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ORIGINAL

Nursing staff knowledge of COPAP and its correct application in a neonatal intensive care unit (NICU) of a public hospital in the city of Rosario

Conocimiento del personal de enfermería sobre COPAP y su correcta aplicación, en una Unidad de Cuidados Intensivos neonatal (UCIN) de un Hospital Público de la ciudad de Rosario

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ABSTRACT

Skin-to-skin contact (COPAP) is an innovative approach to the care and treatment of premature and low birth weight infants. Warmth, exclusive breastfeeding and the kangaroo position are the basic principles of this method. But most importantly, it is the love and close relationship that develops between the caregiver and the baby that keeps these little ones alive. Meaningful and specific stimulation, whether emotional or organic, will improve and strengthen breathing and heart rate. Therefore, the objective of the study was to determine if there is a relationship between the knowledge of the COPAP method by the nurses under study and its correct application in a Neonatal Intensive Care Unit of a Public sector, between April 2023 to October 2023, a quantitative study was designed, for that a cross-sectional, descriptive, observational, non-experimental, with an evaluation with 16 simple questions and another to record what was observed in each study unit was used. In the results, the nurses showed an average level of knowledge, as a result of deficits in specific items that counteracted the good performance shown in most of the items observed. In contrast to the activity of each nurse as the level of compliance according to the observation of the application of the method was higher.

Keywords: Neonate; Prematurity; Skin-to-skin contact (COPAP); Nursing role.

RESUMEN

El contacto piel a piel (COPAP) es un enfoque innovador para la atención y el tratamiento de bebés prematuros y de bajo peso al nacer. El calor, la lactancia materna exclusiva y la posición canguro son

los principios básicos de este método. Pero lo más importante es que es el amor y la estrecha relación que se desarrolla entre la persona que lo aplica y el bebé, lo que mantiene con vida a estos pequeños. Una estimulación significativa y específica, ya sea emocional u orgánica, mejorará y fortalecerá la respiración y el ritmo cardíaco. Por lo tanto, el objetivo del estudio se determinó si existe una relación entre el conocimiento del método COPAP por parte de los enfermeros en estudio y su correcta aplicación en una Unidad de Cuidados Intensivos Neonatal de un efector Público, entre abril 2023 a octubre de 2023, se diseñó un estudio cuantitativo, para eso se empleó un corte transversal, descriptivo, observacional, no experimental, con una evaluación con 16 preguntas sencillas y otra para registrar lo observado de cada unidad de estudio. En los resultados los enfermeros mostraron una media de conocimiento, producto de déficits en ítems puntuales que contrarrestaron la buena performance mostrada en la mayoría de los ítems observados. A diferencia de la actividad de cada enfermero como el nivel de cumplimiento según la observación de la aplicación del método fue mayor.

Palabras clave: Neonato; Prematurez; Contacto piel a piel (COPAP); Rol de enfermería.

INTRODUCTION

The COPAP method is recognized as an effective way for establishments to implement the process of care and monitoring of premature or low birth weight newborns. Beginning in 1979, doctors Ray and Martinez in Bogotá, Colombia, overcame the initial difficulties to develop COPAP as an alternative to incubator care for premature babies who needed to be fed and thrive.

The WHO, on the other hand, claims that the method is universal. "All mothers, regardless of age, several births, education, culture or religion, can apply it." According to the Kangaroo Foundation pediatrician and researcher Nathalie Charpak, the method has been adopted in over 30 countries. "Mothers of premature babies suffer from being separated from their babies" (WHO, 2016, p. 1).

Premature babies, in particular, can experience tactile and auditory stimulation, heartbeat, the sound of thick blood vessels, and caresses while in their mother's arms. This stimulates children's self-regulation to survive (WHO, Kangaroo Mother Program, 2016).

Therefore, the COPAP method, which has been shown to meet these needs, is essential. The admission of a child to the NICU after birth triggers emotional and sensory cataracts. The fears, concerns, and anxieties of parents while in hospital can generate anxiety and doubts in parents at the time of discharge. Here, the COPAP method facilitates disappearances by involving parents in the care of their children. Therefore, it is essential to receive information about the baby's condition. You must take an active, not just a secondary, role in the care of a premature baby.

This new paradigm of "humanized care, early breastfeeding, skin-to-skin contact and golden hour" is the central principle implemented in maternity and neonatal care hospitals, which are considered "open doors." As nurses, we must be flexible, educate ourselves, and support all mothers and fathers participating in their baby's recovery.

However, COPAP is an effective technique that allows you to meet your baby's needs for warmth, breastfeeding, protection against infection, stimulation, security, and affection.

The NICU work environment must adapt care management to technological and infrastructural advances and fully consider care as a differentiated axis of work processes—nursing staff who practice this work philosophy. The care of these premature babies is complicated because their needs are complex due to their requirements and insecurity, requiring this method to be addressed appropriately in neonatal units and the staff to be highly qualified (Chapark N. et al., 2019).

Newborns and their families should be considered key players in health promotion. COPAP demonstrates this great intention to provide quality care by adopting a new approach and mindset to NICU care.

The introduction of this method aims to change practices related to care, interaction, and family involvement. Such practices raise important questions related to knowledge and experience in nursing practice.

Nurses play a key role in care management and the implementation of COPAP. This method faces many obstacles in its implementation, so educating and opening caregivers to these new practices aimed at becoming safe and family-centered mothers is essential. The hope is to achieve results that contribute to the improvement and implementation of this care strategy in line with humane and comprehensive care for low-birth-weight premature infants, their parents, and their families. For parents of premature babies, the effective implementation of COPAP by effectively communicating it to mothers, fathers, and caregivers not only provides hope for the baby's survival but also promotes security, affection, and fraternity. Without doubt, the application of COPAP will have implications for healthcare institutions, both economically, in terms of reducing the cost of treating complications in premature babies, and for the families of premature babies, where this approach offers Cost savings by avoiding complexity and using more aggressive procedures that require a more significant financial investment.

Paying attention to emotional situations is a fundamental task of nursing. It ensures that patients interact correctly with their environment, vital signs, breathing patterns, and posture. The adverse effects of hospitalization's physical and emotional disconnection must be mitigated by paying attention to the emotions it evokes. Remember, the nurse motivates the family to implement the COPAP method efficiently and satisfactorily. She must be the spokesperson for the benefits of this method. She supervises sessions to improve care and reviews their progress.

