VALIDATION OF THE INSTRUMENT "PARENTAL SELF-EFFICACY IN CARING FOR FULL-TERM NEWBORNS: BRAZILIAN VERSION"

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Maria Magda Ferreira Gomes Balieiro***

ABSTRACT

Objective: To validate the Preterm Parenting & Self-Efficacy Checklist Brazilian Version for use with parents of full-term newborns. Method: A methodological study carried out with 72 parents of full-term newborns attending a childcare program in a philanthropic institution in the city of São Paulo. Data was collected using the "Preterm Parenting & Self-Efficacy Checklist - Brazilian Version" and a questionnaire containing the parents' sociodemographic variables and perinatal variables. Cronbach's Alpha and factor analysis were used to analyze the data. Results: The majority of participants were women, with an average age of 28.5 years. The newborns had an average gestational age of 39 weeks, an average weight of 2940 grams and no complications at birth (98.6%). The internal consistency of the instrument was 0.808, the factor analysis showed that there was a correlation between the items and the factor loading value allowed the items of the original instrument to be maintained. The participants' parental self-efficacy was occasionally confident (mean 5.88). Conclusion: The instrument was consistent and reliable for use with parents of term newborns.

Keywords: Pediatric Nursing, Validation Study, Self-efficacy. Parents. Newborn. Primary Health Care.

INTRODUCTION

An environment conducive to the child's development from birth has been a feature of good practice policies for birth and labor care, as it ensures that the family and the woman have a leading role in decision-making and access to qualified information[1].

Becoming a parent is a process to be constructed, based on the influence of expectations generated throughout life, such as the type of parental care you remember during your childhood and the goals set by the couple for their future as a family. In this way, parenthood should not only be identified when a child is born[2].

The circumstances experienced within the nuclear family have a direct impact on the relationship between the parental figure and the child, and this interaction is a factor that contributes directly to child development during early childhood[3]. Building positive parenting becomes an irrevocable basis for achieving the expected developmental milestones during early childhood.

In a study[4] on positive parenting, the authors show that positive parental behaviour is associated with better socio-emotional development in children. In this sense, they point out that the greater the family's involvement in children's daily lives, showing affection, with good parent-child interaction, shared activities and stress control, the greater the children's emotional development.

According to Bandura's theory of self-efficacy, parents need to feel effective in their ability to be parents, in order to perceive themselves as successful and skillful in this role. The way in which parents evaluate their ability to perform tasks can have consequences for the development of parenting and the child itself. Therefore, parents who believe they can be effective in the parental role are more likely to overcome the challenges[5].

Parental self-efficacy is related to the beliefs and judgments that parents hold about their ability to organize and carry out a set of tasks related to raising a child. This consists of two
aspects: specific knowledge of parenting behaviors associated with the task of raising a child and the parents’ level of confidence in their ability to carry out these behaviors (6-9).

Health professionals can play a significant role in proposing strategies to promote positive parenting and the achievement of full child development. In this sense, it is necessary to assess how parents perceive themselves in carrying out tasks and in their confidence in their abilities to lead the care of their child. This requires the use of efficient tools that identify parental self-efficacy and promote the role of the family unit.

The use of instruments and tools for the individualized recognition of the strengths and vulnerabilities of each nuclear family can make it possible to direct the necessary adjustments, resulting in effectiveness and sufficiency during the care provided to the child.

The Preterm Parenting & Self-Efficacy Checklist, proposed by Canadian researchers to measure parental self-efficacy, has been validated with parents of preterm and term newborns. However, in Brazil, this instrument was only validated with parents of premature newborns, resulting in the Preterm Parenting & Self-Efficacy Checklist - Brazilian Version (9), which has good internal consistency, satisfactory stability over time and good reliability. In this sense, this study is justified in order to validate it with parents of full-term newborns.

The aim of the study was to validate the Preterm Parenting & Self-Efficacy Checklist - Brazilian Version with parents of full-term newborns after hospital discharge.

