Original Article

Preliminary assessment of the psychometric properties of the maturity model for interdisciplinary nutritional therapy teams: a cross-sectional study

Avaliação preliminar das propriedades psicométricas do modelo de maturidade para equipes interdisciplinares de terapia nutricional: estudo transversal

DOI: 10.37111/braspenj.2026.41.1.21-en

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ABSTRACT

Introduction: Understand the stage of development of multidisciplinary nutrition team in Brazil is essential for guiding policies and improving practices in nutrition therapy. This study represent a methodological ste by seeking to nationally validate a tool capable of distinguishing levels of organizational maturity, reinforcing the importance of robust instruments to map diverse institutional realities. **Design:** Preliminary evaluation study of psychometric properties cross-sectional, multicenter, national, with convenience sampling. **Methods:** Professionals working in interdisciplinary teams from all regions of Brazil were invited through the SBNPE portal and during the national congress (August-October 2025) to apply the Maturity Model version 2.1. Usability was assessed using the System Usability Scale (SUS). **Results:** Fifty-one professionals completed the assessment, classifying their EMTN as 7.8% Initial Level, 29.4% Fundamental, 27.5% Managed, 25.5% Advanced, and 9.8% Excellence. Asymmetric development was observed between domains of the maturity model, with lower performance in Education (33.7%) and Research (24.5%) compared to operational domains (~57%). The usability score reached a mean SUS of 75.4 (SD 13.3; 95% CI: 71.5–79.2), and among the majority of responses (74.7%), usability was considered "Good" to "Best possible." **Conclusion:** The model proved to be highly usable in a diverse national sample, validating its application for the evaluation and development of Brazilian EMTNs. The identification of gaps in education and research are areas that require further development among most participants.

RESUMO

Introdução: Conhecer o estágio de desenvolvimento das EMTNs no Brasil é essencial para direcionar políticas e aprimorar práticas em terapia nutricional. Este estudo, representa um passo metodológico ao buscar validar nacionalmente uma ferramenta capaz de discriminar níveis de maturidade organizacional, reforçando a importância de instrumentos robustos para mapear realidades institucionais diversas. **Desenho:** Estudo de avaliação preliminar das propriedades psicométricas transversal, multicêntrico, nacional, com amostragem por conveniência. **Métodos:** Profissionais atuantes em equipes interdisciplinares de todas as regiões brasileiras foram convidados por meio do portal da SBNPE e durante o congresso nacional (agosto- outubro 2025) a aplicar? o Modelo de Maturidade versão 2.1. A usabilidade foi avaliada pela Escala System Usability Scale (SUS). **Resultados:** 51 profissionais completaram a avaliação, classificando a sua EMTN como 7,8% Nível Inicial, 29,4% Fundamental, 27,5% Gerenciado, 25,5% Avançado e 9,8% Excelência. Observou-se desenvolvimento assimétrico entre domínios do modelo de maturidade, com desempenho inferior em Educação (33,7%) e Pesquisa (24,5%) comparado aos domínios operacionais (~57%). A pontuação de usabilidade atingiu SUS médio de 75,4 (DP 13,3; IC 95%: 71,5 – 79,2) e entre a maioria das respostas (74,7%) a usabilidade foi considerada de "Boa" a "Melhor impossível". **Conclusão:** O modelo mostrou-se de alta usabilidade em amostra nacional diversificada, validando a aplicação para avaliação e desenvolvimento de EMTNs brasileiras. A identificação de *gaps* em educação e pesquisa são áreas que requerem amadurecimento entre a maioria dos participantes.

Keywords:
Nutritional therapy. Multidisciplinary team. User-centered design.

Unitermos:
Terapia nutricional. Equipe multiprofissional. Design centrado no usuário.

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Submission:
December 15st, 2025

Accepted for publication:
January 6th, 2026

Date of publication:
January 26th, 2026

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INTRODUCTION

The theoretical development of the Maturity Model for interdisciplinary teams known as multidisciplinary nutritional therapy teams (EMTN), based on the Capability Maturity Model (CMM) framework and specifically adapted to the Brazilian hospital context, was recently published1. In this study, the results of the initial validation carried out with five EMTNs from different regions of the country showed good applicability and usability, with an average score of 77.0 on the System Usability Scale (SUS).

According to the established methodological plan, the subsequent phase of model development included widespread dissemination for large-scale validation, without yet constituting the evaluation of each EMTN. The present study aims to present the results of the second phase of validation, carried out between August and October 2025, covering a significantly larger number of professionals.

METHODS

Dissemination strategy

Thios was an observational cross-sectional study for the extended validation of a preliminary evaluation of measurement properties of the Maturity Model for EMTNs, version 2.1, previously validated in a pilot study[1] in five institutions. This study represents a stage of psychometric evaluation, focused on usability, descriptive internal consistency and distribution of scores, with no pretense of complete formal validation. Data collection took place between August and October 2025, using non-probabilistic convenience sampling, with voluntary, unstimulated participation of members of EMTNs from all Brazilian regions (Figure 1).