What relationship exists between nurses' knowledge about the COPAP method and how they influence its correct application in the NICU of a public hospital in Rosario?

General objective

To determine the relationship that exists between the knowledge of COPAP among nursing staff and its correct application in the NICU of a public hospital in the city of Rosario.

METHODS

Design:

A quantitative, field-based approach was used for this study, as the variables under study are operationalized according to a conceptual framework constructed by theories, models, and concepts. It is cross-sectional, descriptive, and observational, where data was collected directly from the professionals investigated or where the events occur (primary data). The type of study was non-experimental as it did not introduce treatments. After signing an informed consent form, a questionnaire was administered.

Area of study:

The ward, part of the institution's neonatal center, is divided into sectors depending on the complexity of the babies admitted. In 2023, it was recategorized to 3M, meaning the ward is a referral center for premature babies born before 32 weeks of gestation. For this purpose, there is an intensive care area with seven high-risk incubators with humidity and fans. Nitric oxide and two are equipped with hypothermia equipment and NIRS monitors, an intermediate care area for less severe cases with eight incubators, and an area with 12 cots for low complexity cases. The area has modern air conditioning equipment and highly complex technology: respirators (with different ventilation modes and sensors), special incubators, scales, and defibrillators, among other medical equipment. In addition, the floor is designed to allow for easy cleaning, as is the paint on the walls, which is also washable. Similarly, changes were made to the lighting to improve the quality of light inside the room so that all the monitors could be better observed and adapted to each situation. There is also a joint mother and child hospitalization sector, where low-risk children are accommodated for recovery and growth. Here,

"special care is provided for premature babies born more than 32 weeks early, underweight babies, and any newborn requiring special care". The department also has a swing door leading to the delivery room and operating theatre, where newborns can be taken directly to the neonatal unit if necessary.

This project was carried out in the department with 52 nurses and 27 units, 7 of which are intensive care units.

Population and sample:

The first unit of analysis will be each professional nurse, graduate, and specialist; the sample will be 43 nurses.

The following will be grounds for exclusion:

- Minimum training of 3 years as an auxiliary and legally ill.

Nurses who have worked in the area under study for less than 5 years.

Nurses who do not want to participate in the study.

Techniques and instruments:

The technique chosen for data collection is observation, as this captures the reality to be observed and will allow us to get as close as possible to a faithful representation of the variable and an interview. The record will be made using a document designed for this purpose (Annex I). This has a written survey consisting of 16 questions, which will be evaluated by scores and divided into two categories: low knowledge from 0 to 8 points and high expertise from 9 to 16 points, and another to apply what has been observed, a sheet with seven items with two categories: applies or does not apply.

The instrument she used is one validated by a similar previous study: Author: Josselin Lizbeth Enríquez Cadena. Director: MSc. Gladys Edemira Morejón Jácome; IBARRA, 2020.

Ethical considerations

This study considered the ethical requirements by applying the bioethical principles of beneficence/non-maleficence, justice, and autonomy.

A note was submitted at the reception desk requesting access to the data anonymously without exposing any of the samples individually (Appendix III).

The welfare of premature babies is safeguarded by conducting the study directly with the nurses and protecting the identity of the premature babies.

The data collection did not cause any psychological or physical harm, and the data obtained will be kept confidential without revealing the identity of the participants.

The nurses were invited to participate, taking into account the inclusion and exclusion criteria. In confirming their agreement to participate in the study, they were asked to sign an informed consent form (Annex I).

It was firmly stated that all information collected was confidential, used only to seek data exclusively for our research topic, and always maintained and promoted respect for the integrity of the participants without disclosing their personal information or their clinical case.

RESULTS

In a population of 43 nurses in a NICU, a survey was conducted with 16 dichotomous response questions to examine knowledge about COPAP and an observation table of its application by nurses.

For the 16 questions, where the correct answers added up to one point, two categories were established where nurses accumulating < or equal to 8 points would be considered to have a low level of knowledge and > or equal to 9 points would be deemed to have a high level of expertise. In this way, it was possible to evaluate that 31% of the nurses showed a low level of knowledge. Still, there was a predominance in the application of COPAP in the study population.

An observation table on the application of COPAP was also applied, which allowed us to determine whether or not there is a relationship between theoretical knowledge and the application of the method. This table consists of 10 points that evaluate its correct application and whether the study

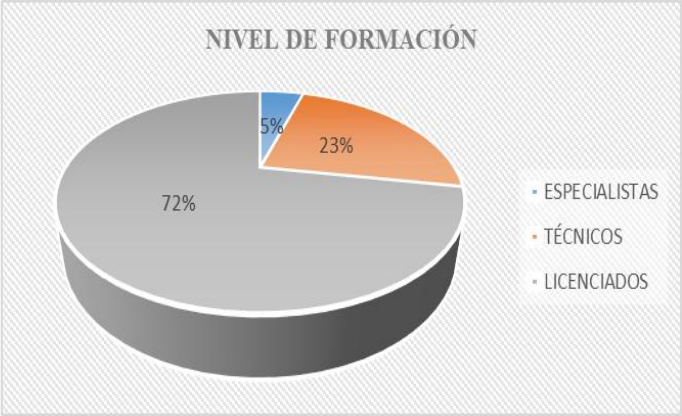
population suggests or advises this method. This table consists of 10 points, which were taken to mean that those with a score > or equal to 6 “apply” the process and those with a score < or equal to 5 “do not apply” it. It was thus observed that only 26% of the participating nurses did not apply the method correctly or did not suggest it.

Table 1. Level of training of nurses in the neonatal ward

LEVEL OF TRAINING	NURSES	PERCENTAGE
SPECIALIST	2	5%
GRADUATES	31	72%
TECHNICIANS	10	23%
TOTAL	43	100%

Source: Data obtained from survey applied in place of study

Graph 1.



Source: own elaboration.

