

Breastfeeding knowledge and attitudes of health professionals attending lactating mothers in a secondary care Portuguese hospital: a cross-sectional study

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Abstract

Introduction and Objectives: Despite proven benefits of breastfeeding for the health of the mother-child dyad, breastfeeding rates worldwide remain suboptimal. The role of health workers is critical to breastfeeding process. However, evidence suggests that some lack the skills to adequately counsel breastfeeding mothers. Our aim was to assess the knowledge and attitudes of health professionals toward breastfeeding. **Methods:** We used a validated questionnaire CAPA (*Competência en l'Atenció Primària sobre Alletament*) to assess the level of competence and attitudes towards breastfeeding among health professionals involved in supporting breastfeeding mothers at a secondary care Portuguese Hospital. **Results:** The analysis included 81 participants (48 physicians (39 pediatricians/pediatric residents and 9 obstetricians and gynecologists/obstetrics and gynecology residents) and 33 nurses). The mean score (125 ± 11) was suboptimal. A statistically significant difference was found between specialities ($p = 0.034$), with pediatrics scoring the highest. **Discussion:** Since only half of health professionals felt totally confident in giving breastfeeding advice, they would benefit from breastfeeding education programs to optimize care for infants and their mothers.

Keywords: Breastfeeding. Breastfeeding knowledge. Nurses knowledge.

Conhecimentos e atitudes sobre aleitamento materno dos profissionais de saúde que prestam cuidados a mães lactantes num hospital secundário português: um estudo transversal

Resumo

Introdução e objetivos: Apesar dos comprovados benefícios do aleitamento materno na saúde da díade mãe-filho, as taxas de aleitamento materno em todo o mundo permanecem inferiores às recomendações. O papel dos profissionais de saúde é fundamental no processo de amamentação. No entanto, as evidências sugerem que estes profissionais carecem de competências no aconselhamento adequado às mães que amamentam. O nosso objetivo foi avaliar o conhecimento e as atitudes dos profissionais de saúde em relação ao aleitamento materno. **Métodos:** Utilizou-se um questionário validado CAPA (*Competência en l'Atenció Primària sobre Alletament*) para avaliar o nível de competência e atitudes em relação à amamentação entre os profissionais de saúde envolvidos no apoio a mães lactantes de um Hospital Português nível II. **Resultados:** A análise incluiu 81 participantes (48 médicos [39 pediatras/internos de pediatria e 9 obstetras e ginecologistas/internos de obstetria

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e ginecologia] e 33 enfermeiros). A pontuação média (125 ± 11) foi inferior à ideal. Verificou-se uma diferença de pontuações estatisticamente significativa entre as especialidades ($p = 0,034$), a pediatria com pontuação mais elevada. **Discussão:** Como apenas metade dos profissionais de saúde se sente totalmente confiante em orientar mães na amamentação, poderiam beneficiar de programas de treino de forma a otimizar o seu atendimento aos bebés e suas mães.

Palavras-chave: Aleitamento materno. Conhecimentos sobre aleitamento materno. Conhecimentos de médicos e enfermeiros.

Keypoints

What is known

- The role of health workers is critical to the breastfeeding process.
- Mandatory breastfeeding education programs could be essential to improve the knowledge of our health care workers and increase breastfeeding rates.

What is added

- Our health workers' knowledge about breastfeeding was suboptimal and half of them did not feel completely confident in guiding mothers in breastfeeding.

Introduction

The American Academy of Pediatrics (AAP), the American College of Obstetricians and Gynecologists (ACOG) and the World Health Organization (WHO) recommend that infants receive human milk exclusively for the first six months of life and continue up to two years or beyond with appropriate complementary foods¹⁻⁴. Breastfeeding, even if partial or for a shorter period than desirable, maintains a beneficial effect when compared to exclusive feeding with infant formula⁵.