**METHOD**

This is a methodological study carried out in a philanthropic health care institution for children, adolescents and adults, located in the south of the city of São Paulo, in a territory made up of 14,014 families, 11,996 of whom have an income of up to one and a half minimum wages. The majority live in unhealthy areas, without basic sanitation and subject to environmental risks such as fires, floods, violence and drug trafficking, among others.

The participants were parents of children born in 2018 and 2019, who met the inclusion criteria: being parents of children born at term and who attended the first childcare nursing appointment between zero and 28 days of the child’s age. Parents of children with neonatal complications requiring hospitalization in a neonatal unit were excluded.

The sample was calculated based on the number of consultations carried out in one year at the institution (545 consultations) and based on the responses of 24 participants, carried out between April and May 2019. Therefore, the sample was by convenience, considering a statistical error of 0.055 and 95% confidence interval, and defined as 72 parents.

To select the participants, the medical record number was first obtained from the schedule of childcare nursing appointments. After identifying the participant’s eligibility, the invitation was sent via digital media, through a multi platform instant messaging application, WhatsApp©, with end-to-end encryption and sent individually.

In the event of acceptance, the link generated on the RedCap platform® for access to the research was made available to the selected participants, containing an explanatory text about the main objective of the research, and the Informed Consent Form (ICF), guaranteeing secrecy, confidentiality and respect for the rules of ethics in research with human beings and all the principles of Resolution 466, of December 12, 2012 were contemplated and approved by the Research Ethics Committee according to Opinion No. 3.165.037, 2019. Thus, after agreeing and signing the ICF, the participant accessed the questionnaire.

The study variables were related to the sociodemographic characteristics of the parents of newborns, to the care during the perinatal period and to the perception of parental self-efficacy in caring for the newborn.

Parental self-efficacy was measured by applying the Preterm Parenting & Self-Efficacy Checklist - Brazilian Version (9) through three subscales: parental self-efficacy (beliefs and judgments that parents hold in order to organize and carry out tasks related to caring for their child), the importance of tasks (how important parents feel in a given task) and self-perceived parental competence (the skills that parents...
have to carry out a given task), to be validated with the population of parents of term newborns. The instrument consists of 32 questions and the answers are graded on a Likert scale from 1 to 7, with 1 being the worst score and 7 the best. For the self-efficacy domain, the answers range from Not at all confident (1), Not confident (2), Not very confident (3), Unsure (4), Somewhat confident (5), Confident (6) and Very confident (7). For the Importance of the Task domain, it ranges from Not at all important (1), Not important (2), Not very important (3), Unsure (4), Somewhat important, (5) Important (6) and Very important (7). The self-perceived self-confidence domain ranges from Not at all successful (1), Rarely successful (2), Sometimes successful (3), Average (4), Somewhat successful (5), Successful (6) and Very successful (7). The score for each domain is calculated from the average of the answers and the overall score from the average of the domains.

Cronbach’s Alpha was used to analyze the data, with a maximum value of 1. The higher its value, the greater the internal consistency of the data, according to the following classification: excellent (0.91 or more), good (0.90 ¬ 0.81), acceptable (0.81 ¬ 0.71), questionable (0.71 ¬ 0.61), poor (0.61 ¬ 0.51) and Unacceptable (less than 0.561)\(^{10}\).

Factor analysis was carried out to check the reliability of the instrument and identify the factor loadings and representativeness of the items\(^{11}\).

Descriptive analysis was carried out for the categorical variables frequency and percentage and for the continuous variables mean, standard deviation, minimum, median and maximum.

SPSS V20, Minitab 16 and Excel Office 2010 were used for this statistical analysis. A 5% significance level was adopted (p-value < 0.05).

### RESULTS

The largest number of participants in the study were female (98.2%, 71), with an average age of 28.5 (± 5.6) years; with a partner (73.6%, 53); brown (44.4%, 32); employed (51.4%, 37); family income of between one and two minimum wages (59.7%, 43); the majority of mothers (61.1%, 44) and fathers (44.4%, 32) had completed high school; were currently employed (51.4%, 37) and most frequently worked as "housewives" (40.3%, 29).