Data analysis

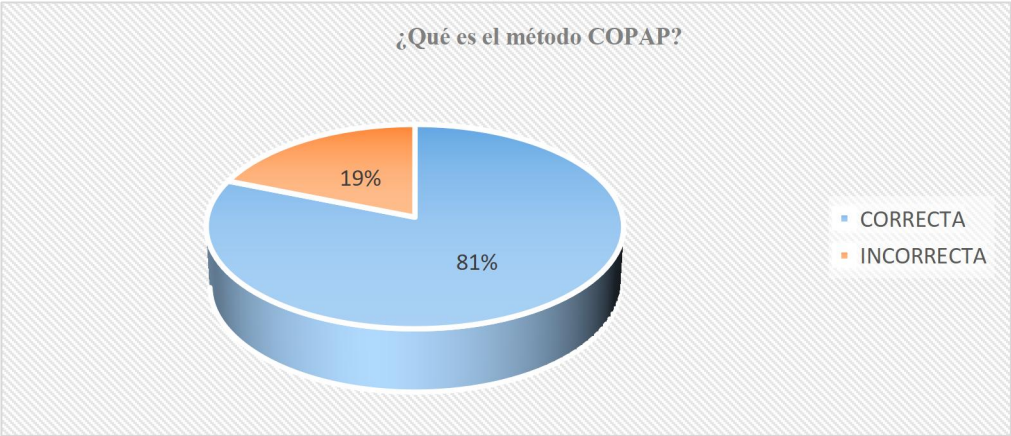
The level of staff training in the neonatal ward was evaluated. We can see that only 2, representing 5% of 43 nurses, are specialized in the area, which is a very low percentage from what we have observed. The more training there is the greater the adherence to the protocol. it should also be noted that in this ward, there are 31 graduate nurses, which represents 72%, and only 10, or 23%, are technicians (3-year training).

Table 2. Description of the COPAP Method

QUESTION 1	NURSES	PERCENTAGE
CORRECT	35	81%
INCORRECT	8	19%

Source: Data obtained from survey applied in place of study.

Graph 2.



Source: own elaboration.

When assessing the knowledge that nursing professionals have regarding the description of the COPAP method, it was evident that there is a knowledge deficit, as can be seen in the graph that despite having several years of experience, 8 out of a total of 43 nurses, representing 19%, answered incorrectly, while 35 nurses, representing 81%, answered correctly.

Table 3. Indication of the COPAP Method

QUESTION 2	NURSES	PERCENTAGE
CORRECT	15	35%
INCORRECT	28	65%

Source: Data obtained from survey applied in place of study.

The COPAP method in Argentina is indicated for stable newborns weighing more than 2000 grams. Nursing staff must remember this to perform the method correctly and educate the family. It was analyzed that 28 nurses out of 43 analyzed, representing 65%, answered incorrectly, while 15 nurses, representing 35%, answered correctly.

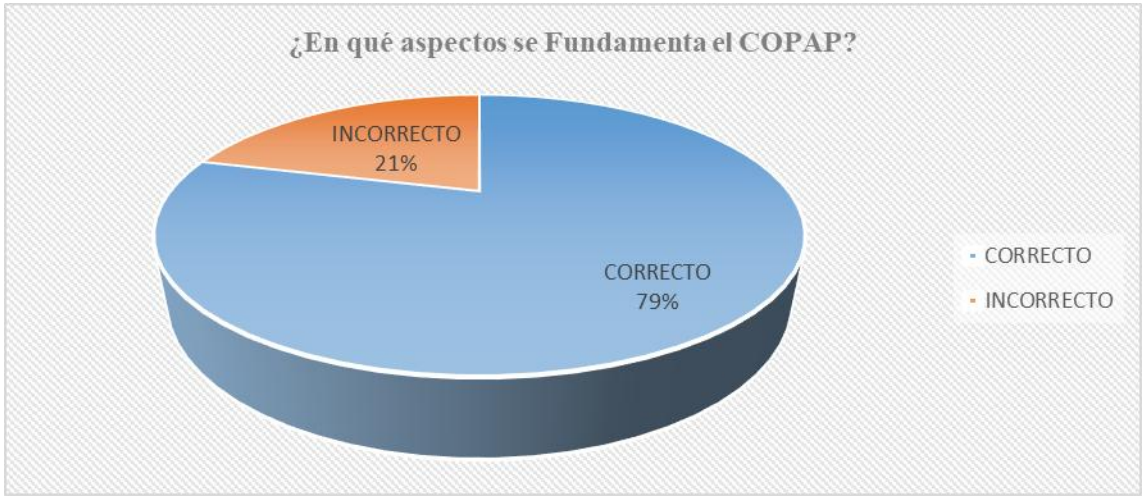
Table 4. Aspects on which COPAP is based.

QUESTION 3	NURSES	PERCENTAGE
CORRECT	34	79%
INCORRECT	9	21%

Source: Data obtained from a survey carried out at the study site.

https://doi.org/10.56294/piii2025472

Graph 3.



Source: own elaboration.

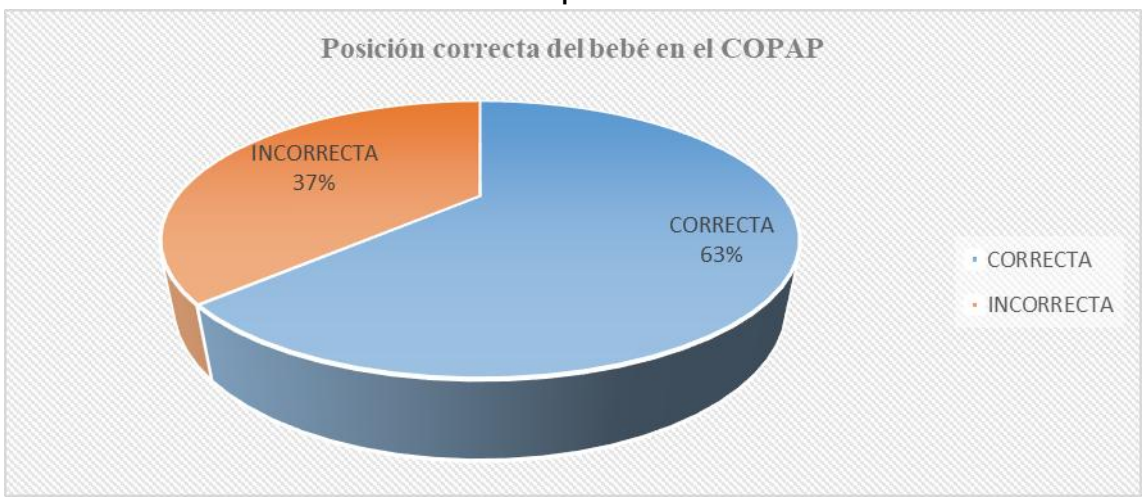
In our data analysis we can see that 9 nurses out of the 43 analyzed, representing 21%, were unaware of the aspects that underpin the application of the COPAP method in the neonatology service and answered incorrectly, while 34 nurses, representing 79% of the sample, answered correctly.

