REVISTA O MUNDO DA SAÚDE

Health Education for children/ adolescents/ family: construction and validation of a scale

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Abstract

Health Education allows the development of behaviors capable of influencing the factors of a healthy life, namely the maintenance and improvement of the health status of the child/ adolescent/ family. Therefore, the perception of the importance of this practice by those who experience it (nurses and parents/family) can contribute strongly to its efficacy. Thus, this study aimed to build and validate an instrument for evaluating Health Education, carried out by nurses focused on children, adolescents, and/or family units. This was a descriptive, cross-sectional study developed in two phases: elaboration of items and their associations with the scale's dimensions based upon a bibliographical review, exploratory interviews with nurses and parents/family members, analysis by experts (nurses), and subsequent validation using an exploratory factor analysis. The psychometric qualities of the scale were assessed by a sample of 603 individuals (nurses and parents/family), and studies of reliability, validity and internal consistency were also carried out. The results of the exploratory factor analysis identified three factors: "partnership of care with the child/ adolescent/ family"; "Health literacy"; "Promotion of healthy environments and health behaviors" with 48 items. Analyses included high item-factor correlation (≥0.70); Cronbach's alpha=0.987; Kaiser-Meyer-Olkin=0.987; statistical significance within Bartlett's sphericity test (p<0.001). The total explained variance was 65.7%. We can conclude that the Health Education assessment tool for the child/ adolescent/ family contexts, in addition to meeting the validity requirements, presents positive results for its use in the Health Education assessments carried out for the child/ adolescent/ family members.

Keywords: Health Promotion. Health Education. Scales. Nurses.

INTRODUCTION

Health Promotion, with a historical path marked by theoretical and conceptual debates, managed to overcome the biomedical model, and is beginning to be understood as a transformative intervention with the capacity to improve the health and life conditions of an individual[1], which is therefore a transversal and intersectoral practice in society[2].

In this sense, Health Education (HE) is a professional practice based on scientific knowledge with the possibility of dealing with problems, understanding difficulties, meeting needs, promoting autonomy, promoting the adoption of healthy habits and lifestyles, increasing health literacy, understanding the health-disease process, and facilitating decision making[3]. It is also a social process capable of modifying an individual's behavior, appreciating, and

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encouraging their active participation, no longer being the traditional model of knowledge transmission[4]. Therefore, when practiced in an appropriate, participatory, continuous and directed way, according to the needs of the target population, HE plays an important role in the transformation process, contributing with the knowledge that allows for ample choices that promote quality of life[5].

Considering the current trends and consequent needs for care, namely in maternal and child health, in the development of early childhood[6] and in the development of family capacities[3], it is important to reflect on the role of nurses as educators and health promoters emphasizing interventions within the scope of HE to the child/adolescent and family unit, as well as those who are the target of care - parents/family, not least because the evaluation of an experience shared by nurses and parents/family, will allow producing evidence and reflection with a view to continuously improving the quality of a practice.

Nurses are recognized as the professionals who are closest to the community and, therefore, assume a unique position to identify problems, intervene early in the psychosocial problems of children/ adolescents/ family unit, as well as assuming an important role in health promotion, prevention of diseases, and in the management of health factors[7].

In this sense, the role of nurses in higher education has been the focus of some studies, although this intervention still faces many difficulties, namely in primary health care[8], and despite being contemporary, Health Promotion is still a term with ambiguities and contradictions[9].

In this scenario, in the search for effective educational actions and because, in recent years, competencies in Health Promotion have been discussed in international contexts and their improvement implies a thoughtful practice[10], it is important to know the evaluation of the interventions practiced by nurses in HE. However, the originality of the theme means that in the bibliographic research carried out, no instrument was found that translated the practice of HE performed by nurses to meet the special needs of the child/ adolescent/ family unit in relation to health and education in daily life.

Thus, this study aimed to build and validate a measurable instrument, which was called the Health Education Assessment Scale (HEAS), which could be applied to nurses and parents/families.

METHODS

This was a cross-sectional methodological study, developed from January 2017 to January 2018. Taking into account theoretical, empirical, and analytical procedures[11], it was comprised of two complementary and interdependent phases that allowed a more in-depth picture of the phenomenon under analysis, opting for, thus, a study carried out in two stages with the combination of qualitative and quantitative data.

In the first phase, an extensive literature review was carried out through bibliographic research related to the theoretical and social context of the phenomenon under study. The databases used were: *Online Knowledge Library* (B-On); *EBSCOhost Online Research Databases* (EBSCO); *Psychology and Social Science Journals on the Web* (PSYCLINE); *Medical Literature Analysis and Retrieval System Online* (MEDLINE); *Scientific Electonic Library Online* (SciELO); ELSEVIER; *PubMed Central* (PMC); *Portuguese Open Access Scientific Repository* (RCAAP). The reading and analysis of relevant strategic documents was also carried out, such as: documents from official international and national organizations.