The dissemination of the model for expanded validation used the following outreach strategies:

a) institutional digital platform: the instrument was made available on the official website of the Brazilian Society of Parenteral and Enteral Nutrition (BRASPEN/SBNPE), www.sbnpe.org.br/mmctn, accessible to all registered members and visitors to the site, after dissemination by internal communication via email marketing;

b) in-person scientific event: during the Brazilian Congress of Parenteral and Enteral Nutrition, held in October 2025, a specific session was held to present the model, with a practical demonstration of the application process and interactive discussion with participants;

c) direct communication: electronic communication notices were sent by email and SMS to professionals working in EMTNs.

Eligibility criteria

The study included professionals who are members of multidisciplinary nutritional therapy teams (EMTNs), working in Brazilian hospitals, and registered members of the Brazilian Society of Parenteral and Enteral Nutrition (SBNPE) or participants in the 2025 SBNPE National Congress. As this was a large-scale validation stage among users, no control was performed to exclude more than one professional linked to the same EMTN, a necessary step when evaluating teams. No formal exclusion criteria were applied, given the validation nature of the study. The final number of participants is shown in Figure 1.

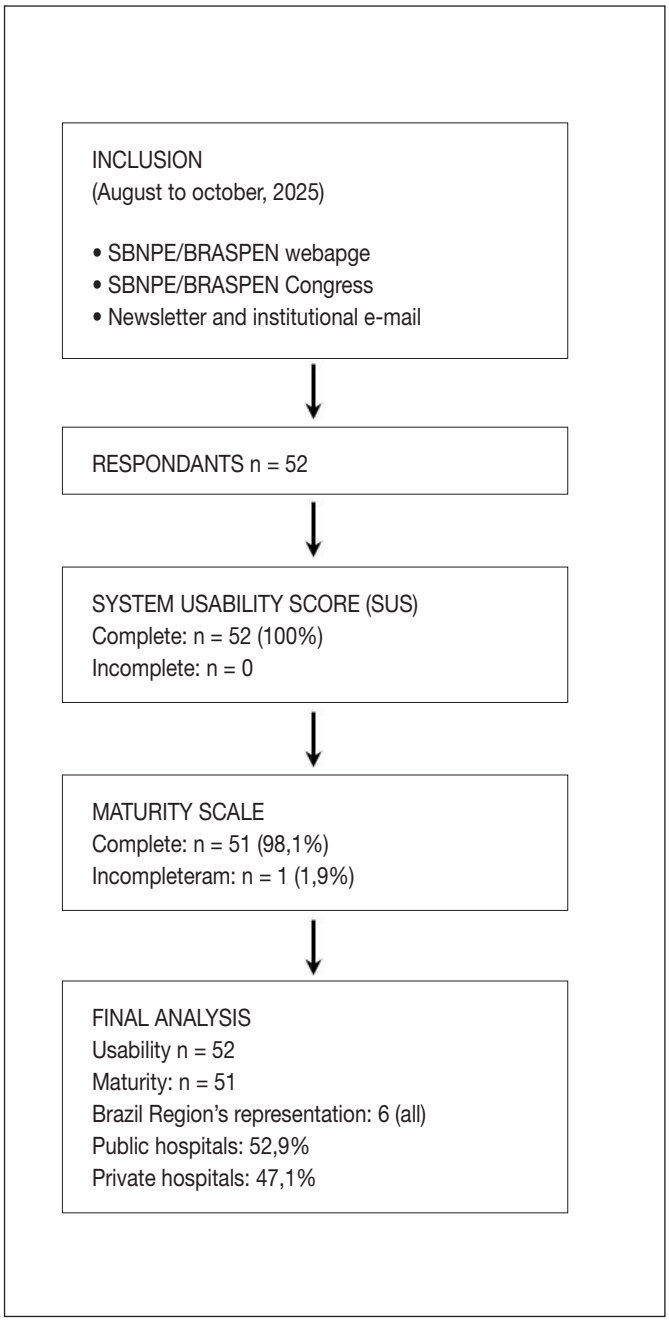

Figure 1 - *Diagram of the process of collecting and analyzing responses.*

Collection instrument

The assessment instrument maintained the structure validated in the previous phase, comprising:

- Demographic section: characterization of the institution (geographic region, type of hospital);
- Maturity assessment: 60 criteria distributed across 6 domains (Administrative, Care, Resources and Supplies, Education and Training, Research and Development, Information Management);
- Usability scale: 10 SUS questions to assess the ease of use of the instrument.

Data analysis

The data were analyzed using descriptive statistics, with calculation of means, standard deviations, and frequency distributions. The maturity score was calculated according to the algorithm validated in version 2.1 of the model, with a maximum score of 100 points distributed proportionally among the domains. The maturity level classification followed the established percentiles: Initial (0-20%), Fundamental (21-40%), Managed (41-60%), Advanced (61-80%), and Excellence (81-100%).

