinatal period. *Women Health*. 2015; 55(2): 167-86. PMID:25775391 <http://dx.doi.org/10.1080/03630242.2014.979969>

- [21] Razurel C, Kaiser B, Sellenet C, et al. Relation between perceived stress, social support and coping strategies and maternal well-being: a review of the literature. *Women Health*. 2013; 53(1): 74-99. PMID:23421340 <http://dx.doi.org/10.1080/03630242.2012.732681>
- [22] Hung CH. Predictors of postpartum women's health status. *Journal of Nursing Scholarship*. 2004; 36(4): 345-351. <http://dx.doi.org/10.1111/j.1547-5069.2004.04062.x>
- [23] Corwin EJ, Brownstead J, Barton N, et al. The impact of fatigue on the development of postpartum depression. *Journal of Obstetric, Gynecologic & Neonatal Nursing*. 2005; 34(5): 577-586. PMID:16227513 <http://dx.doi.org/10.1177/0884217505279997>
- [24] MacArthur C, Winter HR, Bick DE, et al. Effects of redesigned community postnatal care on women's health 4 months after birth: a cluster randomised controlled trial. *Lancet*. 2002; 359(9304): 378-385. [http://dx.doi.org/10.1016/S0140-6736\(02\)07596-7](http://dx.doi.org/10.1016/S0140-6736(02)07596-7)
- [25] Chabrol H, Teissède F, Saint-Jean M, et al. Prévention et traitement des dépressions du postpartum: une étude contrôlée. *Devenir*. 2003; 1(15): 5-25. <http://dx.doi.org/10.3917/dev.031.0005>
- [26] Schmied V, Cooke M, Gutwein R, et al. An evaluation of strategies to improve the quality and content of hospital-based postnatal care in a metropolitan Australian hospital. *Journal of Clinical Nursing*. 2009; 18(13): 1850-61. PMID:19638047 <http://dx.doi.org/10.1111/j.1365-2702.2008.02746.x>
- [27] MacArthur C, Winter HR, Bick DE, et al. Redesigning postnatal care: a randomised controlled trial of protocol-based midwifery-led care focused on individual women's physical and psychological health needs. *Health Technology Assessment*. 2003; 7(37). PMID:14622490 <http://dx.doi.org/10.3310/hta7370>
- [28] Razurel C, Héliot C, Perier J, et al. Education des mères à la santé dans le post partum à la maternité de Genève. *Recherche en soins infirmiers*. 2003; 75: 38-45. PMID:14725169
- [29] Dykes F. A critical ethnographic study of encounters between midwives and breast-feeding women in postnatal wards in England. *Midwifery*. 2005; 21(3): 241-252. PMID:15967551 <http://dx.doi.org/10.1016/j.midw.2004.12.006>
- [30] Duclay E, Hardoin JB, Sebille V, et al. Exploring the impact of staff absenteeism on patient satisfaction using routine databases in a university hospital. *Journal of Nursing Management*. 2015; 23(7): 833-841. PMID:24581233 <http://dx.doi.org/10.1111/jonm.12219>
- [31] McHugh MD, Kutney-Lee A, Cimiotti JP, et al. Nurses' widespread job dissatisfaction, burnout, and frustration with health benefits signal problems for patient care. *Health Affairs (Millwood)*. 2011; 30(2): 202-210. PMID:21289340 <http://dx.doi.org/10.1377/hlthaff.2010.0100>
- [32] Tzeng HM, Ketefian S, Redman RW. Relationship of nurses' assessment of organizational culture, job satisfaction, and patient satisfaction with nursing care. *International Journal of Nursing Studies*. 2002; 39(1): 79-84. [http://dx.doi.org/10.1016/S0020-7489\(00\)00121-8](http://dx.doi.org/10.1016/S0020-7489(00)00121-8)
- [33] Polit DF, Beck CT. *Essentials of nursing research: appraising evidence for nursing practice*. 2010; Philadelphia, PA: Wolters Kluwer/Lippincott Williams & Wilkins.
- [34] Razurel C. *Serévéler et se construire comme mère: l'entretien psychoéducatif périnatal*. 2015; Geneva, Switzerland: Médecine et Hygiène.
- [35] Richard C, Lussier MT, Kurtz S. Une représentation de l'approche Calgary-Cambridge. In C Richard, MT Lussier, (Eds.). *La communication professionnelle en santé* (pp. 291-324). 2005; Montréal: Éditions du Renouveau Pédagogique, ERPI, Montreal.
- [36] Vandembroucke JP, von Elm E, Altman DG, et al. STROBE Initiative. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): explanation and elaboration. *International Journal of Surgery*. 2014; 12(12): 1500-1524. PMID:25046751 <http://dx.doi.org/10.1016/j.ijisu.2014.07.014>
- [37] Shorey S, Chan SW, Chong YS, et al. A randomized controlled trial of the effectiveness of a postnatal psychoeducation programme on self-efficacy, social support and postnatal depression among primiparas. *Journal of Advanced Nursing*. 2015; 71(6): 1260-73. PMID:25496615 <http://dx.doi.org/10.1111/jan.12590>