Most women had prenatal care, predominantly starting in the 2nd month (45.8%, 33); with an average of 7.5 (± 1.7) appointments, with no complications during pregnancy (95.8%, 69) and childbirth (95.8%, 69); the majority were multigravida (51.4%, 37); and the birth was vaginal (62.5%, 45).

Most of the newborns were male (52.8%, 38) and had an average gestational age of 39 (± 1.4) weeks; an average Apgar score of 8 (± 0.79) at the 1st minute and 9 (± 0.73) at the 5th minute; an average weight of 2940 grams (± 422) and an average length of 44.7 cm (± 4.4);

Most pregnant women had no complications (95.8%, 69); of those who did, they were gestational diabetes (1.4%, 1); gestational infection (1.4%, 1) and gestational hypertension (1.4%, 1). The complications during childbirth were prolonged labor (1.4%,1) and two other unidentified complications (2.8%, 2). Among the newborns, there was only one case of jaundice (1.4%,1).

The Preterm Parenting & Self-Efficacy Checklist - Brazilian Version applied to parents of full-term newborns showed a Cronbach's Alpha of 0.80 for the overall score (Table 1). In the evaluation by domains, the Alpha values were classified as "Good", standing at around 0.600, which shows that the validated instrument has good internal consistency (Table 2).

<table>
<thead>
<tr>
<th>Table 1. Eigenvalues and Variability of Factors (Total). São Paulo, 2020.</th>
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<tbody>
<tr>
<td>Items</td>
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<tr>
<td>Q1* Confidence in bathing</td>
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<td>Q2 Importance of bathing</td>
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<td>Q3 Success in the shower</td>
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<td>Q4 Confidence in calming down</td>
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<td>Q5 Importance of calming down</td>
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<td>Q6 Success in calming down</td>
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Cienc Cuid Saude. 2023;22:e65971
In the factor analysis, since it is a multivariate analysis, questions 31, 32 and 33 were disregarded because they are derivative questions and therefore not all subjects answered them. The result of the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy was always greater than 0.50, which allowed the factor analysis to be carried out. Bartlett's test was significant, i.e. the null hypothesis was rejected and the correlation matrix is different from the identity matrix. Therefore, there is a correlation between the data in the instrument analyzed.

Factor analysis was carried out in four ways: one for the instrument as a whole and one for each domain. It was found that the 31 questions generated 12 factors, where the total variability explained by the 12 factors was 71.44% (out of a total of 100%), which can be considered a very good value.

The results converged in 28 interactions, with factor 1 alone accounting for 15.93% of the variability in the data and comprising questions 2, 3, 14 and 18. The most important of these is question 14, which has a factor load of 0.776.

In the factor analysis by domain (Table 3), the 11 questions in the Trust domain generated three factors (groups of questions), where the total variability explained was 50.17% (out of a total of 100%), which is considered an average value.


<table>
<thead>
<tr>
<th>Domains</th>
<th>Cronbach’s alpha</th>
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<tr>
<td>Parental self-efficacy</td>
<td>0.642</td>
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<td>Importance attributed to activities</td>
<td>0.605</td>
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<tr>
<td>Self-perceived self-efficacy</td>
<td>0.616</td>
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<td>Total score</td>
<td>0.808</td>
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</table>

*Question = Q*
In the Importance domain, the 11 questions generated five factors or groups of questions, whose total explained variability was 67.80%, which is considered a very good value.

In the Success domain, 4 factors were generated with a total explained variability of 58.49, an average value. Factor 1 explains 23.11% of the total variability and is made up of questions 24, 36 and 21, all with positive loadings.


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<thead>
<tr>
<th>Domain</th>
<th>Items</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
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<tbody>
<tr>
<td>Confidence</td>
<td>Q13 0.798</td>
<td>Q4 0.625</td>
<td>Q1 0.545</td>
<td>Q10 0.631</td>
<td>Q34 0.596</td>
<td>Q16 0.554</td>
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<td>Q2 0.818</td>
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<td>Q14 0.628</td>
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<td>Q29 0.614</td>
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<td>Q26 0.750</td>
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<td>Q23 0.696</td>
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<td>Q17 0.665</td>
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<td>Q11 0.805</td>
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<td>Q5 0.630</td>
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<td>Q24 0.825</td>
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<td>Q36 0.648</td>
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<td>Q21 0.423</td>
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<td>Q12 0.695</td>
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<td>Q6 0.605</td>
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<td>Q15 0.602</td>
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<td>Q3 0.823</td>
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<td>Q18 0.767</td>
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<td>Q27 0.778</td>
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<td>Q9 -0.562</td>
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<td>Q30 0.463</td>
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Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization.