Human milk has a unique composition, with antimicrobial, anti-inflammatory and immuno-regulatory agents, that contribute to the developing immune system of the child^{6,7}. Data reveal that, in the second year of life, human milk continues to be an important source of macronutrients and immunologic factors⁶. The long-term benefits include reduced risk of re-hospitalization due to infectious diseases and brain and neurocognitive development. The health benefits are also extensive for maternal outcomes as evidence demonstrates an inverse relationship between breastfeeding and breast, ovarian, endometrial and thyroid cancer and a reduced risk of hypertension and diabetes^{5,7}.

Breastfeeding is one of few positive health-related behaviors that is less frequent in high-income countries compared to low and middle-income countries; in high-income countries, more than 1 in 5 babies are never breastfed⁸.

It is reported that maternity leave is one of the most important measures for longer breastfeeding duration⁹. According to the European Union (EU) directives, women should have the right to maternity leave of at least 14 weeks. Portugal has one of the shortest maternity leave in the European Union, it is possible to take

120 (17 weeks) or 150 days of leave (21 weeks): 120 days are paid at 100% and 150 days at 80%¹⁰.

A Portugal health survey in 2014 reported a positive trend toward an increase in women exclusively breastfeeding, with this trend more pronounced in continental Portugal than in the autonomous regions (Madeira and Azores). Nevertheless, the rate of exclusive breastfeeding was lower than the recommended until 6 months. In the 3rd month, 56% of infants were exclusively breastfed, in the 4th month, this percentage decreased to 49% and in the 6th month, the percentage declined to 32%¹¹.

In our hospital, over a three-year period (2019 to 2021), 86% of newborns were fed breast milk in the first hour of life. However, this percentage decreased to 50% at the time of discharge from the nursery, at which time 46% were fed breast milk and formula and 4% were fed exclusively with formula.

WHO and United Nations International Children's Emergency Fund (UNICEF) have proposed implementing a program with Ten Steps to Successful Breastfeeding applied to all institutions providing maternity and newborn assistance worldwide. The program includes measures that ensure professionals involved in breastfeeding have sufficient knowledge, competence and skills to support it^{1,12,13}. Nurses, pediatricians, obstetricians and gynecologists play a critical role in hospitals as breastfeeding advocates. However, health professionals do not always receive adequate breastfeeding education to effectively help mothers¹³⁻²⁰. Midwives, due to specific professional training, commonly form the professional group with the best expertise in breastfeeding^{15,16}.

In 2018, the Commission for Promotion, Protection and Support of Breastfeeding was founded at São Sebastião

Hospital. The team consists of 14 members, including paediatric/neonatology and gynaecology/obstetrics physicians, nurses and nurse assistants. This commission has invested in the training of health professionals through multiple breastfeeding courses, webinars and conferences. In view of these measures, our primary objective was to assess the knowledge and attitudes of health professionals toward breastfeeding. The secondary objective was to identify which group of health professionals is less able to support breastfeeding and should undertake more training interventions.

Methods

Study Population

We carried out a cross-sectional study conducted at a secondary care Portuguese Hospital (São Sebastião Hospital) during the period of January to March 2022. The target population was obstetrics/gynecology and pediatric health professionals (specialists, residents and nurses), participation was voluntary with informed consent. A total of 81 health professionals completed the questionnaire.

Questionnaire description

A translated and adapted version of CAPA questionnaire (*Competència en l'Atenció Primària sobre Alletament*) was used to assess basic competence about breastfeeding. This instrument was designed by Pol-Pons et al. and it is a self-reported questionnaire originally written in Catalan and previously translated to Portuguese¹⁵.

The CAPA questionnaire is an instrument validated in Spain to assess the breastfeeding knowledge among primary care professionals involved in supporting breastfeeding mothers, with high levels of internal consistency, validity and reproducibility¹⁶.