Table 5. Correct position of the baby during COPAP

QUESTION 4	NURSES	PERCENTAGE
CORRECT	27	63%
INCORRECT	16	17%

Source: Data obtained from survey applied in place of study.

Graph 4.



Source: own elaboration.

In table 5 we can see that 16 nurses, representing 37% of a total of 43, answered incorrectly, while 27 nurses, representing 63% of the sample, answered correctly.

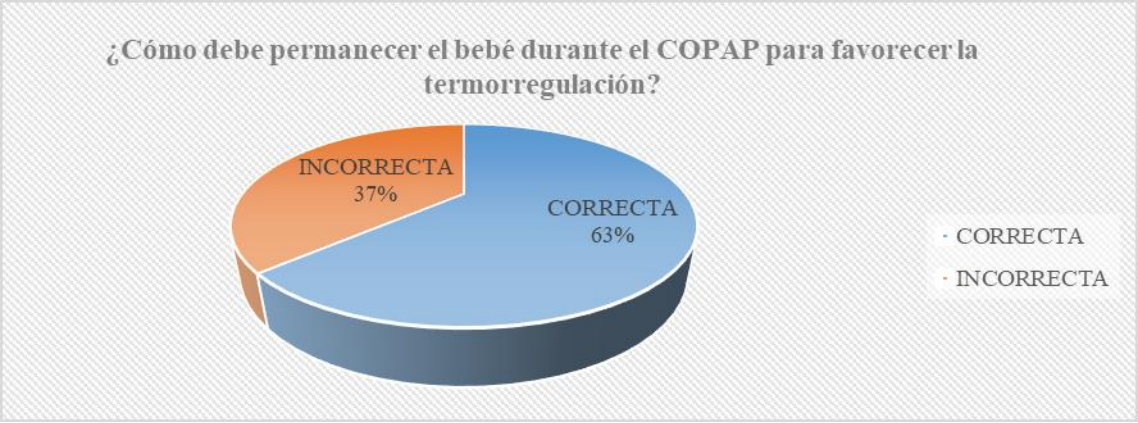
https://doi.org/10.56294/piii2025472

Table 6. Factors that favor thermoregulation.

QUESTION 5	NURSES	PERCENTAGE
CORRECT	27	63%
INCORRECT	16	17%

Source: Data obtained from survey applied in place of study.

Graph 5.



Source: own elaboration.

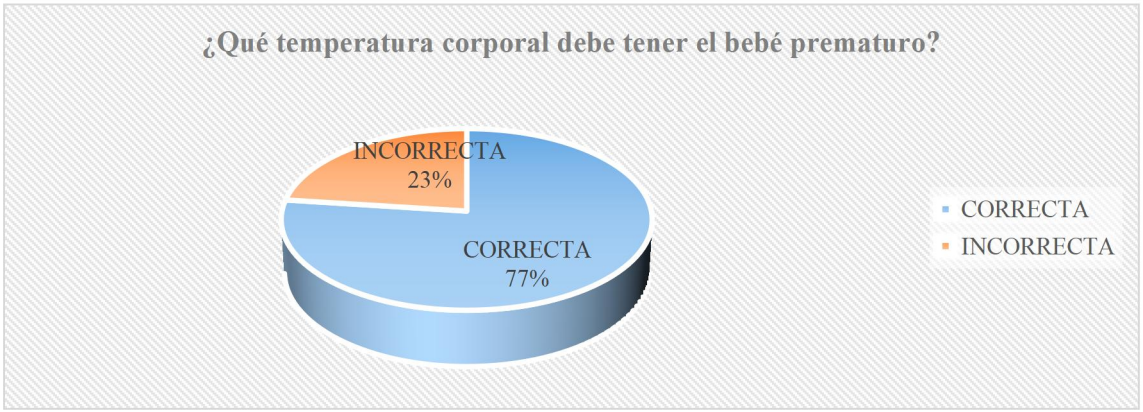
With regard to table 6 on thermoregulation in newborns, out of a total of 43 nurses, 27 answered correctly (63%) and 16 incorrectly (37%). It is important to be aware of the factors involved in the thermoregulation of premature babies, since the primary neonatal response to cold stress is peripheral vasoconstriction and thermogenesis (brown fat metabolism). Due to this mechanism, hypothermic newborns use glucose and oxygen to generate heat, which puts them at risk of hypoxia and hypoglycemia.

Table 7. Body temperature parameters for premature babies

QUESTION 6	NURSES	PERCENTAGE
CORRECT	33	77%
INCORRECT	10	23%

Source: Data obtained from survey applied in place of study.

Graph 6.



Source: own elaboration.

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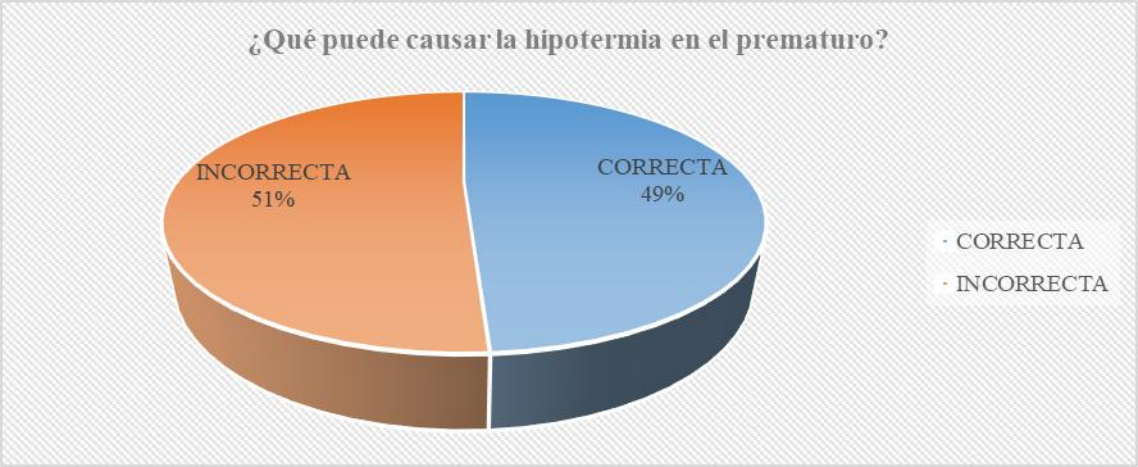
With regard to table 7, of the 43 nurses interviewed, only 33 representing 77% of the total know the parameters for body temperature in premature babies, while 10 nurses, representing 23%, do not know and have answered incorrectly.