In the first phase, semi-structured

interviews were also conducted (using a grid of open and standardized questions) with 10 nurses and 20 parents/family members, in order to obtain aspects that the researchers would not have thought of and complete the bibliographic review. We opted for a non-probabilistic convenience sample[11] in order to have more access to people. It should be noted that for performing the interviews, the informed consent of the participants was assured, explaining to them that their participation would not bring risks and that they could at any time abandon the study, without consequences, and that there would be confidentiality in the preservation of data and the exclusive use of them in this study. Privacy and anonymity were also respected and ensured. The interviews took place between January and April 2017.

With regards to interviews with nurses, it was considered an added value to conduct interviews with experts[12] in the field of Nursing to hear reflections and opinions from those who fit this theme. The selection of respondents was a significant number of people representing the phenomenon under study, in order to bring their perspective, training, individual trajectory, and professional experience within the scope of HE given to the child/ adolescent/ family units, all the while ensuring the diversity and saturation. The inclusion criteria defined were:

-nurses with professional experience in HE for the child/ adolescent/ family unit;

-nurses who participate in essential intervention areas within the scope of HE for the child/ adolescent/ family unit;

-nursing professionals agreeing to participate.

Recognizing the importance of collecting the opinion of those who are the target of nursing care, parents/family members were also interviewed. Children/adolescents were excluded, as the intention was to evaluate the results of participants with certain convictions, training, and experiences. The inclusion criteria defined were:

-parents/family members who have had child health consultations within the last two years at the Northeast Local Health Unit, E.P.E.;

-parents/family members who were present when their child is admitted to a pediatric hospitalization service within the last two years at the Northeast Local Health Unit, E.P.E.

-parent/family member acceptance to participate.

Regarding the content analysis of the interviews[13], the transcription of the interviews was carried out respecting the content of the speeches of the nurses and the parents/family members so as not to bias the results and ensure ethical principles. The analysis corpus formed by the data obtained from the interviews was submitted to content analysis organized in three different chronological moments: the pre-analysis; the exploration of the material and the treatment of the results; inference and interpretation. In the pre-analysis, the "light reading" of the speeches allowed to organize and systematize ideas, organize the material, know the context of the information, and highlight the generic guidelines. Then, the data was theoretically framed with a more directed reading to obtain the reporting units. A data classification scheme was then structured according to the categories and subcategories found, taking into account rules such as homogeneity, mutual exclusion, relevance, objectivity, fidelity, and productivity[14]. The reporting units were also coded and distributed by categories and subcategories, with 12 categories and 34 subcategories which were identified in the nurses' speeches, and 10 categories and 19 subcategories in the parents/family member's speeches. Subsequently, the concepts were operationalized in the form of items, resulting in 57 items divided into seven categories: 1

- "Increase in health literacy" (9 items); 2 - "Promotion of healthy lifestyles" (7 items); 3 - "Disease prevention" (9 items); 4 - "Disease Treatment" (6 items); 5 - "Family assessment" (8 items); 6 - "Nurse/family relationship" (8 items) and 7 - "Nursing visibility/professional achievement" (10 items).

Assuming that the opinion of experts is also another method of obtaining and formulating items[15], HEAS was analyzed by five experts (two PhD Professors in Nursing, two researchers with extensive experience in building scales, and two Nursing professionals with wide experience). experience in HE), who were asked to: indicate their level of agreement with the organization of the items; verify that the items are relevant and representative of the object of analysis and that the result is not influenced; check if the items are easily interpretable and intelligible (semantic analysis) for the two groups to be studied (nurses and parents/family members); and verify that the various categories are well represented so that the items describe clearly and objectively what is intended to be analyzed in this study. After the experts' analysis, which took place in September 2017, it was decided to delete a category as well as some items, and to redistribute and/or add items, so that the content of the second version of HEAS started to be represented by six categories with a total of 59 items: 1 - "Increase in health literacy" (14 items); 2 - "Promotion of healthy lifestyles" (10 items); 3 - "Disease prevention" (7 items); 4 - "Disease prevention" (9 items); 5 - "Nurse/family relationship" (11 items) and 6 - "Nursing visibility/professional achievement" (8 items).

After the second version of HEAS was finished, it was necessary to assess the understanding and clarity of the items and check if they were easily interpreted. HEAS was then submitted to a pre-test carried out with two small groups (one for each group to be studied) with which the questionnaires were analyzed, item by item, so that the items with problems were being corrected and tested.