Determination of sample size

The sample size was not determined by a priori statistical calculation, since the study used non-probabilistic sampling for convenience. The strategy adopted was to maximize the participation of EMTNs through multiple recruitment strategies (digital platform, scientific activity/congress, and direct communication via email).

Treatment of missing data

No imputations of missing data were made. The analyses were conducted with complete cases derived from the usability questionnaire and the organizational maturity questionnaire. In situations in which only one of the two questionnaires was completed, only the complete questionnaire was considered.

STROBE standards

To ensure transparency and quality of reporting, this study adopted the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines. Detailed adherence to each item recommended by the STROBE checklist for cross-sectional studies was documented and can be verified in full in Appendix I of this manuscript[2].

RESULTS

Sample Characterization

There were 52 respondents representing institutions from all regions of Brazil, with a predominant geographical distribution in the Southeast (58.8%), followed by the South (19.6%), Northeast (9.8%), Midwest (5.9%), North (3.9%), and Federal District (2.0%). There was a balance between public (52.9%) and private (47.1%) hospitals.

Usability Assessment

The analysis of the System Usability Scale (SUS) scores had a median of 77.5 (95%CI = 71.5-79.2) (Figure 2). The translation of the points into quantitative equivalents on the Bankor scale showed the following distribution of ratings:

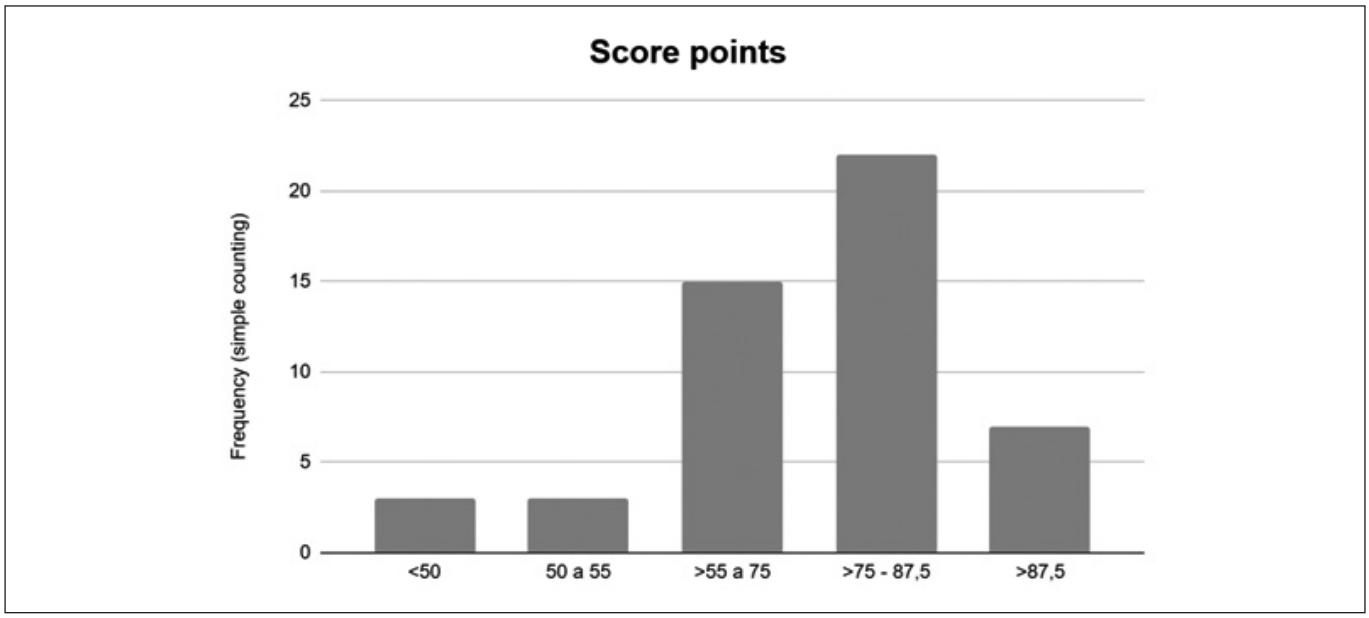

Figure 2 - *Histogram of System Usability Scale score points among the responders.*

- "Could not be better" (>87.5–100 points): 1 response (1.9%)
- "Excellent" (>75.0–87.5 points): 18 responses (35.3%)
- "Good" (>55.0–75.0 points): 19 responses (37.3%)
- "Acceptable" (50.0–55.0 points): 12 responses (23.5%)
- "Poor/unacceptable" (< 50.0 points): 1 response (2.0%)

The system was rated as "Best possible," "Excellent," or "Good" in 79.4% of responses, with only 2.0% negative evaluations. (Figure 2).