Table 8. Problems that hypothermia can cause.

QUESTION 7	NURSES	PERCENTAGE
CORRECT	21	49%
INCORRECT	22	51%

Source: Data obtained from survey applied in place of study.

Graph 7.



Source: own elaboration.

In table 8 we can see that 21 nurses out of 43 analyzed, which represents 49% of the total, correctly answered the problems that can cause hypothermia in newborns, while 22 nurses out of 43, which represents 51%, did not know and/or answered incorrectly. This is a high number, given that thermoregulation influences many internal factors of the patient, and nursing is mostly responsible for detecting this problem.

Table 9. Factors involved in thermal instability in premature babies.

QUESTION 8	NURSES	PERCENTAGE
CORRECT	31	72%
INCORRECT	12	28%

Source: Data obtained from a survey carried out at the study site.

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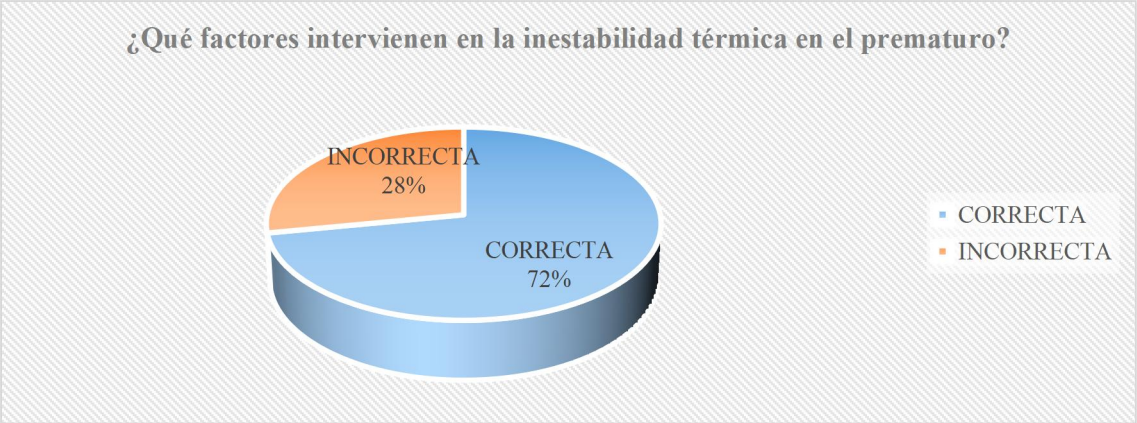
Graph 8.



Source: own elaboration.

About Table 9, we can see that 31 out of 43 patients interviewed, representing 72%, answered correctly about the factors involved in thermoregulation, while 12 nurses, representing 28%, responded incorrectly. Temperature regulation is an essential factor for the survival and stability of the newborn. For this reason, it is necessary to know how to manage the temperature of newborns and the actions that we, as nurses, can take to keep it within the desired range. The homeostasis of the organism requires a constant temperature within narrow limits. This equilibrium is maintained when there is a balance between heat production and heat loss. In thermoneutrality, the NB neither gains nor loses heat, and O2 consumption is minimal, as is the central and peripheral temperature gradient. We must identify the risk factors related to thermoregulation in the neonatal period. This will allow us to carry out interventions to prevent hypothermia in an early and timely manner.

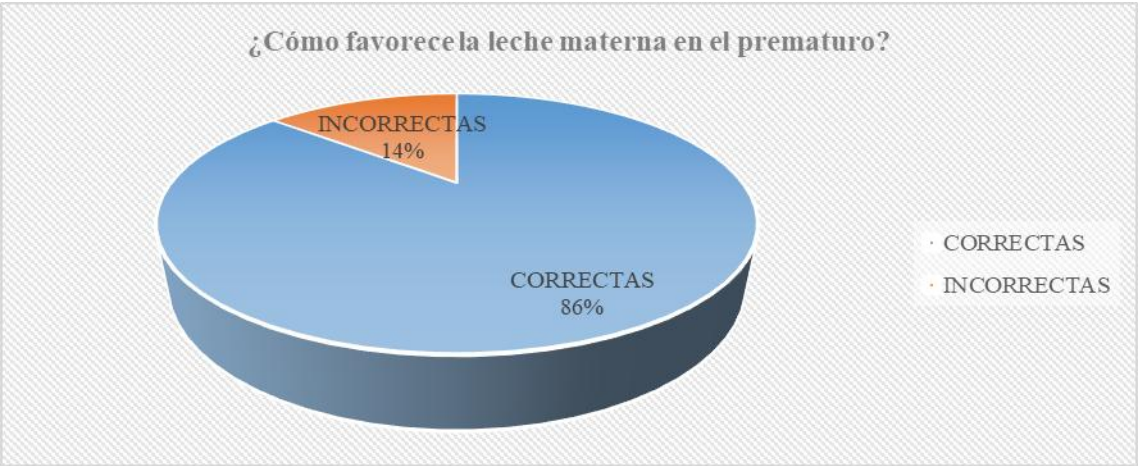
Table 9. Encouraging breastfeeding in premature babies.

QUESTION 9	NURSES	PERCENTAGE
CORRECT	37	86%
INCORRECT	6	14%

Source: Data obtained from survey applied in place of study.

Graph 9.

https://doi.org/10.56294/piii2025472



Source: own elaboration.