The original questionnaire contains 24 questions (Supplement 1) in which the answers are scored on a 6-point Likert scale, where 1 corresponds to "totally disagree" and 6 to "totally agree". The maximum score (6 points) was obtained when items 1-4, 11, and 13-24 were answered "totally agree", and items 5-10 and 12 were answered "totally disagree". The final score, indicating competence about breastfeeding, was estimated as the sum of the points obtained on all items. The cut-off point indicating a good level of competence about breast feeding was established as 129 points^{15,16}.

We used the Portuguese translation of a study¹⁵ and, for validation, asked a group of three health professionals

(a neonatologist, a pediatric nurse, and a pediatric resident) to perform a semantic and content analysis, including clarity, absence of ambiguity, absence of technical terms, and general comprehensibility. This strategy is commonly used to ensure face and content validity, i.e. the extent to which the questionnaire adequately represents the topic under study (content validity), in a manner that is understandable and relevant for potential respondents (face validity)²¹.

Six questions were added to characterize the sample, in terms of age, gender, professional group (physician/nurse), specialty (pediatricians/pediatric residents and obstetricians and gynecologists obstetricians and gynecologists' residents) and resident year. Four other questions were added to ascertain the perception and confidence in guiding pregnant women and mothers in breastfeeding.

This study was approved by the ethics committee of our hospital. Completion of the questionnaire was confidential, voluntary, and anonymous.

Data analysis

Data was analyzed using SPSS Statistics version 28®. We employed descriptive statistics to characterize dependent and independent variables. We compared physician and nurses' knowledge and attitudes using Student's t-test. The Levene's test was used to test for homogeneity of variances. If Levene's Test was statistically significant ($p < 0.05$) null hypothesis of equal population variances was rejected.

Results

This study included 81 health professionals with an average age of 38 years $\pm$ 8.9, the majority were female (95%). 59% ($n = 48$) of the sample were physicians and 41% ($n = 33$) were nurses. As for medical specialty, 81% ($n = 39$) were pediatricians/pediatric residents and 19% ($n = 9$) were OG/obstetrics/gynecology residents.

The score on basic knowledge about breastfeeding, in which the maximum possible score was 144, ranged from 88 to 141, with a mean of 124.6 ± 10.6 (Fig. 1).

Although nurses achieved a lower median score (122.7 ± 12.5) compared to physicians (125.9 ± 9), no statistically significant difference was found between the two group of professionals ($p = 0.19$) (Fig. 2).

However, when comparing medical specialties (pediatrics vs. obstetrics and gynecology), a statistically significant difference was found ($p = 0.034$), with obstetrics and gynecology scoring the lowest value (120.2 ± 10.3) and pediatrics the highest (127.2 ± 8.3) (Fig. 3).

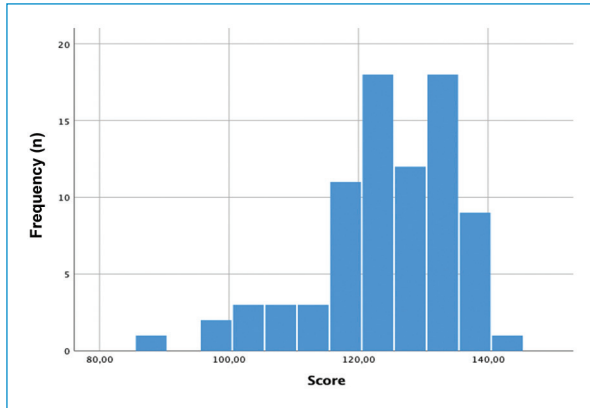


Figure 1. Score distribution.

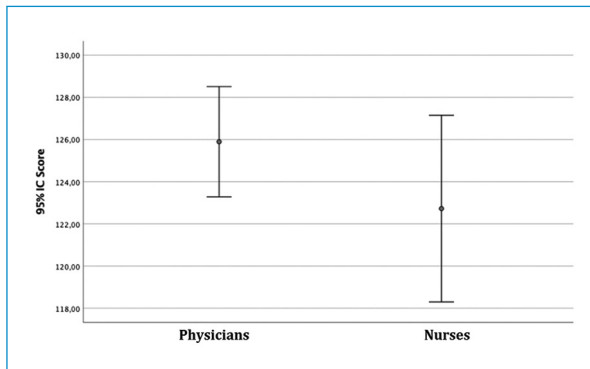


Figure 2. Score according to profession (physicians vs nurses).