Distribution of maturity levels

Fifty-two respondents completed the maturity assessment in full. The distribution of levels revealed a diverse profile of the national scenario:

- Level 1 - Initial: 4 EMTNs (7.8%; 95%CI=2.2–18.9%)
- Level 2 - Fundamental: 15 EMTNs (29.4%; 95%CI=17.5–44.1%)
- Level 3 - Managed: 14 EMTNs (27.5%; 95%CI=16.1–41.9%)
- Level 4 - Advanced: 13 EMTNs (25.5%; 95%CI=14.3–40.0%)
- Level 5 - Excellence: 5 EMTNs (9.8%; 95%CI=3.3–21.4%)

Analysis by domain

The analysis of the average scores by domain revealed an asymmetrical development profile among the different dimensions evaluated. To facilitate interpretation, the scores were converted into percentages of the maximum possible score for each domain. The domains of Administration (56.1±25.6%; 95%CI=47.9-64.3%), Care (56.9±25.2%; 95%CI=48.8-64.9%), Resources and Supplies (57.1±24.3%; 95%CI=50.0-64.2%) and Information Management (57.0±30.2%; 95%CI=48.0-65.9%) domains showed balanced performance, with averages close to 57% of the maximum possible score (Figure 4). The domains of Education and Training (33.7±27.8%; 95%CI=25.7-41.6%) and Research and Development (24.5±28.5%; 95%CI=17.5-31.5%) were the ones with the lower maturity levels, in which the initial maturity level were highly present.

The descriptive analysis by region showed a trend of higher average maturity in the Southeast and South regions (53 and 51, respectively), compared to the Midwest (43) and Northeast (33). No responders from the North region were registered. Although inferential statistical tests were not applied due to the limited sample size in some regions, these findings suggest possible regional disparities that merit future investigation in larger samples (Table 1).

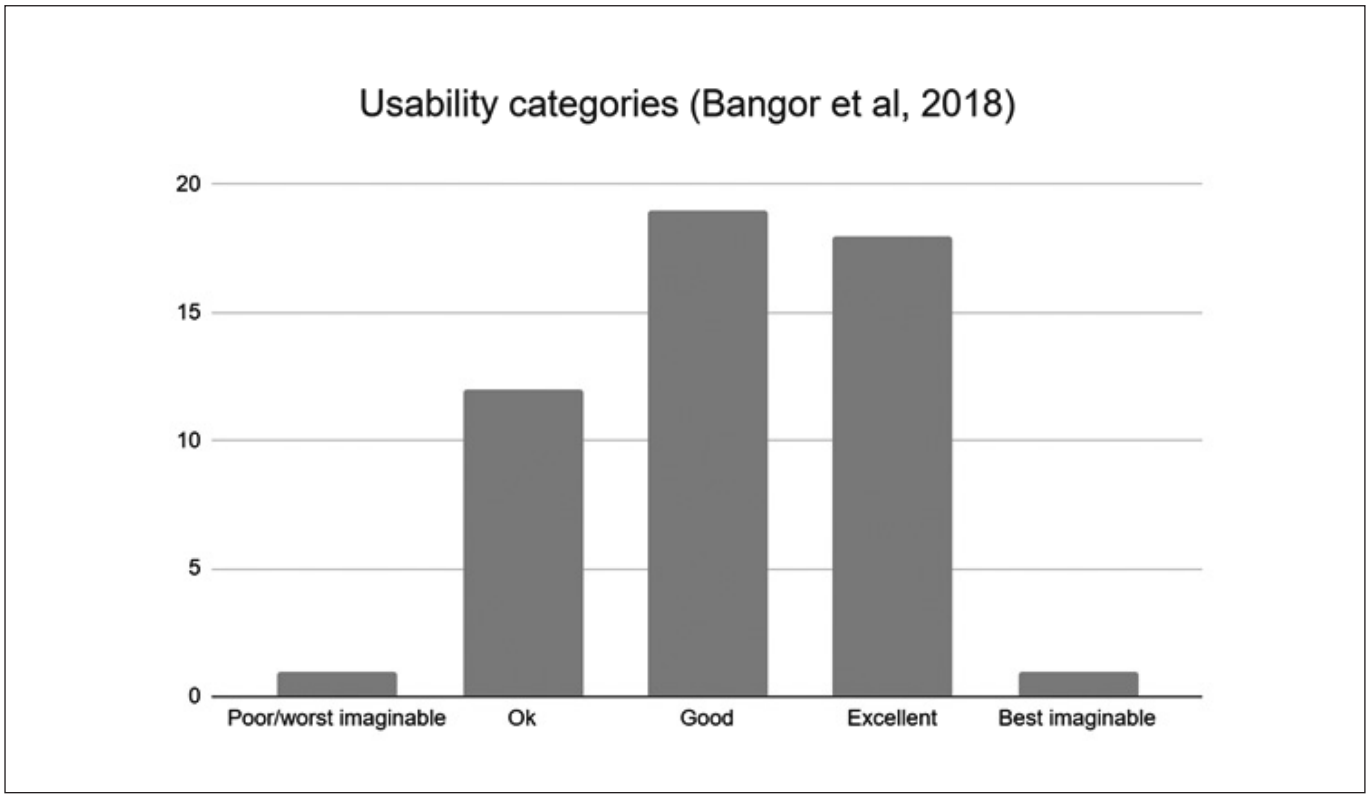

Figure 3 - *Distribution of usability categories according to the scores obtained.*