After the described process, the development of the necessary procedures for its validation began. We opted for online data collection, creating a website with a link to access HEAS with the necessary explanations that characterized the objective of the study. A group of individuals were chosen at random based on personal email contacts and requesting the dissemination of the instrument and the identification of other individuals who belong to the same target population of interest, establishing a non-probabilistic Snowball sample[15]. Regarding the formulation of options for responding to HEAS items, these were presented for self-completion on a Likert-type agreement scale with a response range of five options, ranging from "Totally Disagree", "Disagree", "Does not agree, nor disagree", "Agree", and "Totally Agree".

This data collection was carried out between November 2017 and January 2018. After analyzing the results received, the sample consisted of 603 individuals (302 nurses and 301 parents/family members), of which 50.1% (n=302) were nursing professionals and 49.9% (n=301) parents/family. Although it is possible to choose a ratio of three observations per variable, we chose a ratio of 30:1 (number of subjects for each questionnaire item) because large samples are more representative of the study population and can generalize the results and explore associations between variables[16].

To verify the psychometric qualities of HEAS, that which produced the most consensus in the literature was used and, therefore, studies on reliability, validity, and responsiveness and subsequent exploratory factor analysis were perfomed[17]. The following criteria were defined:

- in the factor analysis to transform the coefficients of the main components into a

simplified structure, the method of extraction of the main components with an orthogonal rotation (varimax) was applied, without imposing factors that allowed transforming a set of correlated variables into a smaller set of independent variables, referred to as "main components"[16];

- to decide the number of components to be retained, the Kaiser criterion was chosen as well as retaining main components whose self-value (*Eigenvalue*) has an explained variance greater than 1[13], and visually analyzing the Scree plot by selecting all components until the line that joins them starts to become horizontal[16];

- in relation to the reliability value of each factor, the individual reliability of the variables that compose the factors was calculated, choosing to accept the item with a correlation (factorial weight or loadings) equal to or greater than 0.50, as they are at least responsible for 25% of the variance[17];

- to measure the quality of the correlations between the variables[18], we used the Kaiser-Meyer-Olkin (KMO) sampling adequacy measure with a significance level of $p < 0.05$ and Bartlett's sphericity test[19], and the internal consistency of the factors was assessed by Cronbach's alpha[17];

- descriptive analyses (measurements of central tendency, dispersion, and frequency) and exploratory factor analyses were performed using the *Statistical Package for the Social Sciences* (version 22.0) with a 95% confidence interval[19].

RESULTS

The normality of the sample distribution was tested using the Kolmogorov-Smirnov test, with the Lilliefors correction, obtaining a significance level of 0.000 ($p<0.05$), which allowed us to conclude that it was a sample distribution without normality, and the maximum likelihood method could not be chosen(19). Bartlett's sphericity test had a significance level of 0.000 ($p<0.05$), showing that the variables are relatable. The KMO value obtained was 0.987 indicating that it was a very good factor analysis. As the existence of four eigenvalues greater than 1 was verified, a solution with four extracted factors was obtained (Table 1).

The first factor had an eigenvalue of 36.267 explaining 61.5% of the variance, the second factor had an eigenvalue of 1.916 and explained 3.2% of the variance, the third factor had an eigenvalue of 1.510 explaining 2.6%, and the fourth factor with its own value of 1,244 explaining 2.1%. Together they explain 69.4% of the variability of the original variables. It was also found that the total variance explained by the four factors did not vary with the rotation (69.4%), the same did not happen with the variance explained by each factor, which varied with the rotation (before 61.5% and after 26.6% for Factor 1; 3.2% to 20.2% for Factor 2; 2.6% to 18.8% for Factor 3; 2.1% to 3.7% for Factor 4). It was also found that with the rotation the first three factors explained 65.7% of the variance and that the addition of the fourth factor contributed little to the overall terms. The Scree plot corroborated this result by verifying the inflection of the curve between the 3rd and 4th components and, therefore, applying the defined criterion for the retention of factors, the elimination of factor 4 was justified together with items 19 and 52 .

Regarding the factor structure resulting from the analysis of main components, which shows the coefficients or loadings that correlate the items with the factor for the six categories (59 items) defined in the second version of HEAS, it was found that there were items that had high coefficients in two factors. It was chosen to place them in the factor that had the highest coefficient, and items with a factor weight of less than 0.50 were, therefore, eliminated. Thus, three items were eliminated (item 20, item 30 and item 53) as they did not have a factor weight greater than 0.50 in any of the factors.