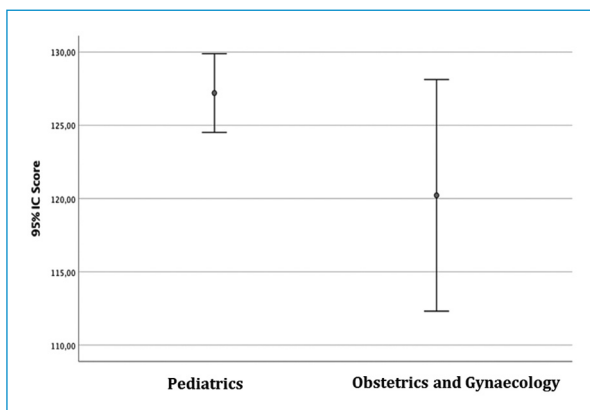


Figure 3. Score according to specialty (pediatrics vs. obstetrics and gynaecology).

When asked if they consider that it is the physician's responsibility to guide mothers in breastfeeding (Fig. 4 - Question 25), 18.5% answered that they "totally

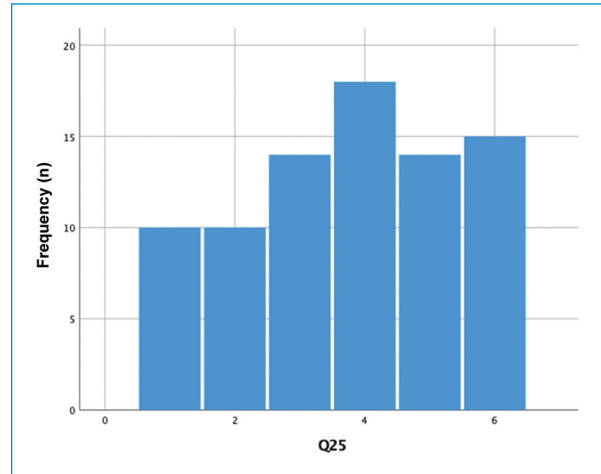


Figure 4. Question 25 (Q25): do you consider that it is the responsibility of the doctor to guide mothers in breastfeeding?

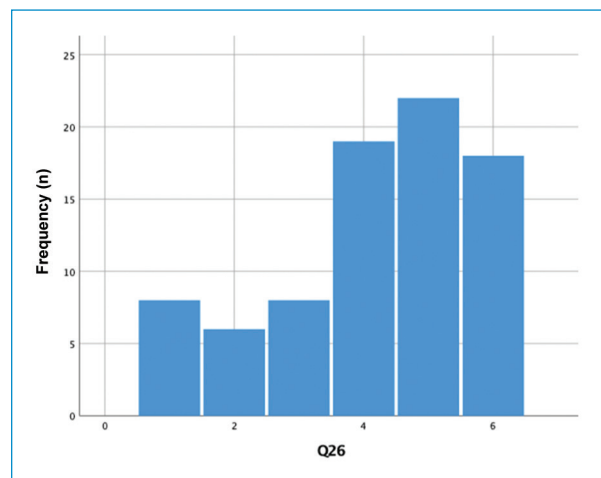


Figure 5. Question 26 (Q26): do you consider that it is the responsibility of the nurse to guide mothers in breastfeeding?

agree" (all were doctors), with an average of 3.75 in the answers.

In the question if they consider that it is the nurse's responsibility to guide mothers in breastfeeding (Fig. 5 - Question 26), 22% answered that they "totally agree" (72% were doctors and 28% were nurses), with an average of 4.37 in the answers.

When asked if they feel confident in advising a pregnant woman or mother about breastfeeding (Fig. 6 - Question 27), although the majority feel confident overall (93%), only 50% feel completely confident, with an average of 5.22 among the answers.