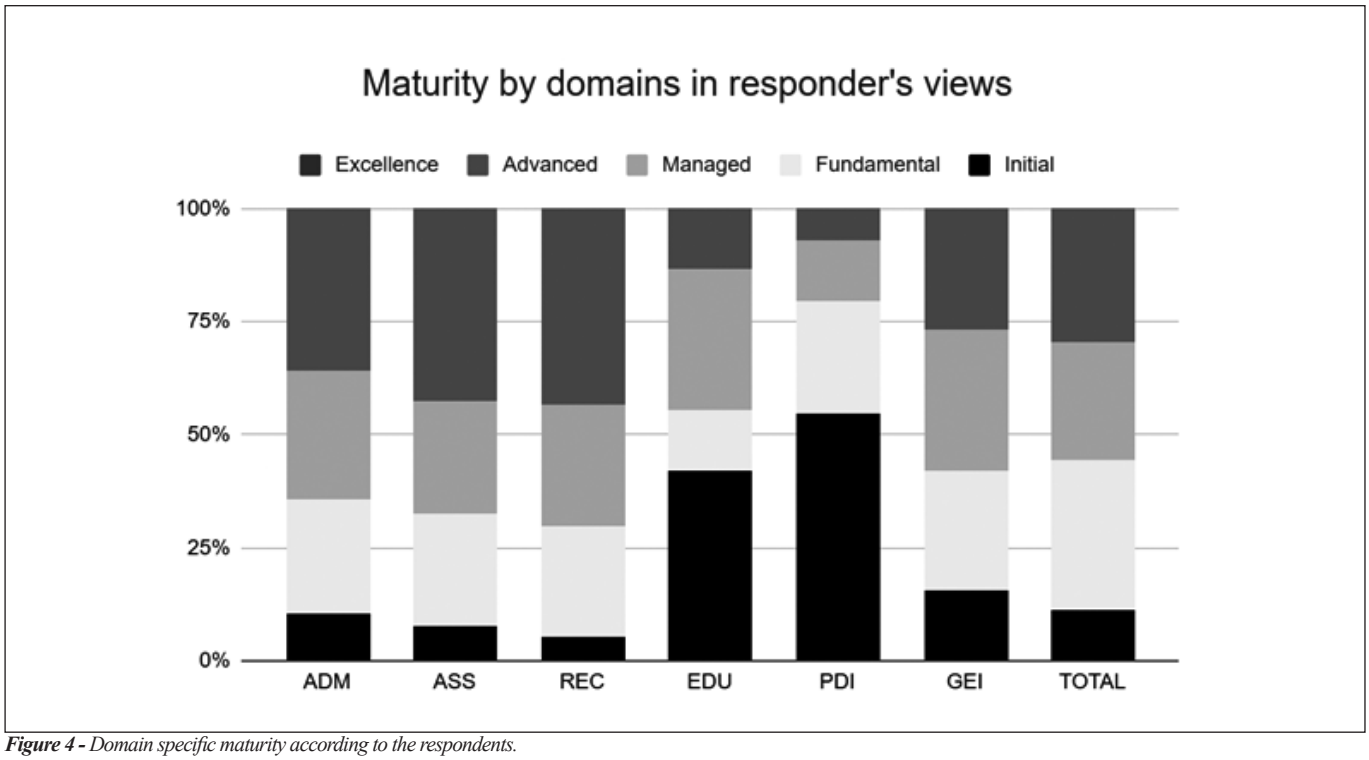

Figure 4 - *Domain specific maturity according to the respondents.*

Table 1 – Distribution of the maturity level by region among the responders.

Region	N (%)	Average maturity ± SD	Level
Southest	30 (62.5%)	53±22.8	Level 3 (Established)
South	10 (20.8%)	51±24.1	Level 3 (Established)
Central	3 (8.3%)	43±10.0	Level 2 (Emergent)
Northeast	5 (10.4%)	33±18.4	Level 2 (Emergent)
North	0 (-)	NA	NA

DISCUSSION

The results of this phase represent a significant increase compared to the initial validation phase (n=5), giving greater statistical robustness to the findings. This sample size is consistent with instrument validation studies that typically recommend a sample of at least 30 participants[3].

Of the 52 respondents who completed the maturity assessment in full, only 1 did not complete the usability assessment. The reasons for not completing the usability assessment were not systematically collected. Possible reasons include the time required to complete the entire assessment instrument and the decision to assess maturity exclusively.