Moreover, Factor 4 which explained 3.7% of the total variance was eliminated together with item 19 and item 52 (although this item had the highest coefficient: 0.856). The six items that presented high coefficients in two factors (item 1; item 4; item 15; item 19; item 32; and item 41) were placed in the factor where they had the highest coefficient. It was also found that 51 items did not have high coefficients in two factors, making their allocation to the factor clear, also item 29 was the one with the lowest coefficient (0.539).

A scale was then obtained in its final version composed of 48 items that saturated in three factors (Table 2).

Factor 1 grouped 23 items that belonged to the categories: "Increase in health literacy" (1 item), "Disease Treatment" (5 items), "Nurse/ family relationship" (11 items), and "Nursing visibility/ professional achievement" (6 items). All items presented loadings above the reference value (0.50), with the majority being above 0.700. After analyzing the semantic point of view, it was concluded that five items should be removed (item 1, item 40, item 54, item 56, and item 59), with Factor 1 consisting of 18 items. Regarding the internal consistency in Factor 1, Cronbach's alpha was 0.978, indicating good reliability in this factor (before the elimination of the five items, this factor had a Cronbach's alpha of 0.983). The study of linear correlations between variables using Pearson's linear correlation coefficient R revealed that in Factor 1 there was an inter-item correlation of 0.719, indicating a moderate to high correlation (with a minimum correlation value of 0.576 and a value of maximum correlation of 0.863). In the item-factor relationship, the values are between 0.794 and 0.909, indicating high correlations.

Factor 2 grouped 17 items that belonged to the categories: "Increase in health literacy" (13 items) and "Promotion of healthy lifestyles" (4 items). All items had loadings above the reference value (0.50), with the majority being above 0.600. Having done the analysis from the semantic point of view, it was concluded that removing items was not justified. Factor 2 showed very good reliability (Cronbach's alpha: 0.967), and there was an inter-item correlation of 0.634, indicating a moderate correlation, with a minimum correlation value of 0.503 and a maximum correlation value of 0.769. In the item-factor relationship, the values are between 0.749 and 0.872, indicating high correlations.

Factor 3 grouped 14 items that belonged to the categories: "Promotion of healthy lifestyles" (4 items), "Disease Prevention" (6 items), and "Disease Treatment" (4 items). Having done the analysis from the semantic point of view, it was concluded that item 34 should be removed, and then Factor 3 would consist of 13 items. All items showed loadings above the reference value (0.50), and the saturation values were between 0.539 (item 29) and 0.700 (item 36). Factor 3 showed very good reliability with a Cronbach's alpha of 0.953 (Factor 3 before the elimination of item 34 had a Cronbach's alpha of 0.957) and there was an inter-item correlation of 0.614, which indicates a moderate correlation, with a minimum correlation value of 0.459 and a maximum correlation value of 0.779. In the item-factor relationship, the values were between 0.724 and 0.845, indicating high correlations.

The analysis of the correlations between the factors showed a significance level of 0.000 ($p<0.05$) with all factors showing positive values, that is, the existence of moderately significant correlations we found between the three factors ranging between 0.641 and 0.693. In turn, the intermediate values indicated that each factor represented a different aspect of the HE to the child/ adolescent/ family unit. It is also verified that the lowest correlation was between Factor 1 and Factor 2 (Factor 1□Factor 2 = 0.641) and the highest between Factor 1 and Factor 3 (Factor 1□Factor 3 = 0.698). The correlations between the three factors and the total scale were also positive, high, and significant. Regarding commonalities, it was found that all variables have a strong relationship with the three factors retained. Thus, the three factors

retained explained 92.2% of the variance of the "Partnership of care with the child/ adolescent/ family unit"; 91.7% of the variance was of "Health literacy", and 91.7% of the variance was of "Promotion of a healthy environment and behaviors in health".

Briefly, these three factors accounted for 65.7% of the total variance, the correlations observed between items and item-factor were moderate to high, all factors obtained a Cronbach's alpha value greater than 0.9 and the entire scale obtained an alpha of 0.987. This led us to consider that the HEAS had good psychometric qualities, the correlations between the items and the factors were higher between the items and the factor to which they theoretically belonged, revealing homogeneous content of the items in the factor they belonged to, as well as the product's validity.

This journey culminated in the construction of an instrument capable of translating the assessment made by nurses and parents/ family members regarding the practice of HE performed by nurses to the child/ adolescent/ family unit. Moreover, the consequent validity of this assessment was assumed in the form of a measurement scale consisting of 48 items distributed by three factors that came to be designated as: Factor 1 ("Partnership for child/ adolescent/ family care") with a total of 18 items; Factor 2 ("Health Literacy") with a total of 17 items; and Factor 3 ("Promotion of a healthy environment and health behaviors") with a total of 13 items (Figure 1).

