

Nursing professionals training on postpartum mental health: before and after

*Educação dos profissionais de enfermagem sobre saúde
mental puerperal: estudo antes e depois*

*Educación de los profesionales de enfermería sobre salud
mental puerperal: estudio antes y después*

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ABSTRACT

Objective: To develop educational material and train nursing professionals on postpartum mental health.

Method: A before-after quasi-experimental study, conducted from August to December 2023 with 41 professionals from the nursing team of the maternity ward of a university hospital in São Paulo. The planning, educational intervention and pre- and post-intervention audits were conducted according to JBI recommendations. Data were collected using a questionnaire, and the intervention consisted of dialogue, videos and an educational game. Percentage differences were adopted to analyze the intervention.

Results: The before and after compliance rates of the audited criteria were: Healthcare professionals receive ongoing education and training on mental health and perinatal depression (0%-100%, before and after); Women's emotional state after giving birth is assessed (92.7%-97.5%); Designated support persons are included in postpartum mental health guidelines (41.7%-96.9%); The nursing team guides mothers and partners about the expected signs and symptoms of postpartum sadness, encouraging them to seek further evaluation if it worsens or persists for more than two weeks (22.0%-77.5%).

Conclusion: The education of nursing professionals contributed to increased compliance in all audited criteria, which suggests that the training had improved the knowledge and practice of nursing professionals.

Descriptors: Depression Postpartum; Evidence-based Practice; Health Personnel; Inservice Training; Nursing-Midwifery.

RESUMO

Objetivo: Elaborar material educativo e qualificar os profissionais de enfermagem sobre saúde mental puerperal.

Método: Estudo quase-experimental, tipo antes e depois, realizado de agosto-dezembro/2023, com 41 profissionais de enfermagem da maternidade de um hospital-escola, em São Paulo. Foram seguidas as etapas de planejamento, intervenção educativa e auditorias pré e pós-intervenção recomendadas pelo JBI. Os dados foram coletados mediante questionário e a intervenção foi composta por exposição dialogada, vídeos e jogo educativo. Diferenças percentuais foram adotadas para análise da intervenção.

Resultados: As taxas de conformidade dos critérios auditados antes e depois foram: Os profissionais de saúde recebem educação e treinamento contínuos sobre saúde mental e depressão perinatal (0%-100%); As mulheres são avaliadas quanto ao seu estado emocional após o parto (92,7%-97,5%); Companheiros são incluídos nas orientações sobre saúde mental pós-parto (41,7%-96,9%); A equipe de enfermagem orienta mães e parceiros sobre os sinais e sintomas de tristeza pós-parto esperados, encorajando-os a buscarem uma avaliação mais aprofundada em caso de piora ou persistência por mais de duas semanas (22,0%-77,5%).

Conclusão: A educação dos profissionais de enfermagem contribuiu para o aumento da conformidade dos critérios auditados, sugerindo que o treinamento contribuiu para melhorar o conhecimento e a prática dos profissionais de enfermagem.

Descritores: Depressão Pós-Parto; Prática Clínica Baseada em Evidências; Profissionais de Saúde; Capacitação em Serviço; Enfermagem Obstétrica.

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RESUMEN

Objetivo: Desarrollar material educativo y calificar profesionales de enfermería sobre la salud mental puerperal.

Método: Estudio cuasiexperimental, antes-después, realizado de agosto a diciembre de 2023, con 41 profesionales de enfermería de la maternidad de un hospital-escuela, en São Paulo. Se siguieron las recomendaciones del JBI para la planificación, intervención educativa y auditorías pre y post-intervención. Los datos se recogieron mediante un cuestionario y la intervención consistió en diálogo, videos y un juego educativo. Se adoptaron diferencias porcentuales para analizar la intervención.

Resultados: Las tasas de cumplimiento de los criterios auditados antes y después fueron: Los profesionales de la salud reciben educación y capacitación continua sobre salud mental y depresión perinatal (0%-100%, antes y después de la intervención); A las mujeres se les evalúa su estado emocional después del parto (92,7%-97,5%); La pareja está incluida en las guías sobre salud mental posparto (41,7%-96,9%); El equipo de enfermería orienta a las madres y parejas sobre los signos y síntomas esperados de la tristeza posparto, recomendando que busquen una evaluación adicional si empeoran o persisten durante más de dos semanas (22,0%-77,5%).