In table 10 it can be seen that out of a total of 43 nurses, 37, representing 86% of the total, answered correctly about favoring breastfeeding and 6 out of 43 nurses, representing 14%, answered incorrectly.

Tabla 10. Componente de la leche humana que cumple el rol de protector.

QUESTION 10	NURSES	PERCENTAGE
CORRECT	32	74%
INCORRECT	11	26%

Source: Data obtained from survey applied in place of study.

Graph 10.

Source: own elaboration.

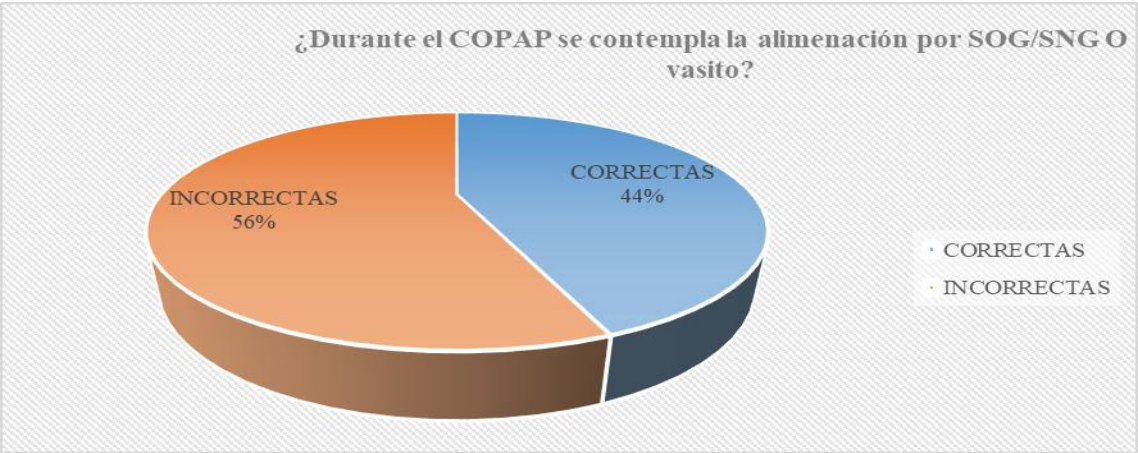
With regard to Table 11, 32 nurses out of the 43 interviewed, representing 74%, answered correctly about the protective role that breast milk plays for premature babies, and 11 nurses out of the 43, representing 26%, answered incorrectly.

Table 11. Contemplation of food during COPAP

QUESTION 11	NURSES	PERCENTAGE
CORRECT	19	44%
INCORRECT	24	56%

Source: Data obtained from survey applied in place of study.

Graph 11.



Source: own elaboration.

In table 12 we can see that 19 nurses out of 43 evaluated, representing 44% of the total, answered correctly about the possibility of considering food during COPAP, while 24 out of 43 evaluated, representing 56%, answered incorrectly.

Table 12. Average daily weight gain with breast milk.

QUESTION 12	NURSES	PERCENTAGE
CORRECT	18	42%
INCORRECT	25	58%

Source: Data obtained from survey applied in place of study.

Graph 12.

Source: own elaboration.

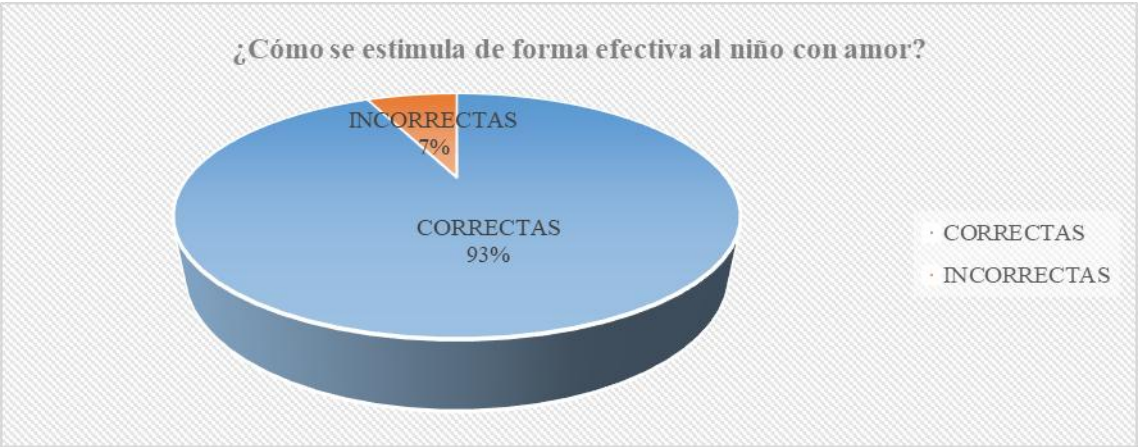
In table 13 we can see that 18 nurses out of 43 evaluated, representing 42% of the total, answered incorrectly about the desired weight gain of breastfed newborns, while 25 of the 43 nurses, representing 58% of the total, answered incorrectly.

Table 13. Ways of effectively stimulating premature babies.

QUESTION 13	NURSES	PERCENTAGE
CORRECT	40	93%
INCORRECT	3	7%

Source: Data obtained from a survey carried out in the study site.

Graph 13.



Source: own elaboration.

In table 14 it can be seen that 40 nurses out of the 43 evaluated, representing 93% of the total, answered question number 13 correctly, which refers to the way in which love effectively stimulates the premature baby, while 3 nurses out of 43 evaluated, representing 7%, answered incorrectly.

Table 14. Relationship between weight gain and early stimulation.

QUESTION 14	NURSES	PERCENTAGE
CORRECTA	34	79%
INCORRECTA	9	21%

Source: Data obtained from survey applied in place of study.

Graph 14.

Source: own elaboration.