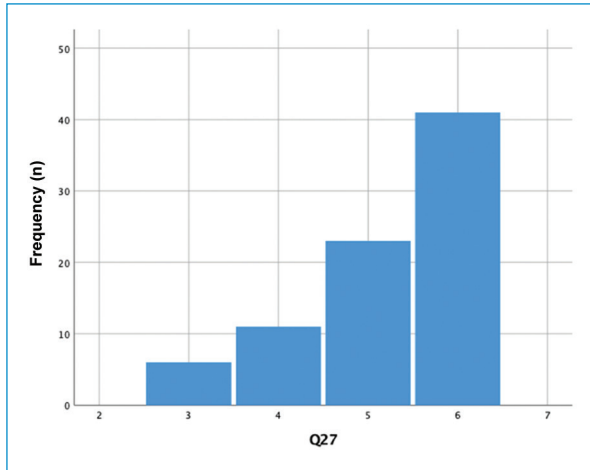


Figure 6. Question 27 (Q27): do you feel confident to advise a pregnant woman or mother about breastfeeding?

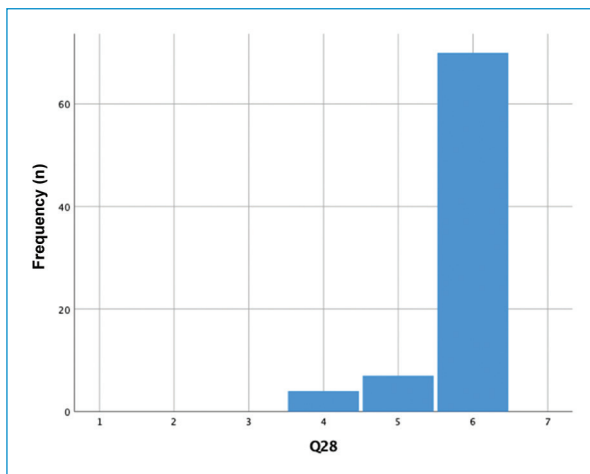


Figure 7. Question 28 (Q28): do you consider that the responsibility for guiding mothers about breastfeeding belongs to the entire team involved in the care of the mother and baby?

When asked if they believe that the responsibility for breastfeeding counselling falls on the entire team involved in the care of mother and child (Fig. 7 - Question 28), 86.4% “totally agree”, with an average of 5.81 among the answers. The gender, profession and specialty distribution is resumed in Tables 1-3.

Discussion

In the CAPA questionnaire, the cut-off point indicating a good level of competence towards breastfeeding,

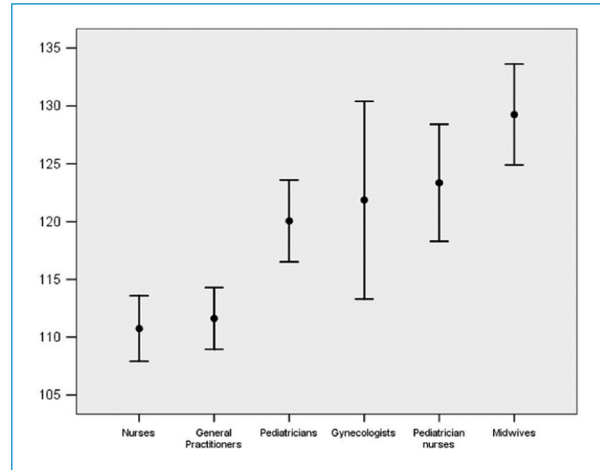


Figure 8. CAPA-Questionnaire score (mean and 95% confidence interval) obtained by professional groups attending lactating mothers in primary care.¹⁶

was concluded to be 129²². Therefore, the mean score obtained in our study was suboptimal (125 ± 11 points). Our pediatric physicians mean score is slightly superior to what is discriminated in that study¹⁶, however, Obstetrics and Gynecology physicians average score is inferior, as shown in Figure 8.