Conclusión: La educación de los profesionales de enfermería contribuyó para un mayor cumplimiento en los criterios auditados, sugiriendo que la calificación contribuyó para mejorar el conocimiento y la práctica de los profesionales de enfermería.

Descriptores: Depresión Postparto; Práctica Clínica Basada en la Evidencia; Personal de Salud; Capacitación en Servicio; Enfermería Obstétrica.

■ INTRODUCTION

According to the World Health Organization (WHO), one in five women will have a mental health issue during pregnancy and up to one year after childbirth. Most of them only need mental health support, and maternal and child health services are in a unique position to provide it⁽¹⁾. In the postpartum, disorders such as baby blues or dysphoria, postpartum depression (PPD), and puerperal psychosis stand out⁽²⁾.

The perinatal period is an opportune moment to improve the mental health of women, as they have more access to health services at the time. Especially, providing care after delivery and promoting changes in health behaviors can have a positive influence on mental health throughout their lives⁽¹⁾.

Recent studies show that the social profile of women affected by mental health disorders is strongly associated to socioeconomic factors, ethnicity, and experiences during pregnancy. Women from lower social classes, or those who face negative experiences during delivery, such as obstetric violence, are more likely to develop these disorders. Additionally, racial disparities are also clear. Chronic stress and anxiety during pregnancy are also factors that increase the risk of postpartum mental suffering^(3,4). Among factors that are protective to mental health, the quality of maternal-child services stands out, with competent health care providers to inform women and treat them with respect and dignity⁽¹⁾.

Best postpartum mental health practices, as recommended by a systematic review⁽⁵⁾, evidence-based guidelines⁽⁶⁻⁸⁾, and an expert opinion⁽⁹⁾, state that women should be evaluated regarding their emotional state after birth, and health workers should be trained in patient-centered communication skills, psychosocial evaluation, and culturally safe care.

Permanent education in health has an essential role in continuously improving the training of health workers, promoting interdisciplinary integration and the transformation of traditional practices, as well as the adaptation of health services to emerging needs⁽¹⁰⁾.

Training health workers to education women about postpartum mental suffering is essential to increase awareness and improve self-knowledge care, the identification of depressive symptoms, and the search for proper care⁽¹¹⁾. In addition to providing guidance on symptoms and treatments, health workers can clarify myths about PPD and discuss the stigma regarding this disorder⁽¹²⁾.

According to recommendations from the WHO, all women, during prenatal and postnatal care, benefit from psychosocial interventions, such as psycho-education, to develop coping strategies, manage stress, and build support networks. Parents/partners/caregivers should also be included in these interventions⁽¹⁾.

The results of a randomized controlled trial about psychoeducational interventions carried out in Ethiopian prenatal services suggest that brief programs, focused on providing psychosocial information and support, can

be effective in reducing mental suffering symptoms in cases such as PPD. Their analysis was mainly focused on interventions in primary health units to prevent PPD in pregnant women, showing that group prenatal psychoeducation, focusing on social and emotional support, was associated to a significant reduction in the incidence of PPD, highlighting protective factors such as self-esteem and partner support⁽¹²⁾.

Implementing educational actions for postpartum mental health to train health workers had a positive impact on the triage and management of perinatal mental disorders. A previous study highlighted the implementation of digital training for nurses and midwives, considering it essential for these professionals to develop the necessary skills to identify the signs of postpartum depression and carry out efficient interventions. Adopting new technologies in the training of these workers has also been a growing trend to optimize the process of diagnosis and treatment⁽¹⁴⁾.

A study carried out in Iran evaluated the efficiency of a postpartum educational program destined to qualify health workers and their relatives, especially husbands, to recognize early signs of mental suffering in postpartum women. Their training included topics such as stress, anxiety, and depression, as well as strategies to increase mother social support. The intervention used digital tools to educate and monitor these mothers, with positive results in their wellbeing and improved family support. These findings reiterate the importance of qualifications directed at mental health in the puerperium⁽¹⁵⁾.