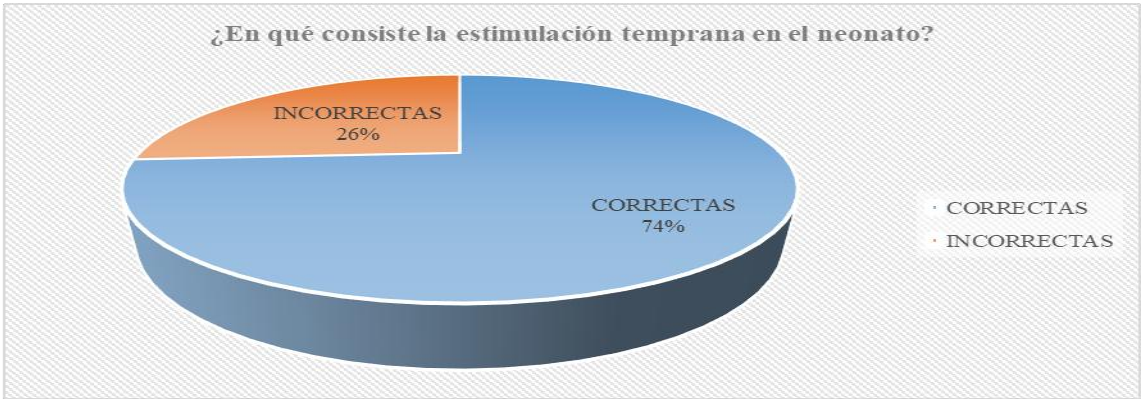
With regard to table 15, a total of 34 nurses out of 43 evaluated, representing 79%, answered question number 14 correctly, which refers to whether it is true or false that early stimulation favors weight gain, while 9 nurses out of the 43 evaluated, representing 21%, answered incorrectly.

Table 15. Definition of early stimulation

QUESTION 15	NURSES	PERCENTAGE
CORRECTA	32	74%
INCORRECTA	11	26%

Source: Data obtained from survey applied in place of study.

Graph 15.



Source: own elaboration.

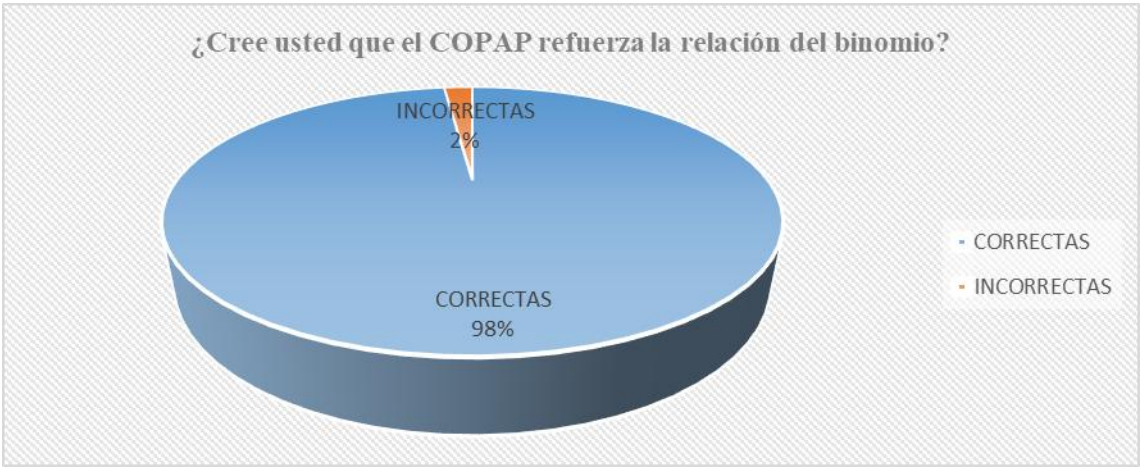
In table 16 we can see that 32 nurses out of the 43 evaluated, representing 74% of the total, answered question number 15 correctly, which deals with early stimulation and what stimuli respond to it, while 11 nurses out of 43 evaluated, representing 26%, answered it incorrectly.

Table 16. Favoring the relationship of the binomial when implementing COPAP

QUESTION 16	NURSES	PERCENTAGE
CORRECT	42	98%
INCORRECT	1	2%

Source: Data obtained from survey applied in place of study.

Graph 16.



Source: own elaboration.

In table 17 it can be seen that 42 nurses out of the 43 evaluated, representing 98% of the total, answered question number 16 correctly, which refers to whether COPAP strengthens the mother-child relationship, while only 1 out of 43, representing 2% of the total, answered incorrectly.

Table 17. Additional data

AGE	39 YEARS AVERAGE
YEARS OF EXPERIENCE	10.5 YEARS AVERAGE

https://doi.org/10.56294/piii2025472

FEMALE	4	9%
MALE	39	91%

Source: data obtained from the survey applied in the study area.

The average age of the study population is 39 years old, which indicates that most of the professionals in this area have several years of experience, with an average of 10.5 years according to the analysis. In terms of gender, it was found that 91% of the population is female.

Table 18. Application of the method.

ACTIONS	FREQUENCY		PERCENTAGE	
	APPLIES	NOT APPLICABLE	APPLIES	NOT APPLICABLE
Does the COPAP procedure suggest to the patient's parents?	41	2	95%	5%
Does it give parents clear guidance on the benefits that the method can achieve?	40	3	93%	7%
Do parents receive training in the correct COPAP position?	34	9	79%	21%
Do you record vital signs, oxygen saturation before the procedure?	28	15	65%	35%
Do you record vital signs, saturation and oxygen concentration every hour after starting the method?	17	26	40%	60%
Is the newborn and his/her family left to care for themselves while the COPAP method is being applied?	27	16	63%	37%
Do you continuously supervise the correct application of the method?	34	9	79%	21%
Do you advise parents of the importance of breastfeeding for the development of the newborn?	34	9	79%	21%
Does it position the newborn to stimulate suckling from its mother's breast?	32	11	74%	26%
Does it guide a successful feeding and the non-separation of the mother and the newborn?	31	12	72%	28%

Source: Data obtained from observation in the neonatal ward.