The maintenance of high usability scores in a sample 11.6 times larger points to the applicability and suitability for different user profiles and institutions. The minimal variation in scores between phases (77.0 vs. 76.0; difference of 1.3%) is particularly relevant, as it occurred concurrently with geographical expansion from two to six regions and significant institutional diversification, including respondents from public and private hospitals of various sizes. These findings suggest positive results regarding the acceptance and ease of use of the instrument. According to the classification by Bangor et al.[4], the maturity assessment questionnaire can be classified as "Excellent."

We acknowledge that this study did not perform formal validation in the strict psychometric sense (confirmatory factor analysis, convergent and discriminant validity with standard instruments, and predictive validity of clinical outcomes). Our evaluation focused on preliminary properties: usability (SUS scale), empirical distribution of scores, and descriptive ability to discriminate levels of maturity. Subsequent studies should undertake complete formal validation. Discriminant validity, defined as the instrument's ability to adequately distinguish

levels between different stages of a construct[5], is an essential criterion in the validation of maturity models. Being preliminary in nature, the study did not advance in terms of discriminant validity. All comparisons between subgroups (regions, types of hospitals, institutional sizes) presented in this study are strictly descriptive and exploratory. We did not perform inferential statistical tests (e.g. ANOVA, chi-square, regression) given the preliminary nature of the study, limited sample size in some strata, and non-probabilistic sampling. These findings should be interpreted as generating hypotheses, not as evidence of population differences. The distribution in the classification of respondents approximates a normal curve, with a concentration in the intermediate levels (Basic to Advanced: 82.4%) and representation of extremes (Initial: 7.8%; Excellence: 9.8%), suggesting that the model is capable of adequately discriminating between different stages of organizational development, from incipient teams to centers of excellence, a fundamental characteristic for instruments that assess progression in multiple stages[6,7]. This distribution pattern is corroborated by validations of health management maturity models, which demonstrate intermediate concentration when applied to diverse service populations[8,9].

The distribution of maturity levels in this sample is informative in several respects. First, the predominance of respondents belonging to EMTNs at the Fundamental to Advanced levels (82.4%) suggests the perception that most Brazilian teams have already overcome the basic challenges of implementation and are in the process of consolidating processes and seeking improvement. This finding contrasts with the initial expectation of finding a higher proportion of teams at the initial levels, suggesting in theory that the policies to encourage the formation of EMTNs implemented in recent decades have produced tangible results. The prevalence of intermediate and advanced levels of maturity observed should not be extrapolated to the universe of Brazilian EMTNs, but rather interpreted as characteristic of a self-selected subsample of teams already engaged in professional development. EMTNs disconnected from scientific societies and without participation in conferences, which may represent a significant portion of the national reality, remained invisible to this study.

At the same time, the fact that 7.8% of teams are still at the Initial level points to the ongoing need for support in training and structuring new EMTNs, especially in less developed regions or smaller institutions. On the other hand, the 9.8% at the Excellence level may suggest that it is feasible to achieve advanced standards of maturity in the Brazilian context, even considering the limitations of resources and infrastructure commonly reported in the national health system.

Asymmetric development between domains

The analysis by domain reveals an asymmetric development profile, especially in the Education and Training (33.7%) and Research and Development (24.5%) sectors. In this sense, the inferior performance of these fields may simply reflect that most EMTNs are still consolidating fundamental processes. However, the observed trend may suggest the competition of organizational factors.

The Research and Development domain had an average score of 2.9±3.4 points, suggesting high variability among institutions. This heterogeneous distribution reflects the expected pattern of organizational maturation, in which basic competencies (administrative structure, care processes) are developed before advanced capabilities (research, innovation). However, the magnitude of the difference, with Research and Development representing less than half the performance of the basic domains, suggests that natural progression may be limited by structural or strategic barriers that deserve specific attention.

EMTNs in the early or intermediate stages of development naturally focus resources and attention on essential care processes that directly impact the safety and effectiveness of nutritional care. This prioritization is not only understandable but appropriate from a risk management perspective. However, the perpetuation of this pattern even in more mature teams suggests that the transition to investments in formal education and research may not be occurring naturally, requiring targeted interventions. This consistency raises the hypothesis that Brazilian EMTNs have concentrated their efforts on consolidating basic organizational structures, fundamental care processes, and operational information systems.

Participation in research requires approval from ethics committees, specific infrastructure (e.g., statisticians, methodologists), protected time for professionals, and, in many cases, financial resources to fund studies. These requirements are not always available in all institutions, particularly in smaller public hospitals or in less developed regions. Similarly, structured education and training programs require investments in teaching materials, teaching infrastructure, and, crucially, dedicated time from EMTN professionals for these activities.

Finally, considering the resource constraints that characterize the Brazilian health system, structured educational activities and research projects require financial and time investments that may be beyond the capacity of many EMTNs. The need to maintain care operations in resource-limited contexts often leads to the indefinite postponement of investments in skills development and knowledge generation.