If we consider the postpartum period as a moment that enables mother health education, we understand that the interventions proposed in this study can promote the qualification of nursing professionals to guide women and families in regard to postpartum mental suffering. By qualifying the nursing workers so they can provide guidance to women, helping them recognize PPD signs and symptoms, we expect not only to improve their self-knowledge, but also recommend that they search professional help⁽¹²⁾.

Thus, considering how important it is to provide better guidance to women in regard to the mental health suffering that can take place in the puerperium, this study aimed to elaborate educational material that can train nursing workers about the mental health of postpartum women.

■ METHOD

Quasi-experimental before-and-after study. The stages of this study followed the methodology proposed by the JBI (formerly known as the Joanna Briggs Institute) for the implementation of evidence in practice. This methodology is based on a clinical audit, coupled with the identification and management of obstacles and facilitators in agreement with the best evidence-based practices⁽¹⁶⁾.

This study followed the methodological stages of planning and pre-intervention audit (stage 1), educational intervention (stage 2), and post-intervention audit (stage 3)⁽¹⁷⁾, using the online tools Practical Application of Clinical Evidence System (PACES) and Getting Research into Practice (GRiP)^(16,18).

Using the PACES tool we determined the audit criteria for this study, based on scientific evidence from systematic reviews, evidence-based guidelines, and expert opinions⁽⁵⁻⁹⁾ about best practices to provide guidance about postpartum mental health. These works provided the evidence upon which the criteria for intervention and evaluation were determined. The GRiP tool was used to record and analyze the facilitators and obstacles for an educational intervention and to define the best strategies to overcome these obstacles, to improve compliance with audit criteria.

This study was carried out in a mid-complexity teaching hospital in the West of the city of São Paulo. It has 153 beds, 32 of which are dedicated to Joint Accommodations (JA). The minimum hospitalization time of postpartum women and newborns in the JA is 48 hours. During this period, they remain together from birth to hospital discharge. In 2023, there were 200 childbirths per month, helped by obstetricians, obstetric nurses, and medical and nursing residents. The nursing team in the JA includes one head-nurse, 11 direct care nurses, and 20 nursing technicians and assistants, in addition to 11 resident nurses, to a total of 43 workers.

The study population included all nursing workers from the JA, and the sample was formed by 41 professionals (10 nurses, 11 resident nurses, and 20 nursing technicians and assistants). The inclusion criteria included being a nurse, a nursing resident, nursing technician, or nursing assistant, and having worked in the JA for at least 6 months. Exclusion criteria

encompassed those on sick leave, pregnancy, or vacation, but there were no exclusions, as all professionals were in accordance with inclusion criteria. In stage 3, there was one follow-up loss.

The independent variable was the educational intervention described below, aimed at teaching the best practices when guiding women about mental health in the postpartum period. The dependent variables were the results of the clinical audit criteria, evaluated before and after the educational intervention with the professionals. The following characterization variables were considered: age, gender, professional training, length of professional training, specialization, and time of work.

Data was collected through the application of a survey to all participants, during their working hours, in any windows when they were available. The survey included the sociodemographic data above and four closed questions about best practice evidence-based guidance to women about mental health in the postpartum, all generated by the tool PACES. These questions are presented in the first column of Chart 1. The possible answers were yes or no. The questionnaire was applied before the educational intervention. After the intervention, it was once again applied to the same professionals, enabling us to compare the responses before and after the intervention (pre- and post-intervention audits).

After the head nurse of the setting of the study gave her approval, the project was also approved by the Research Ethics Committee of the hospital, under CAAE 68479423.0.0000.5392. It respected Resolution No. 466/2012 from the National Council of Health, ensuring the confidentiality and secrecy of data, as the participants were not identified.

Below, the stages of the study are described, according to the JBI methodology.

Stage 1: Planning and pre-intervention audit

This stage took place from 08/01 to 08/31/2023, and consisted in determining which were the best practices to provide guidance to women about mental health in the postpartum period, context evaluations

and readiness to change, formation of the project team and the pre-intervention audit itself.