Table 1 – Matrix of components. Portugal, Northern Portugal, Trás-os-Montes, and Alto Douro, Portugal, 2018.

factor 1		factor 2		factor 3		factor 4	
item	charge	item	charge	item	charge	item	charge
P1	0.551	P2	0.637	P21	0.548	P19	0.587
P32	0.552	P3	0.691	P22	0.632	P52	0.856
P37	0.582	P4	0.613	P23	0.637		
P38	0.561	P5	0.628	P24	0.596		
P39	0.605	P6	0.607	P25	0.609		
P40	0.623	P7	0.647	P26	0.577		
P41	0.541	P8	0.690	P27	0.618		
P42	0.727	P9	0.673	P28	0.578		
P43	0.727	P10	0.612	P29	0.539		
P44	0.738	P11	0.686	P31	0.570		
P45	0.732	P12	0.554	P33	0.590		
P46	0.746	P13	0.648	P34	0.614		
P47	0.684	P14	0.574	P35	0.638		
P48	0.651	P15	0.582	P36	0.700		
P49	0.697	P16	0.596				
P50	0.686	P17	0.592				
P51	0.596	P18	0.515				
P54	0.702						
P55	0.747						
P56	0.768						
P57	0.767						
P58	0.758						
P59	0.741						

Table 2 – Rotating component matrix of the items with their factors. Northern Portugal, Trás-os-Montes and Alto Douro, Portugal, 2018.

factor 1		factor 2		factor 3	
item	r* item-factor	item	r* item-factor	item	r* item-factor
P32	0.832	P2	0.749	P21	0.791
P37	0.839	P3	0.834	P22	0.821
P38	0.843	P4	0.826	P23	0.815
P39	0.830	P5	0.774	P24	0.724
P41	0.794	P6	0.834	P25	0.830
P42	0.886	P7	0.859	P26	0.803
P43	0.893	P8	0.754	P27	0.845
P44	0.892	P9	0.858	P28	0.813
P45	0.882	P10	0.766	P29	0.747
P46	0.909	P11	0.872	P31	0.842
P47	0.833	P12	0.763	P33	0.842
P48	0.801	P13	0.848	P35	0.780
P49	0.881	P14	0.805	P36	0.775
P50	0.872	P15	0.857		
P51	0.852	P16	0.813		
P55	0.832	P17	0.774		
P57	0.877	P18	0.774		
P58	0.875				
total de itens = 18 vtotal items = 18 eigenvalue = 36.267 total explained variance = 26.6% KMO** = 0.987 Cronbach's alpha = 0.978 Bartlett sphericity test = sig.*** 0.000 correlation between items = 0.719		total items = 17 eigenvalue = 1.916 total explained variance = 20.2% KMO** = 0.987 Cronbach's alpha = 0.967 Bartlett sphericity test = Sig.*** 0.000 correlation between items = 0.634		total items = 13 eigenvalue = 1.510 total explained variance = 18.8% KMO** = 0.987 Cronbach's alpha total = 0.953 Bartlett sphericity test = Sig.*** 0.000 correlation between items = 0.614	

* r - R factor; ** KMO - Kaiser-Meyer-Olkin; *** Sig. - Significance

Health Education Assessment Scale for children/ adolescents/ family units
Health literacy
Allows to stimulate the critical spirit for the exercise of an active citizenship
Produces learning for children/ adolescents/ family units to care for their own health
Increases the level of health literacy in children/ adolescents/ families
Maximizes the child/adolescent's developmental potential
Enables an effective transmission of health knowledge
Allows child/ adolescent/ family health autonomy
Promotes increased literacy in physical activity and sports
Promotes responsible decision-making by the child/ adolescent/ family unit
Allows parents/family members to understand child/adolescent rights
Allows the child/ adolescent/ family to acquire knowledge that allows them to maintain their health