As described in other reports, the average knowledge level of pediatric health professionals was significantly higher than Obstetrics and Gynecology health professionals. This finding may be related to the fact that pediatricians are most frequently confronted with practical questions related to breastfeeding^{23,24}. In our study, the score did not differ significantly between professional groups (physicians and nurses) contradicting what is published by others¹⁶.

In a recent study conducted in Portugal, it was found that students in the medical course do not acquire enough knowledge¹⁵. Therefore, it is recommended that greater emphasis be placed on breastfeeding education in medical school, beginning in the general year, as physicians in all specialties are required to have a minimum of competency in breastfeeding. It is of particular concern that professionals directly involved with mother and child have suboptimal knowledge of this topic^{14,15,23,24}.

There is ample evidence that increased education and support for parents during pregnancy or postpartum improves breastfeeding initiation and continuation¹⁴.

Despite all the measures taken to improve attitudes and knowledge about breastfeeding, especially the foundation of the Commission for the Promotion,

Table 1. Gender distribution

	Frequency (n)	Valid percentage (%)
Female	77	95.1
Male	4	4.9
Total	81	100

Table 2. Profession distribution

	Frequency (n)	Valid percentage (%)
Physician	48	59.3
Nurse	33	40.7
Total	81	100

Table 3. Specialty distribution

	Frequency (n)	Valid percentage (%)
Pediatricians	39	81.3
Obstetricians and gynecologists	9	18.8
Total	48	100

Protection and Support of Breastfeeding in our Hospital, the results fell short in relation to our expectations: 50% of health professionals do not feel completely confident in dealing with breastfeeding problems^{13,18,20}. In another study, 74.2% of pediatricians reported overall confidence in breastfeeding counseling skills²³.

In our study, 86.5% of health professionals believe that the responsibility for breastfeeding counselling lies with the entire team involved in the care of mother and child. Only 22% think that nurses are responsible for it and 18.5% think it is the responsibility of physicians. All health professionals involved in the care of mother and child should be able to offer breastfeeding counselling. Training programs for health professionals appear to improve knowledge and attitudes about breastfeeding¹³. Encouragement to breastfeed should come through improvements and changes in all professional teams. Changes through the implementation of the “Ten Steps to Successful Breastfeeding” program (Table 4) reinforce effective support for breastfeeding and are also one of the prerequisites for the designation, attributed to hospitals, as a Baby-Friendly Hospital^{1,12,25}.

Table 4. WHO/UNICEF ten steps to successful breastfeeding²⁵

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in the skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within a half-hour of birth.
5. Show mothers how to breastfeed and how to maintain lactation even if they should be separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
7. Practice rooming-in: allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

Limitations of the study include a low response rate, especially in the OG group. However, the sample is statistically representative of our institution. In addition, we may see as a limitation the fact that this questionnaire is validated for primary health care, but was applied in a secondary hospital.

It is essential that health professionals have a positive attitude in relation to breastfeeding to provide women with the information they require. All institutions should invest in mandatory training programs in breastfeeding, namely with role play situations, to improve knowledge and attitudes about breastfeeding and increase confidence in supporting and guiding breastfeeding mothers^{14,15,23,24}.

Our data show that, despite our efforts, we still have a long way to go. At the same time, since various organizations recommend exclusive breastfeeding until the sixth month of life, extending maternity leave during this period, would have a positive effect on breastfeeding.

This validated questionnaire could be used at a national level to assess the knowledge of other professionals involved in breastfeeding, in order to obtain an accurate and updated state of the art in Portugal.

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None.

Conflicts of interest

None.

Ethical disclosures

Protection of human and animal subjects. The authors declare that the procedures followed were in accordance with

the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors have obtained the written informed consent of the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

Use of artificial intelligence for generating text. The authors declare that they have not used any type of generative artificial intelligence for the writing of this manuscript, nor for the creation of images, graphics, tables, or their corresponding captions.

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