The best-practice recommendations to be provided by nursing workers during CA hospitalization were found in literature⁽⁵⁻⁹⁾, considering that:

- Women must be evaluated regarding their emotional status after delivery (degree of evidence A, meaning that this is a strong recommendation for the health strategy, in which its desirable effects outweigh its undesirable ones, and there is appropriate evidence of its quality for it to be used; has a good or nonexistent impact on resources and costs, and the preferences and experience of the patient are considered).
- Health workers must be educated and trained in patient-centered communication, psychosocial evaluation, and culturally safe care (degree of evidence B, meaning that this is a weak recommendation, in which the desirable effects seem to outweigh the undesirable effects, albeit not that clearly; there is evidence supporting its use, but it may not be of very high quality; it brings benefits, no impact, or a minimum impact on resources and costs; the preferences and experience of the patient may or may not have been taken into account).
- The health workers must receive continuous training every year about mental health and support (including triage) for perinatal depression (degree of evidence B).

The context of this study was the JA, an area for the attention to postpartum women and newborns delivered in the institution. The team that coordinated the project was formed considering their involvement as agents of change, including three key-members: one supervising nurse, one direct care nurse from the hospital itself, and one professor from the university.

The criteria audited, the professional sample, and the method used to measure compliance with each criterion are presented in Chart 1. The criteria from 1 to 4 were extracted from PACES, and the sample for the audit was formed by nursing professionals.

Chart 1. Audit criteria, sample, and approach to measure conformity to best practices. São Paulo, SP, Brazil, 2023.

Audit criteria	Sample	Method used to measure the % of compliance with best practices
1. Are health workers taught and trained every year, continuously, about mental health and perinatal depression?	10 nurses, 11 resident nurses, and 20 nursing technicians and assistants.	Survey answered by the professionals to determine whether they receive training about mental health and perinatal depression. Considered YES/NO, according to the response.
2. Are women's emotional states evaluated after delivery?	10 nurses, 11 resident nurses, and 20 nursing technicians and assistants.	Survey answered by the professionals to determine whether they evaluate women's emotional states after delivery Considered YES/NO, according to the response.
3. Are parents/partners/caregivers included in postpartum mental health guidance?	10 nurses, 11 resident nurses, and 20 nursing technicians and assistants.	Survey answered by the professionals to determine whether they include parents/partners/caregivers in postpartum mental health guidance Considered YES/NO, according to the response.
4. Does the nursing team guide mothers and partners about expected signs and symptoms of postpartum sadness, encouraging them to seek further treatment in case it becomes worsen or persist for more than 2 weeks?	10 nurses, 11 resident nurses, and nursing assistants	Survey answered by the professionals to determine whether they teach women and their companions about the signs and symptoms of postpartum sadness and the appropriate time to search for further care. Considered YES/NO, according to the response.

Stage 2: Educational intervention, including a situation analysis using the GRiP

The coordination team of the project (nurse supervisor, direct care nurse, and university professor, the key-members, as indicated in stage 1), identified the obstacles and facilitators. They also analyzed the current situation of the setting, using the GRiP tool (Chart 2).

The activity that defines this stage was the educational intervention involving the JA professionals, carried out from 09/15 to 09/30/2023. It included an exposition and dialogue in two videos and an educational game.

The use of educational videos and games as teaching strategies is justified by their effectiveness in improving learning, their positive impact on the motivation to learn, the increased engagement with the educational content, and the development of cognitive and social skills^(18,19). Educational games and quizzes are unique learning experiences, thus creating a learning environment that is both attractive and engaging⁽²⁰⁾.

The first video used addressed the differences between PPD and baby blues, as well as the signs and symptoms, causes and treatments associated to each condition. Our goal was to prepare the professionals to raise the awareness of a woman and her family about how important it is to recognize these signs early. It was also highlighted that this condition may affect the fathers too. We emphasized the fact that it is important to seek professional help in case of PPD symptoms, and that it should be emphasized the seeking help is not a sign of weakness, but of self-care and courage.