Allows parents/family members to understand the stages of growth and development of the child/adolescent
Empowers parents/family members for parenting children/adolescents with special health needs
Empowers parents/family members for parenting children/adolescents with chronic illnesses
Promotes the health of the child/ adolescent/ family unit
Allows the construction of models that promote sexual education
Allows to identify problems related to the mental health of the child/ adolescent/ family
Allows the adoption of healthy lifestyles by the child/ adolescent/ family
Promotion of healthy environment and health behaviors
Promotes the inclusion of children/adolescents with special health needs
Enables health-promoting environments for modifying eating behaviors
Promotes adolescent accountability for healthy behaviors
Promotes a safe and healthy family environment
Promotes the adoption of health protection behaviors by the child/ adolescent/ family
Facilitates the identification of risk factors that harm the health of the child/ adolescent/ family
Identifies child/ adolescent/ family health priorities
Quickly identifies of situations that negatively affect the health of the child/ adolescent/ family
Prevents disease in children/adolescents
Provides skills needed by the child/adolescent to deal with the risk associated with compulsive behaviors and addictions
Empowers parents/family members to better adapt to disease processes through support, education, instruction, and training
Allows monitoring of situations that negatively affect the health of the child/adolescent
Allows redirecting situations that negatively affect the health of the child/adolescent
Child/ adolescent/ family care partnership
Allows the acquisition of skills of parents/family members to manage the therapeutic regime of children/ adolescents in situations of illness
Promotes parental/family member autonomy in the treatment of child/adolescent illness in partnership with nurses
Promotes the performance of the parental role namely in maintaining health in situations that require hospitalization
Allows the nurse to develop strategies to collaborate in situations of child/adolescent illnesses
Enables an effective response to the current health needs of the child/ adolescent/ family unit
Allows nurses to be health educators, counselors, and consultants
Promotes the close relationship between nurse and child/ adolescent/ family
Provides the involvement of the child/ adolescent/ family in moments of HE
Encourages the participatory and interactive role of the child/ adolescent/ family in the partnership of care
Allows nurses to establish a partnership relationship with the child/ adolescent/ family in decision-making
Allows nurses to be the link between health services and children/ adolescents/ family
Allows the nurse to be an integral part of the health decisions of the child/ adolescent/ family
Allows the family to be the fundamental factor in the health of the child/adolescent

Allows respect for health decision-making adopted by parents/family members
Allows the family to be valued as a structure with functions and resources that affects the health and illness processes of the child/adolescent
Allows nurses to develop relational and communicational skills
Allows highlighting the nurse's interventional role within the multidisciplinary team
Promotes the active and interactive role of nurses when making health decisions

Figure 1 – Final version of the distribution of items according to HEAS factors

DISCUSSION

In the review of the literature, no evidence was found of the existence of an instrument that allows the assessment of Health Education practices, carried out by nurses, for the child/ adolescent/ family unit, so it was believed that there was a need to develop a tool that would allow for ascertaining the assessment that Nursing professionals and parents/family members provide in relation to this practice.

Likewise, the systematized and orderly way of organizing an approach in two sequential, distinct and interdependent phases, supported the theoretical foundation and a more diversified knowledge of the phenomenon under study and allowed the preparation of the interviews, which in turn served as the basis for the construction and validation of the measurement instrument, HEAS.

At the same time, HEAS becomes equally useful because HE, when acquiring the status of public policy, assumes a position as a teaching-learning process carried out in health services. Therefore, it is necessary to give emphasis to HE planning and programs so that there may be a reflection of reality with a view to improving actions and increasing the resoluteness of the health system[20].

In turn, retention in three factors was also considered relevant and capable of responding to the HEAS objective since the increase in health literacy is one of the results in Health Promotion[21]. Thus, HE generates unequivocal gains when initiated in childhood and adolescence and accompanied by a family context that promotes training, and this potential is evidenced in health awareness campaigns where children are the family's learning engine. For this reason, the philosophy of pediatric care uses a conceptual model centered on the child and family, with the child/adolescent-family binomial being the beneficiary of this care. Therefore, the inclusion of the family's participation in care favors the identification of needs through family support, autonomy, and decision-making in health, thus meeting the family-centered care references[22]. Naturally, this vision presupposes an intervention of sharing and co-responsibility based on a relationship of trust between nurse and child/ adolescent/ family unit, distancing itself from the mere transmission of information. This partnership will contribute to reduce vulnerabilities, favor the response capacity through the sharing of knowledge, obtain child health indicators, and create links between health and children's rights[23]. In addition to the increase in health literacy, Health Promotion also implies the adoption of healthy lifestyles in order to achieve well-being, thus reinforcing the role of healthy environments in achieving gains and reducing health inequalities[20].

It was found, then, that these three factors allowed the assessment of the HE practice performed by nurses to the child/ adolescent/ family unit. This education is based on scientific evidence and encourages the adoption of good

practices by parents/family members[22], and because the validation of results assessment instruments helps to develop useful and efficient programs[24], and promotes the improvement of the quality of care according to the needs, developing new interventions that allow to obtain better results in health and consequently better quality of life for the child/ adolescent/ family unit[25].

Limitations of the study are the non-participation of children/adolescents, suggesting the development of future studies that include their evaluation, for a better comparison between those involved in the practice of HE.

Likewise, given the specificity and complexity of this practice, and awareness of the possibility that HEAS may not fully cover this practice, it is recognized that in another study there is a need to reformulate and/or include items in the scale.