The factor loadings were above 0.4, which allowed the items to be kept in the instrument analyzed.

The instrument was validated and given the name “Autoeficácia Parental no Cuidado ao Recém-Nascido a Termo: Versão Brasileira”.

The descriptive analysis of the Preterm Parenting & Self-Efficacy Checklist - Brazilian Version showed that the highest scores were achieved for the following questions: Importance attributed to caring for the newborn’s health (6.29); Success in caring for the newborn’s health (6.26); Confidence in changing the newborn’s diaper (6.26); Importance attributed to changing the newborn’s diaper (6.21); Success in calming the newborn (6.19); Success in feeding the newborn (6.19); Success in caring for the newborn together with the partner (6.18);
Confidence in caring for the newborn’s health (6.17) and Success in bathing the newborn (6.17).

The lowest scores were found for the following questions: Success in performing basic life support procedures (4.06); Confidence in performing basic life support procedures (4.08); Importance attributed to basic life support procedures (5.31); Confidence in dealing with the newborn’s crying and agitation (5.65); Confidence in adapting care for the newborn and their other children (5.67); Confidence in applying safe transportation methods for the newborn (5.69); Success in applying safe methods for the newborn to sleep (5.83); Success in adapting to caring for the newborn and their other children (5.83); and Success in dealing with the newborn's fussiness and crying (5.83).

**DISCUSSION**

The calculation of Cronbach’s Alpha for the Preterm Parenting & Self-Efficacy Checklist - Brazilian Version for use with parents of newborns at term indicated a value of 0.808, demonstrating "Good" internal consistency considering the instrument as a whole; in the analysis of the individual domains, values higher than 0.600 were found, an internal consistency classified as "Questionable"(10). Reliability is responsible for verifying the homogeneity or heterogeneity of an instrument, assessing the instrument’s ability to produce similar results in different contexts. This analysis can be affected by the particularities of each study, including the number of participants(11).

In general, the recommended Cronbach’s alpha values are between 0.800 and 0.900, it should be noted that values above 0.900 are not recommended, high alpha values suggest redundancy of the items, by repetition or excess in the measurement of the same attribute(11).

The scores obtained show that in the domain “Parental self-efficacy” the participants felt “Confident”; in the domain “Importance attributed to activities” it was classified as “Important” and in the domain “Self-perceived self-efficacy” the parents consider themselves “Successful” in caring for their newborn.

The results found are positive and most of the scores are almost at the maximum level. Looking at the mean scores for the instrument's sub-items, the lowest scores are associated with the topic of first aid for newborns in all three domains, revealing that parents don't feel confident, don't recognize the importance of this topic in the construction of parenting and don't succeed in carrying out basic life support manoeuvres.

In this sense, the importance of investing in accident prevention with parents from the maternity ward onwards is reinforced(12), so that they can identify situations with their NB that require basic life support so that they can act early, increasing the likelihood of a positive prognosis for the child.

The results of the study show that parents have lower self-confidence scores when it comes to dealing with basic issues such as being able to calm the child down when they are crying and/or agitated; applying methods to ensure the child's safe sleep; and adapting to caring for the NB and other children. This reinforces the importance of prenatal consultations to promote the acquisition of knowledge by parents about caring for the child in the first days of life(13-15), to encourage the support of the extended family and health professionals as a support network.

Building positive parenting(16) involves acquiring the self-confidence to care for the child right from pregnancy. Thus, keeping parents and child together right after birth stimulates sensory, physiological and behavioural mechanisms that will solidify a basis for parental bonding, resulting in various benefits for the development of parenting and child development(15-18).