The second video was an animation that showed a real case as an example. In it, a woman presented postpartum sadness while still in maternity, and the nursing worker had an essential role in embracing and guiding her and her family about issues concerning sadness and PPD. The video shows the nursing professional providing clear and accessible guidance about postpartum sadness and PPD, their symptoms, and how important it is to seek professional help. This animation did not just show that specific case, but aimed to highlight how important the role of the nursing worker is, and to embrace and guide women and families about postpartum mental health.

The videos were repeated as many times as needed for all teams, of all shifts, to be able to see. As this content was addressed, the researcher also talked to the professionals of the study about the topic, in an encounter that last for one hour.

After the videos were presented, participants answered a digital interactive quiz on their phones. The goal of the game was to consolidate the knowledge transferred during qualification, reiterating relevant information about postpartum mental health. The questions addressed a set of topics related to postpartum mental health, baby blues and PPD, including symptoms, risk factors, intervention strategies and emotional support. By actively participating in the game, participants could consolidate the content and concepts related to postpartum mental health, which may contribute to a better retention of their knowledge.

The videos were elaborated using the free graphic design platform Canva®, and lasted about 3 minutes each. They are available at https://drive.google.com/file/d/1FLU4CsDkQxLjRwBbCmWQb_g1UeYvsW_/view?usp=drive_link and https://drive.google.com/file/d/1i8Q33deBhi4I9PWwRKYWDdn4z1t6zwPJl/view?usp=drive_link

The content and animations were elaborated by the researcher, according to the best scientific evidence. The game was built using a template in the software Power Point®, which is freely available online. It included five questions and answers elaborated by the researcher according to the best scientific evidence.

After the research was finished, both videos were kept in the intranet of the hospital, so all professionals in the study setting could access them.

Stage 3: Post-audit intervention

According to recommendations from the JBI, the best moment for this audit depends on the type of intervention, as long as all participants have the time to participate in the intervention and it is possible for the result to be observed in the clinical practice of the professionals⁽¹⁶⁾.

Thus, 2 months after the intervention, from 12/01 to 12/21/2023, a post-intervention audit was

conducted, following the same four criteria from the pre-intervention audit.

All 41 professionals were once again invited to answer the questionnaire. One of them, however, was on medical leave. That professional was considered a follow-up loss.

Information on the audit criteria and sample characterization was recorded in the same data collection instrument used in the pre-intervention audit.

To analyze the audit criteria for both pre- and post-interventions (stages 1 and 3), we used the PACES tool, including the four yes-or-no questions in the survey that corresponded to the four criteria audited, as indicated by Chart 1. This quantitative analysis evaluated the percentage changes that indicated the impact of the strategies used on the compliance with the criteria audited, comparing the percentage of compliance with best practices before and after the intervention. Using the GRiP tool and the educational intervention,

we carried out a situational analysis. The results of the analysis are presented in tables, charts, and figures.

■ RESULTS

The sociodemographic profile of the nursing professionals who participated in the pre- and post-audit interventions is presented in Table 1. A little more than half participants were team nurses or nursing residents, with a long time since graduation (10 to 39 years) and working in the TH-USP (≥ 10 years) and age ≥ 40 years. All participants were female (not shown in the table).

The project coordination team, using the GRiP and considering the results of the pre-intervention audit, found three crucial aspects of the context: barriers to the use of evidence, interested parties, and strategies to implement improvements. Chart 2 summarizes the information arising from the analysis.

Table 1. Sociodemographic characteristics of nursing professionals in pre-and post-intervention audits. São Paulo, SP, Brazil, 2023.

Sociodemographic characteristics	Pre-intervention audit	Post-intervention audit
	n=41 (%)	n=40 (%)
Age		
18 20 years	–	–
20 25 years	5 (12.1)	5 (12.5)
25 30 years	8 (19.5)	8 (20.0)
30 40 years	2 (4.8)	2 (5.0)
≥ 40 years	26 (63.4)	25 (62.5)
Professional training		
Nurse	10 (24.3)	10 (25.0)
Nursing resident	11 (26.8)	11 (27.5)

Tabela 1. Cont.