CONCLUSION

The present study made it possible to build and validate an instrument for evaluating Health Education, carried out by nurses, with children/ adolescents/ families (HEAS), which demonstrated reliable psychometric quality, very good internal consistency. Moreover, correlations between the three factors and the total, positive, elevated, and significant scale showed the homogeneity of content of the items, which can be applied to nurses and parents/family members.

Thus, in the context of higher education, the construction and validation of HEAS allowed a more vast and comprehensive view of this practice, in order to improve the assistance of nurses and, consequently, foster autonomy, decision-making, and improving the maintenance of the child/adolescent's life.

It is also hoped that the HEAS construction process can contribute to broaden the debate around higher education, strengthen the learning of those involved (nurses and parents/family members), and be an important work base for the construction of future measurement instruments that allow the assessment of nurses' practices in the scope of HE provided to children/ adolescents/ families.

REFERENCES

1 - Becker RM, Heidemann ITSB. Health promotion in care for people with chronic non-transmitable disease: integrative review. Texto Contexto Enferm. 2020; 29:20180250. Disponível em https://dx.doi.org/10.1590/1980-265X-TCE-2018-0250. Acesso em Feb 2020.
2 - Santos MP, Farre AGMC, Bispo MS, Sousa LB, Marinho DDT. Promoting adolescent sexual and reproductive health: peer education. Rev Baiana Enferm. 2017; 31(3):e21505. Disponível em: http://dx.doi.org/10.18471/rbe.v31i3.21505. Acesso em Feb 2020.
3 - Silva FB, Gondim EC, Henrique NCP, Fonseca LMM, Mello DF. Educational intervention involving young mothers: gaining knowledge on childcare. Acta Paul Enferm. 2018; 31(1):32-38. Disponível em: http://dx.doi.org/10.1590/1982-0194201800006. Acesso em Mar 2020.
4 - Figueira ALG, Gomes-Villas Boas LC, Coelho ACM, Foss-Freitas MC, Pace AE. Educational interventions for knowledge on the disease, treatment adherence and control of diabetes mellitus. Rev Latino-Am Enfermagem. 2017; 25:e2863. Disponível em: http://dx.doi.org/10.1590/1518-8345.1648.2863. Acesso em Abr 2020.
5 - Palmeira CS, Mussi FC, Ramos GA, Jesus NV, Macedo TTS, Dal Sasso GTM. Nursing protocol for remote monitoring of women with excessive weight. Texto Contexto Enferm. 2019; 28:e20170400. Disponível em: http://dx.doi.org/10.1590/1980-265X-TCE-2017-0400. Acesso em Feb 2020.
6 - International Council of Nurses. International council of nurses joins CEPPs global initiative to improve early childhood development. 2018. Disponível em: https://www.icn.ch/news/international-council-nurses-joins-cepps-global-initiative-improve-early-childhood-development. Acesso em Feb 2020.
7 - Silva EM, Silva D, Aparício G, Bica I, Albuquerque C, Cunha M. Promotion of children's mental health: nurses' contributions. Acta