Implications for Development Policies

This analysis suggests that future sector development policies should consider differentiated and stratified support according to the level of maturity of EMTNs. For teams at the Basic and Managed levels, which have already consolidated

basic care processes, training programs that facilitate the transition to formal education and research activities may be valuable, such as:

- Establishment of collaborative networks for multicenter research, reducing individual barriers to infrastructure and statistical expertise;
- Mentoring programs connecting more mature EMTNs with developing teams;
- Specific institutional incentives for education and research activities, including protected time and recognition in the career plan;
- Simplification of ethical processes for low-risk observational studies in nutritional therapy;
- Development of standardized, freely accessible educational material to facilitate the implementation of training programs.

Establishing the model as a national reference tool could contribute to reducing disparities between institutions by providing a common language for discussion about quality and development in nutritional therapy. This standardization facilitates the establishment of institutional goals based on objective standards and allows for meaningful comparisons between different contexts and over time.

Limitations

This study has limitations that should be considered when interpreting the results and planning future studies. Voluntary participation may have favored EMTNs that are more structured or have a greater interest in institutional evaluation, potentially overestimating the average level of national maturity (selection bias). In addition, the assessment was performed individually by a member of the EMTN, which differs from a consensus team assessment and is subject to individual perception biases. Participants from EMTNs with much lower performance or in a situation of organizational fragility may have chosen not to participate. This bias is common in organizational assessment studies and should be considered when generalizing the findings to the universe of Brazilian EMTNs.

The convenience recruitment strategy through SBNPE, dissemination at scientific conferences, and voluntary participation introduces substantial selection bias. Professionals engaged in scientific societies and participating in conferences tend to represent more structured and mature EMTNs. As a consequence:

a) EMTNs in the early stages of development (Levels 0-1) are likely underrepresented in our sample;
b) The observed distribution of maturity (median at Level 3 - Established) may be artificially skewed upward;
c) The true population distribution of maturity of Brazilian EMTNs is likely lower than that observed in this study;
d) Our results should be interpreted as representative of EMTNs minimally engaged in professional development, not of all national EMTNs.

Future studies with stratified probabilistic sampling (by region, hospital type, certifications) are needed to adequately characterize the national maturity distribution.

Another limitation is the absence of control for multiple respondents from the same institution. Although we did not collect institutional identifiers to preserve the anonymity of participants, we recognize that the presence of multiple responses from the same EMTN could violate the assumption of independence of observations and potentially inflate the effective sample size. Biases such as social desirability of respondents (projecting a positive professional image), divergent perceptions of the maturity of the same institution, and lack of validation could interfere with the scores. Future studies should implement institutional identification strategies that allow this factor to be controlled, either through anonymous identifiers or consensual team assessment, without compromising confidentiality.

Strengths of the Study

Despite these limitations, the study has significant methodological strengths. The sample is substantially larger than the initial validation, giving it greater statistical power, especially when considering the better representation of all Brazilian regions and the balance between public and private hospitals. The use of multiple dissemination strategies (digital, in-person, direct communication) reduced single-channel bias. The availability of a validated, easy-to-apply instrument (evidenced by its high usability score) with a demonstrated ability to capture the diversity of the national scenario represents an important methodological advance for the field.

CONCLUSION

The model demonstrated satisfactory preliminary properties in the usability assessment, providing preliminary evidence (exploratory-descriptive level) on the measurement properties of the proposed model. Although the results are promising, subsequent studies with more robust designs are needed for: (1) formal psychometric validation; (2) representative probabilistic sampling; (3) consensus team assessment; (4) triangulation with external audit, and (5) longitudinal studies evaluating predictive validity in relation to clinical and care outcomes.

ACKNOWLEDGMENTS

The authors would like to thank all the professionals working in EMTNs who participated in this expanded

validation phase, contributing their time and expertise to the improvement of the model. We are especially grateful to the SBNPE Board for its institutional support and for providing the digital platform for data collection. We also thank the participants of the 2025 SBNPE National Congress for the valuable discussions that enriched our understanding of the challenges and opportunities in the development of EMTNs in Brazil.