Sociodemographic characteristics	Pre-intervention audit	Post-intervention audit
	n=41 (%)	n=40 (%)
Nursing technician	19 (46.3)	18 (45.0)
Nursing assistant	1 (2.4)	1 (2.5)
Time since graduation		
< 5 anos	10 (32.3)	10 (34.4)
5 ┤ 10 years	3 (12.9)	3 (10.4)
10 ┤ 20 years	8 (16.1)	5 (17.2)
20 ┤ 30 years	15 (22.6)	7 (24.2)
30 ┤ 40 years	4 (12.9)	3 (10.4)
≥ 40 years	1 (2.4)	–
Time working at the HU-USP		
≥ 6m and <1 year	6 (14.6)	6 (40.0)
≥ 1 year and < 2 years	4 (9.7)	4 (10.0)
≥ 2 years and < 5 years	2 (4.8)	2 (5.0)
≥ 5 years and < 10 years	1 (2.4)	1 (2.5)
≥ 10 years and < 20 years	8 (19.5)	7 (17.5)
≥ 20 years	20 (48.7)	20 (50.0)

Chart 2 - GRiP structure to guide postpartum women about PPD. São Paulo, SP, Brazil, 2022-2023.

Barriers	Interested parties	Strategies	Resources	Results
Lack of training and continued education on PPD	Nurses, technicians, and nursing residents	Training: Educational video - PPD guidance to women in the postpartum period	Nurse mediator of the educational activity Educational video with content on PPD	All participants received training, and all results improved in the post-intervention audit.
Lack of knowledge about baby blues signs and symptoms and PPD.	Nurses, technicians, and nursing residents	Educational game, in the form of a quiz, about baby blues and PPD signs and symptoms	Mediator nurse and cell phone to participate in the quiz	Post-intervention audit results showed an improvement
There was insufficient knowledge about how to guide women in the postpartum period, including their support person.	Nurses, technicians, and nursing residents	Educational video - PPD guidance to women in the postpartum period	Nurse mediator of the educational activity Educational video with content on PPD	Post-intervention audit results showed an improvement
Team work overload	Nurses, technicians, and nursing residents	Simple and improved educational approach	Nurse mediating the discussion	The team still feels overloaded, but there was an improvement in the post-intervention audit

Figure 1 presents the results of the pre- and post-intervention audits of criteria 1 through 4.

All nursing workers were trained about sadness and PPD (criterion 1), including signs and symptoms of baby blues and PPD, as well as on how to provide guidance to women and their support persons. Compliance with this criterion reached 100% in the post-intervention audit.

There was compliance with criterion 2 when nursing workers answered that they attempted to evaluate the emotional state of women after delivery. The compliance rate, which had been 92.7% in the pre-intervention audit, increased to 97.5% in the post-intervention one.

There was compliance with criterion 3 when nursing workers responded that they included the support

person in the guidance provided about postpartum mental health. It was considered "not applicable" when they answered that they did not provide postpartum mental health guidance. The conformity rate was 44.7% in the pre-intervention audit and 96.9% in the post-intervention audit.

There was compliance with criterion 4 when nursing workers stated that they provided guidance to the mother and her support person about the signs and symptoms of postpartum sadness that were expected, encouraging them to seek professional help in case these symptoms worsened or lasted for longer than two weeks. The compliance rate with this criterion was