The validated instrument can be used to guide the actions of health professionals in primary care in building positive parenting, by identifying situations in the day-to-day care of the newborn in which parents do not feel prepared, confident or do not attach importance.

In primary health care, there are several moments that can provide an approach to parenting, including the prenatal period, the first week of comprehensive care for the newborn (PSSI) and childcare. The PSSI is a protocol with the aim of providing comprehensive, multidisciplinary care for the newborn and the puerperal woman, screening for risks that may
Validation of the instrument "Parental self-efficacy in caring for full-term newborns: Brazilian version"  

affect the binomial bond, the newborn’s growth and development, offering social support to the family and facilitating the construction of parenthood, all of which have a direct impact on infant morbidity and mortality.

In Primary Health Care, it is up to the multi-professional team of the Family Health Strategy to carry out the singular therapeutic plan proposing interventions that promote parental self-efficacy to care for the child at home, strengthened by the knowledge acquired and the support offered during home visits, childcare consultations and other technological means. As pointed out in a study that sought to identify the information and communication technologies used by nurses in primary health care during the work process in the face of Covid-19, the data showed that nurses had to reinvent themselves to include this technology in their care process, facilitating communication between teams, and between the team and users. It also strengthened relationships, bringing nurses closer to the population that was in isolation.

The validated parental self-efficacy measurement instrument can be a valuable tool for health professionals to carry out a systematic and routine assessment of parents’ ability to care for their child, from the Joint Accommodation, preparing them for the transition to home care. At this point, the instrument can be used to assess the parents’ potential for care and help them with their weaknesses and limitations by offering interventions to improve their self-confidence.

A limitation of the study is the need to use the instrument in research in other Brazilian states, together with an analysis of its internal consistency.

CONCLUSION

The instrument validated with parents of full-term Brazilian newborns was called “Autoeficácia Parental no Cuidado ao Recém-Nascido à termo: Versão Brasileira”, and obtained a Cronbach’s Alpha considered “Excellent” for the overall score and “questionable” for the subdomains of the instrument (success, importance and confidence), with adequate internal consistency for use with parents of full-term newborns. The items demonstrated reliability in terms of what they were intended to measure.

The factor analysis showed that the items have a representative factor load to be maintained in the three dimensions presented by the original instrument.

The tool can be used as a resource by health professionals in the follow-up of children in the neonatal period and in family health programs.

VALIDAÇÃO DO INSTRUMENTO “AUTOEFICÁCIA PARENTAL NO CUIDADO AO RECÉM-NASCIDO À TERMO: VERSÃO BRASILEIRA”

RESUMO


VALIDACIÓN DEL INSTRUMENTO "AUTOEFICACIA PARENTAL EN EL CUIDADO AL RECIÉN NACIDO A TÉRMINO: VERSIÓN BRASILEÑA"

RESUMEN
Objetivo: validar el instrumento Preterm Parenting & Self-Efficacy Checklist Versión Brasileña para uso con padres de recién nacidos a término. M étodo: estudio metodológico realizado con 72 padres de recién nacidos a término, asistidos en un programa de puercultura de una institución filantrópica del municipio de São Paulo-Brasil. En la recolección de datos, se utilizó el instrumento “Preterm Parenting & Self-Efficacy Checklist - Versión Brasileña” y un cuestionario que contenía variables sociodemográficas de los padres y variables perinatales. En el análisis de los datos se utilizó el Alpha de Cronbach y el análisis factorial. Resultados: la mayoría de los participantes fueron mujeres, con promedio de 28.5 años. Los recién nacidos tuvieron un promedio de 39 semanas de edad gestacional, peso promedio de 2940 gramos y sin interferencias al nacimiento (98,6%). La consistencia interna del instrumento fue de 0,808, el análisis factorial demostró la existencia de correlación entre los ítems y el valor de la carga factorial permitió el mantenimiento de los ítems del instrumento original. La autoeficacia parental de los participantes fue ocasionalmente confiada (promedio de 5.88). Conclusión: el instrumento fue consistente y confiable para su uso con padres de recién nacidos a término.


REFERENCES

Validation of the instrument "Parental self-efficacy in caring for full-term newborns: Brazilian version"


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