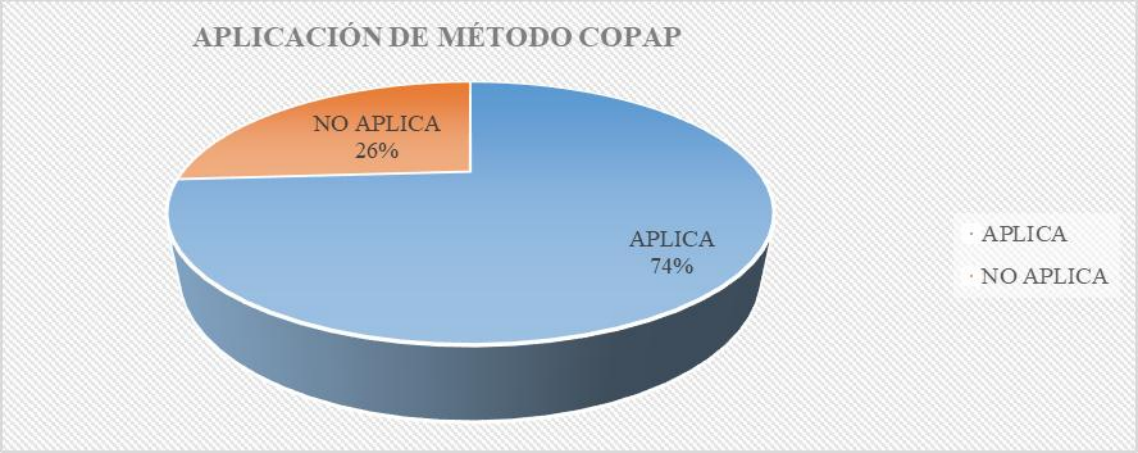
When observing the application of COPAP in the neonatal ward, it was determined that 74% of the total of 43 nurses apply the COPAP protocol, while 26% of the 43 nurses do not apply it correctly or do not suggest it. According to the previous tables, the level of knowledge about the benefits of applying the COPAP method determines whether or not nurses carry it out. Since the lack of knowledge about the benefits of COPAP leads to it not being complied with or applied.

Table 19. Contingency: Descriptive trend average

	KNOWLEDGE	
STOP		LOW
69%		31%
	43 STUDY UNITS X 16 QUESTIONS = 688	
	CORRECT: 475	
	INCORRECT: 213	
	The cut-off is ≥ 8, which is considered high knowledge	
	APPLICATION OF THE METHOD	
APPLIES		NOT APPLICABLE
74%		26%
	43 UNITS OF STUDY X 10 ITEMS OF OBSERVATION = 430	
	APPLY: 318	
	THEY DO NOT APPLY IT OR THEY APPLY IT INCORRECTLY: 112	
	A score of ≥ 6 is taken as applying or suggesting the method correctly.	

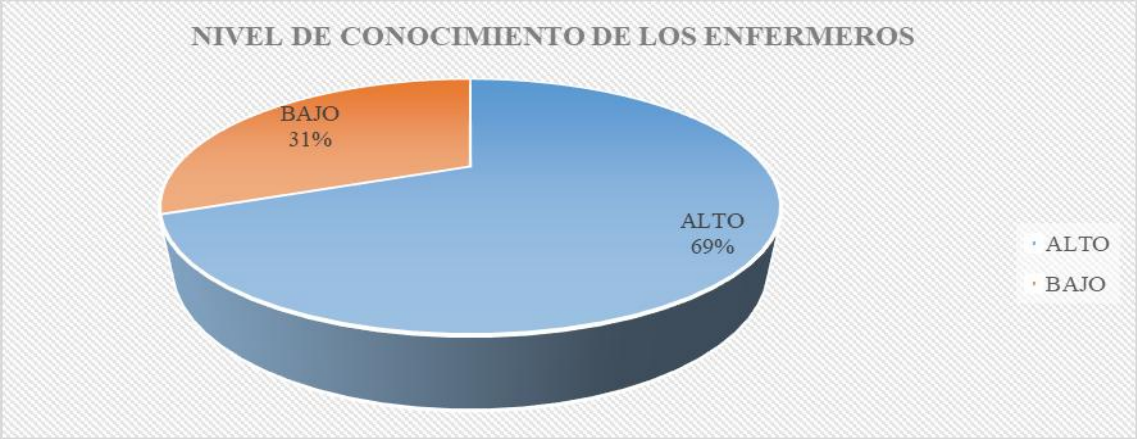
Source: data collection and observation. Total, out of 43 between the variables.

Graph 17.



Source: own preparation.

Graph 18.



Source: own elaboration.

In these graphs we can see that the level of application is higher than the level of knowledge of the nurses in the study. This phenomenon may be due to their level of training, as the ward has two specialized nurses and this influences the others to apply this.

CONCLUSIONS

The general objective of the present study was to determine whether there was a relationship between theoretical knowledge of the COPAP method and its correct application. The results indicated a low level of understanding among professionals about this method. However, the findings showed a higher application level than knowledge when it came to applying it. According to what was observed, this may be due to the influence of the department's neonatology specialists and because the department has a high rate of nursing graduates who have a more solid theoretical basis and can correct the method's techniques so that it is applied correctly.

We were also able to apply the specific objectives, which allowed us to identify and evaluate the nurses' knowledge of the COPAP method, with which we could determine whether or not there was a relationship between them.

On the other hand, weaknesses were revealed in theoretical knowledge, such as the problems that hypothermia can cause in newborns; the newborn cannot reduce their heat loss or regulate their temperature by shivering or increasing the activity of their voluntary muscles; the primary neonatal responses to cold stress are peripheral vasoconstriction and chemical thermogenesis. This mechanism causes the oxidation of acids, mainly brown fat. The release of cytoplasmic reserves of triglycerides and fatty acids increases metabolism, which causes the consumption of glucose and oxygen and the production of heat. This increase in oxygen consumption and metabolic expenditure contributes to increased morbidity and mortality, especially in extremely low birth weight newborns. Prolonged exposure to cold stress puts the newborn at risk as it has been linked to the development of hypoxia, hypoglycemia, metabolic acidosis, or necrotizing enterocolitis. These deficits point to the opportunity for educational interventions that allow the problems detected to be resolved, although they take into account the appropriate temperature that they should have. We detected a lack of theoretical basis.

This service still shows a significant lack of theoretical basis in some professionals, even though it is applied at a higher rate. We made the information from this research work available to those responsible for the NICU so that they could carry out appropriate interventions to enable COPAP to be applied more safely and effectively.

We detected the following strengths in the work carried out:

- Interest on the part of the head of the department in participating and obtaining feedback for the improvement of the service.
- Outstanding adherence on the part of the nurses to carry out the research.

- Cost-benefit.

Weaknesses:

- Difficulty in obtaining approval from the institution's ethics committee, as they do not allow data collection for private universities.

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CONFLICT OF INTEREST

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