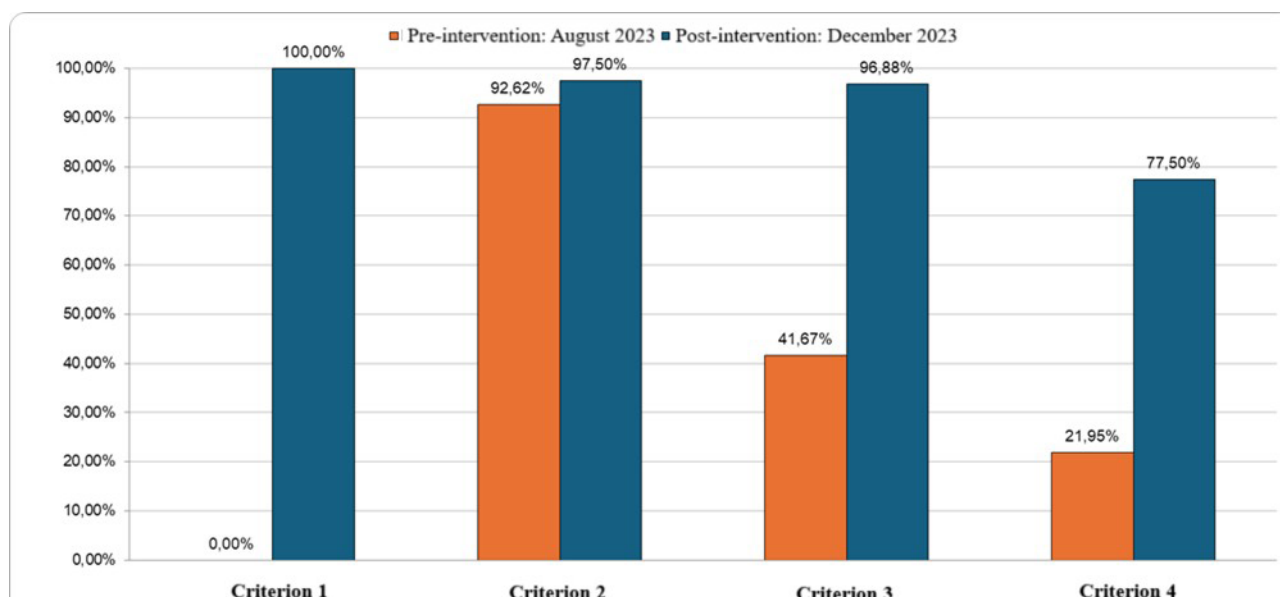


Figure 1. Comparison of pre- and post-intervention audit compliance rates (%) with best practice criteria 1 to 4*. São Paulo, SP, Brazil, 2023.

***Criteria 1-4:**

- Are health workers taught and trained every year, continuously, about mental health and perinatal depression?
- Are women's emotional states evaluated after delivery?
- Are parents/partners/caregivers included in postpartum mental health guidance?
- Does the nursing team guide mothers and partners about expected signs and symptoms of postpartum sadness, encouraging them to seek further treatment in case it becomes worsen or persist for more than 2 weeks?

22.0% in the pre-intervention audit, and 77.5% in the post-intervention one.

DISCUSSION

The results of this study showed that the educational intervention with nursing workers helped improve the team regarding postpartum PPD and sadness symptoms, and the guidance provided to women and their families.

The profile of the participants indicated that most had been working as nurses or nursing technicians for at least 5 years, and the pre-intervention audit showed they had not received continued education on the topic of mental health and PPD.

Understanding the demographic profile and the experience of nurses and nursing technicians in maternity is essential to develop strategies to continuously train and improve, in order to ensure that the workforce is qualified and dedicated to mother's health.

In Brazil, the main difference between nurses and nursing technicians is in the educational level and professional responsibilities. Nurses have a higher

education course in nursing, which provides them with more autonomy in management and coordinating a team, in addition to being able to provide a broader clinical assistance, including prescribing care, making decisions in complex situations, and exercising leadership. Nursing technicians, in turn, have technical training, based on a high-school education, which allows them to provide direct care to the patient, such as administering drugs and carrying out procedures under the supervision of nurses. They are essential to monitor the condition of postpartum women during the execution of routine care and the continuous communication with mothers and their families⁽²¹⁾.

A study⁽¹³⁾ has shown that a considerable percentage of health workers do not have sufficient knowledge about symptoms, risk factors, and intervention strategies for PPD. This gap in education and professional development can have a negative effect on care and lead to the stigmatization of women with mood changes^(11, 22, 23).

A systematic review has found that many nurses have a limited knowledge about the symptoms and risk factors associated with PPD, which can lead to lack of

proper guidance to women, as well as underdiagnosis and undertreatment of the condition. As in the present study, professionals reported lack of perinatal mental health formal training, and that they needed further professional development⁽²⁴⁾.