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ANNEX I – Checklist STROBE para estudos observacionais transversais

Item	STROBE guidelines	Manuscript location	Status
	TITLE AND ABSTRACT		
1a	Indicate the study design in the title or abstract	Title: "National Cross-Sectional Study"	✔
1b	Provide an informative and balanced summary in the abstract	Complete structured abstract (Introduction, Methods, Results, Conclusion)	✔
	INTRODUCTION		
2	Explain the rationale and scientific context	Introduction – Paragraphs 1-3	✔
3	State specific objectives	Introduction – Final paragraph	✔
	METHODS		
4	Present key elements of the study design	Methods – Initial paragraph	✔
5	Describe context, locations, and dates	Methods – Dissemination Strategy (August–September 2025, SBNPE portal, congress)	✔
6a	Provide eligibility criteria	Methods – Eligibility Criteria	✔
6b	For matched case-control studies, matching criteria	Not applicable (cross-sectional study)	N/A
7	Clearly define outcomes, exposures, and variables	Methods – Data Collection Instrument (6 domains, SUS scale)	✔
8	Provide data sources and assessment methods	Methods – Data Collection Instrument	✔
9	Describe efforts to address bias	Discussion – Limitations (selection bias, self-assessment)	✔
10	Explain how study size was determined	Methods – Sample Size	✔
11	Explain treatment of quantitative variables	Methods – Data Analysis (0–2 scale, percentages)	✔
12a	Describe statistical methods	Methods – Data Analysis (descriptive statistics)	✔
12b	Describe methods for subgroups	Methods – Analysis by region, hospital type, domains	✔
12c	Explain treatment of missing data	Methods – Missing Data (1/52 did not complete; analysis with complete cases)	✔
12d	For cohort studies, describe losses to follow-up	Not applicable (cross-sectional study)	N/A
12e	Describe sensitivity analyses	Not applicable for this descriptive study type	N/A
	RESULTS		
13a	Report numbers of participants at each stage	Results – Sample Characterization (52 usability; 51 maturity)	✔
13b	Provide reasons for non-participation	Methods – Missing Data (required time, decision to assess only usability)	✔
13c	Consider use of flow diagram	Figure 1 – STROBE Flow Diagram	✔
14a	Provide characteristics of participants	Results – Characterization (6 regions, 52.9% public/47.1% private)	✔
14b	Report exposure and follow-up time	Not applicable (cross-sectional study without follow-up)	N/A
14c	Indicate missing data for each variable	Results – 0% missing usability; 12.1% missing maturity	✔
15	Report numbers of outcome events	Results – SUS: 76.0±12.6; Maturity levels: complete distribution	✔
16a	Provide estimates with confidence intervals	Results – Means, SD, percentages (95% CI available if requested)	✔
16b	Report categorization limits	Results – Levels: 0–19%, 20–39%, 40–59%, 60–79%, 80–100%	✔
16c	Report relative vs absolute risk	Not applicable (not an association study)	N/A
17	Report other analyses	Results – Analysis by domains, regions, comparison with initial validation	✔
	DISCUSSION		
18	Summarize key results	Discussion – Initial paragraph (usability maintained, discriminatory capacity)	✔
19	Discuss limitations	Discussion – Limitations (5 detailed limitations: selection bias, self-assessment, representativity, cross-sectional, clinical correlation)	✔
20	Cautious interpretation of results	Discussion – Complete (international comparison, consideration of limitations)	✔
21	Discuss generalizability (external validity)	Discussion – Generalization (selection bias, regional concentration, international dissemination)	✔
	OTHER INFORMATION		
22	Report sources of funding	Funding: "This study did not receive external funding"	✔

Legenda: ✔ = Full adherence | □ = Partical adherence | N/A = Not apply

NOTES ON NON-APPLICABLE ITEMS

Five items of the STROBE checklist were marked as "Not Applicable (N/A)" because they were not relevant to the cross-sectional design of the study:

Item 6b - Matching criteria (paired case-control studies):

This item is specific for case-control studies with participant matching. Our study is cross-sectional with no comparison groups, so this item does not apply.

Item 12d - Losses to follow-up (cohort studies):

This item is specific to prospective cohort studies that follow participants over time. As our study is cross-sectional with single data collection, there is no follow-up or loss to follow-up to report.

Item 12e - Sensitivity analyses:

While sensitivity analyses are valuable in many contexts, they are typically applied when there are: (a) multiple possible analytical approaches, (b) substantial missing data that require imputation, or (c) statistical assumptions that need to be tested. Our study used direct descriptive analysis with complete case analysis, without the need for imputation or multiple analytical approaches, making sensitivity analyses unnecessary for this design.

Item 14b - Time of exposure and follow-up:

This item is relevant for studies that measure exposure over time or perform follow-up of participants. Our cross-sectional study measures variables at a single point in time, with no temporal exposure or follow-up.

Item 16c - Relative vs. absolute risk:

This item is specific to association studies that calculate measures of effect (relative risk, odds ratio, etc.). Our study is descriptive and methodologically validated, and does not evaluate associations or causal effects.

GENERAL JUSTIFICATION:

The presence of non-applicable items is expected and appropriate, as the STROBE checklist was developed to cover multiple types of observational studies (cohort, case-control, and cross-sectional). Each type of study will naturally have some items that do not apply to its specific design. The important thing is that all items applicable to our cross-sectional design were adequately addressed in the manuscript.

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Study location: Sociedade Brasileira de Nutrição Parenteral e Enteral (SBNPE), São Paulo, SP, Brasil.

Conflict of interest: The authors declare there are none.