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Effect size: commentary to the study on the Factors associated with the practice of exclusive breastfeeding

Tamaño del efecto: comentario al estudio sobre los Factores asociados con la práctica de la lactancia exclusiva

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None

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Mr. Editor.

This letter focuses on recent and interesting work on breastfeeding¹, to emphasize two observations. The first observation refers to the fact that, in Mateus and Cabrera's manuscript¹ It was hardly discussed whether the referred knowledge and skills may be relevant to understanding the mothers' behavior regarding their commitment to breastfeeding. The relevance of these cognitive aspects requires more attention due to their relationship with breastfeeding practices², and in general with the long-term mother-infant dyad³.

Because the knowledge and skills to maintain successful breastfeeding have implications for developing instructional content in interventions for mothers as well, great attention needs to be paid to the size of the effect of differences between reported frequencies in pregnancy and the immediate puerperium. In Table 3, these differences were examined by the McNemar statistical test⁴, which allows obtaining the statistical significance of the rejection of the null hypothesis of no differences. But neither this test nor the size of its *p*-value inform about the degree or size of the differences^{5,6}. An estimate of the size or magnitude of the differences, represented as point values or confidence intervals (as reported in Tables 4 and 5), tend to better specify tests of statistical significance.

Therefore, we estimate the practical significance of the difference between the percentages obtained in pregnancy and the immediate puerperium for each of the knowledge and basic skills reported in Table 3. With the only numerical data presented in this table, we calculated the McNemar odd ratio (McNemar OR⁷, and standardized difference measures d_{Cox} ⁸ and d_{probit} ⁶. These show less bias with their population values in relation to other estimators⁵ Because they both assume different statistical assumptions⁵ e.g., logistic distribution for McNemar OR and d_{Cox} , and normal distribution for d_{probit} , calculating both will report the convergence or divergence of these estimates.

Table 1 shows the results. We found that, except for two of the knowledge items examined (milk conservation and duration of breastfeeding) all the estimates were ordered in the same way; that is, the technique for placing the baby on the breast and the frequency of

Table 1. Effect size estimates for lactation maintenance knowledge and skills (pregnancy vs. immediate puerperium)

	McNemar OR	(CI 95%)	Standardized distance	
			^d Cox	^d probit
Technique to place the baby to the breast	1.140	(0.799, 1.627)	0.091	0.081
Extraction of breast milk	1.664	(1.326, 2.089)	0.480	0.486
Home preservation of breast milk	1.867	(1.569, 2.221)	1.098	1.101
Duration of breastfeeding	2.137	(1.727, 2.645)	0.824	0.843
Breastfeeding frequency	0.952	(0.754, 1.202)	0.044	0.045

McNemar OR: odd ratio de McNemar.

breastfeeding hardly changed, while the rest of the skills showed moderate or large changes. The duration of breastfeeding and the storage of milk can be considered less stable and of similar intensity (because the confidence intervals of the McNemar OR overlap). Similarly, the confidence intervals of the breastfeeding technique and the frequency of breastfeeding overlap, and therefore occur at the same level of intensity. We conclude that reporting the effect of the variables analyzed using size estimates provides a more complete picture of their variability and facilitates data collection for meta-analytical studies. We clarify that this letter is far from questioning the importance of the results or the research effort, but rather strives to emphasize that statistical communication must include estimates of the magnitude or size of the parameter studied.

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Response to comment made by Angulo-Ramos and Merino-Soto entitled “Effect size: comment on the study on the Factors associated with the practice of exclusive breastfeeding”

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We appreciate the time that the commentators have devoted to reading our publication¹.

Regarding the first observation they have made, we must be precise and clarify that the objective of the publication is to identify factors associated with the duration of exclusive breastfeeding. The factors explored are framed in the Theory of Planned Behavior², one of the models with the greatest empirical support that relates knowledge, perceptions and abilities with the execution of desirable behaviors for health, in this case the desirable behavior was the practice of exclusive breastfeeding. Thus, it was explored about women's knowledge about breastfeeding, about their perceptions of the practice of exclusive breastfeeding, the perceptions that women had formed about how their close referents valued the practice of exclusive maternal breastfeeding, the knowledge of barriers and facilitators to practice it and the perception they had to overcome the identified barriers and take advantage of the facilitators. Therefore, our publication focuses on delineating the possible causal routes of the factors that we find associated with exclusive breastfeeding under the same theoretical model that led the research in a setting (the city of Cali, Colombia) where there is little practice and duration of exclusive breastfeeding, in order to preserve the coherence of the entire research process³.

Additionally, we highlight the need to intervene in the knowledge and perceptions associated with lactating women and with their immediate referents in order to control the observed effects, possible causal pathways are proposed, the use of the results and the subpopulations that should be intervened as a priority are indicated.

Regarding the analysis on the size of the differences in basic knowledge and skills reported by women in pregnancy and the immediate puerperium, we consider the statistical analyzes presented by the two authors to be appropriate. However, establishing the magnitude of these differences more precisely does not change the importance of deficits in knowledge and basic skills for breastfeeding, since all of them must be intervened by health personnel, since they are fundamental to the success of lactation. The size of the deficits of these basic aspects does not give an additional enhancement to the need to emphasize an intervention on one or more of them because they are all fundamental to practice exclusive breastfeeding and without the need for additional analysis, all must be taken into account for the interventions to be carried out.

Perhaps the greatest importance of this study to be incorporated into a systematic review may be its prospective design, since few studies have been carried out in Latin America in this way, despite being the designs with the greatest validity to postulate possible causal routes, which are fundamental to design interventions to promote and protect breastfeeding⁴.

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