The training of health workers to guide mothers and detect PPD early is essential for the wellbeing of women and their families. The lack of knowledge of professionals about the topic has been considered a barrier to provide guidance to women, and to identify and manage PPD effectively⁽²⁵⁾.

The entire nursing team of the JA participated in the educational activities about PPD, which was essential to reach the positive results found in the post-intervention audits.

The compliance rates with the four criteria evaluated suggest that the training was effective. The increase with the compliance with criterion 2, which evaluates whether the professionals are actively assessing the emotional state of women, suggests that the training provided them with the tools they needed to be more attentive to their emotional wellbeing. This finding is consistent with studies that showed that nursing training is essential to improve triage and detect PPD early⁽²⁶⁾.

A previous study described the development and implementation of an educational intervention about PPD with maternity nurses. The educational strategy they used consisted in the reading of an article in a virtual environment, followed by a questionnaire with topics addressed by the text. This educational intervention increased the knowledge of nurses and led them to provide guidance to women about PPD⁽²²⁾.

There was also a remarkable increase in compliance with criterion 3 (from 44.7% to 96.9%), involving the inclusion of the woman's designated support person in the guidance about postpartum mental health. This reflects the growing awareness of how important family support is for the emotional recovery of the mothers. Including the support person in orientations, as suggested by literature, can have a crucial role in preventing postpartum emotional complications, such as PPD⁽²⁷⁾.

Furthermore, in criterion 4, which evaluated guidance about persisting symptoms and the search for professional help in mental health, there was a

substantial improvement, from 22% to 77.5%. This increase can be attributed to an increase in the confidence of nurses when addressing PPD signs with women and their support persons. Studies suggest that proper guidance and motivation to search for help are essential for the early management of PPD, minimizing its negative effects on mother and baby health⁽²⁸⁾.

These results are in accordance with literature, which indicates the efficiency of educational programs in increasing the knowledge of health workers about PPD, improving triage and supporting proper orientation practices⁽²⁸⁾. Moreover, focusing on women and their support persons when it comes to mental health guidance is essential to improve their support network and increase the success of PPD management.

The impact of the educational intervention is consistent with previous research which highlighted the relevance of continued education for nurses in the promotion of more informed and sensitive care⁽²⁸⁾. These findings reiterate the need to incorporate regular mental health training in the continued education of nursing workers, especially in critical contexts such as the postpartum period.

In summation, the lack of knowledge of health professionals regarding PPD is a significant challenge in Brazil and worldwide. The implementation of programs to train and raise the awareness of health workers is essential to increase early identification, improving proper management and providing effective support to women that deal with this condition.

It is extremely important to consider the sustainability of the training provided by providing permanent education, since the continuity of evidence-based practices is essential to ensure consistent and lasting benefits for health.

To reach this goal, the JBI model for the implementation of these interventions suggests yearly follow-up audits, ideally integrated into the work process of the teams in order to continuously improve quality, as they are the ones responsible to systematize the collection of work flow data.

It is worth noting that the setting of this study has a Center for Evidence-Based Nursing (NUEBE), whose goals are to promote EBN; to educate workers about evidence-based health care; to offer workshops about the implementation of evidence; to help elaborate

evidence-based nursing protocols; and to consolidate the use of intervention strategies related to best practices in the daily work of nursing professionals.

A limitation of this study was the fact that the answers provided by the workers were self-reported, meaning that they reported their behavior and changes according to their own perceptions. This type of data may be unable to precisely reflect the day-to-day practices of these workers, since their response may be influenced by their perception about how the activities were carried out, not by a direct observation of their own practices. Furthermore, the study design has limited external validity, preventing its generalization for another set of professionals.

■ CONCLUSION

After the educational intervention, the compliance with audited criteria increased regarding the evaluation of the emotional stage of women, the inclusion of designated support persons in the guidance, and an increased awareness about the search for help when the postpartum sadness symptoms persist.

This study may give support for the implementation of continuous training programs for nursing workers, focused on perinatal mental health, in order to improve the care provided to postpartum women.

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■ **Data and material availability**

The dataset may be accessed upon request to the Corresponding author.

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