Paul Enferm. 2020; eAPE20180254. Disponível em: http://dx.doi.org/10.37689/acta-ape/2020AO0254. Acesso em Set 2020.
7 - Barreto ACO, Rebouças CBA, Aguiar MIF, Barbosa RB, Rocha SR, Cordeiro LM, Melo KM, Freitas RWJF. Perception of the Primary Care multiprofessional team on health education. Rev Bras Enferm. 2018; 72(1):278-285. Disponível em: http://dx.doi.org/10.1590/0034-7167-2017-0702. Acesso em Feb 2020.
8 - Durand MK, Heidemann ITSB. Social determinants of a Quilombola Community and its interface with Health Promotion. Rev Esc Enferm USP. 2019; 53:e03451. Disponível em: http://dx.doi.org/10.1590/s1980-220x2018007703451. Acesso em Feb 2020.
9 - Netto L, Silva KL. Reflective practice and the development of competencies for health promotion in nurses' training. Rev Esc Enferm USP, 2018; 52:e03383. Disponível em: http://dx.doi.org/10.1590/S1980-220X2017034303383. Acesso em Feb 2020.
10 - Moura TNB, Moreira TMM, Sousa AD, Santos Neto AC, Sousa RX, Lima LHO. Development and validation of a smartphone educational game regarding healthy lifestyle habits for adolescents. Texto Contexto Enferm. 2019; 28:e20180252. Disponível em: http://dx.doi.org/10.1590/1980-265X-TCE-2018-0252. Acesso em Feb 2020.
11 - De Bortoli PS, Jacob E, Castral TC, Santos CB, Fernandes AM, Nascimento LC. Cross-cultural adaptation of the adolescente pediatric pain tool for brazilian children and adolescents with cancer. Texto Contexto Enferm. 2019; 28:e20160108. Disponível em: http://dx.doi.org/10.1590/1980-265X-TCE-2016-0108. Acesso em Feb 2020.
12 - Miranda FBG, Mazzo A, Pereira-Junior GA. Construction and validation of competency frameworks for the training of nurses in emergencies. Rev Latino-Am Enferm. 2018; 26:e3061. Disponível em: http://dx.doi.org/10.1590/1518-8345.2631-3061. Acesso em Feb 2020.
13 - Fabri RP, Mazzo A, Martins JCA, Fonseca AS, Pedersoli CE, Miranda FBG, et al. Development of a theoretical-practical script for clinical simulation. Rev Esc Enferm USP. 2017; 51:e03218. Disponível em: http://dx.doi.org/10.1590/S1980-220X2016016403218. Acesso em Feb 2020.
14 - Pires SMP, Monteiro SOM, Pereira AMS, Stocker JNM, Chaló DM, Melo EMOP. Non-technical skills assessment scale in nursing: construction, development and validation. Rev Latino-Am Enferm. 2018; 26:e3042. Disponível em: http://dx.doi.org/10.1590/1518-8345.2383.3042. Acesso em Feb 2020.
15 - Neves T, Rodrigues V, Graveto J, Parreira P. Scale of adverse events associated to nursing practices: a psychometric study in Portuguese hospital context. Rev Latino-Am Enferm. 2018; 26:e3093. Disponível em: http:dx.doi.org/10.1590/1518-8345.2595.3093. Acesso em Feb 2020.
16 - Echevarria-Guanilo ME, Gonçalves N, Romaniski PJ. Psychometric properties of measurement instruments: conceptual basis and evaluation methods - part II. Texto Contexto Enferm. 2019; 28:e20170311. Disponível em: http://dx.doi.org/10.1590/1980-265X-tce-2017-0311. Acesso em Feb 2020.
17 - Morais SCRV, Nunes JGP, Lasater K, Barros ALBL, Carvalho EC. Reliability and validity of the Lasater Clinical Judgment Rubric - Brazilian Version. Acta Paul Enferm. 2018; 31(3):265-271. Disponível em: http://dx.doi.org/10.1590/1982-0194201800038. Acesso em Feb 2020.
18 - Montejano-Lozoya R, Gea-Caballero V, Miguel-Montoya I, Juárez-Vela R, Sanjuán-Quiles A, Ferrer-Ferrandiz E. Validation of a questionnaire designed to measure nursing student satisfaction with practical training. Rev Latino-Am Enferm. 2019; 27:e3206. Disponível em: http://dx.doi.org/10.1590/1518-8345.3102.3206. Acesso em Feb 2020.
19 - Ferreira, Lorena et al. Validation of the logical model of implementation of the ongoing education in Health Policy in Primary Health Care. Trabalho, Educação Saúde. 2020; 18(2):e0026294. Disponível em: http://dx.doi.org/10.1590/1981-7746-sol00262. Acesso em Set 2020.
20 - World Health Organization. Health 2020: a European policy framework supporting action across government and society for health and well-being. 2013. Disponível em: http://www.euro.who.int/en/publications/abstracts/health-2020-a-european-policy-framework-supporting-action-across-government-and-society-for-health-and-well-being. Acesso em Feb 2020.
21 - D'Agostini MM, Aredes NDA, Campbell SH, Fonseca LMM. Serious Game e-Baby Família: an educational technology for premature infant care. Rev Bras Enferm. 2020; 73(4): e20190116. Disponível em: http://dx.doi.org/10.1590/0034-7167-2019-0116. Acesso em Set 2020.
22 - Yakuwa MS, Neill S, Mello DF. Nursing strategies for child health surveillance. Rev Latino-Am Enferm. 2018; 26e3007. Disponível em: http:dx.doi.org/10.1590/1518-8345.2434.3007. Acesso em Feb 2020.
23 - Usero-Pérez C, Jiménez-Rodríguez ML, González-Aguña A, González-Alonso V, Orbañanos-Peiro L, Santamaría-García JM, Gómez-González JL. Validation of an evaluation instrument for responders in tactical casualty care simulations. Rev Latino-Am. Enferm. 2020; 28:e3251. Disponível em: http://dx.doi.org/10.1590/1518-8345.3052.3251. Acesso em Set 2020.
24 - Araujo Filho ACA, Silva AN, Ribeiro MGC, Rocha SS, Andrade EMLR, Nogueira LT. Evaluation of Primary Healthcare from the perspective of child caregivers: an integrative review. Rev Esc Enferm USP. 2019; 53:e03527. Disponível em: http://dx.doi.org/10.1590/S1980-220X2018030003527. Acesso em Feb 2020.

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