Anxiety assessment tools in hospitalized children

Instrumentos de avaliação da ansiedade da criança hospitalizada

Instrumentos de evaluación de ansiedad de niños hospitalizados

Fernanda Vieira de Campos[1] https://orcid.org/0000-0003-0315-995X

Camila Forni Antunes[1] https://orcid.org/0000-0003-2981-262X

Elaine Buchhorn Cintra Damião[1] https://orcid.org/0000-0001-7435-3130

Lisabelle Mariano Rossato[1] https://orcid.org/0000-0003-3375-8101

Lucila Castanheira Nascimento[1] https://orcid.org/0000-0002-7900-7111

Abstract

Objective: Identify existing tools for the assessment of anxiety in hospitalized children in the literature.

Methods: An integrative review was undertaken. The searches took place from January to May 2017 in the following databases: PubMed, LILACS and CINAHL, using the descriptors anxiety, hospitalized child, inpatients, children, emotional responses, emotional manifestation, emotional reactions, validation studies, manifest anxiety scale and test anxiety scale.

Results: After the selection, 33 articles were analyzed, in which 10 child anxiety assessment tools were identified. Eight instruments used the Likert scale in the answers, one used the analogue scale from one to ten and the only instrument that used a playful strategy, directed drawing, was the Child Drawing: Hospital.

Conclusion: The translation, cross-cultural adaptation and validation of the CD:H is recommended. This study aims to contribute to pediatric nurses' knowledge in the management of child anxiety in pediatric wards, with a view to reducing their emotional suffering during hospitalization.

Resumo

Objetivo: Identificar na literatura os instrumentos existentes para a avaliação da ansiedade em crianças hospitalizadas.

Métodos: Trata-se de uma revisão integrativa. As buscas foram realizadas de janeiro a maio de 2017 nas seguintes bases de dados: PubMed, LILACS e CINAHL, com os descritores anxiety, hospitalized child, inpatients, children, emotional responses, emotional manifestation, emotional reactions, validation studies, manifest anxiety scale e test anxiety scale.

Resultados: Após a seleção, foram analisados 33 artigos, sendo identificados dez instrumentos para a avaliação da ansiedade da criança. Oito instrumentos utilizaram a Escala de Likert nas respostas, um empregou a escala analógica de um a dez e o único instrumento que utilizou uma estratégia lúdica, o desenho dirigido, foi o Child Drawing: Hospital.

Conclusão: Recomenda-se a tradução, adaptação transcultural e validação do instrumento CD:H. Este estudo visa contribuir para o conhecimento dos enfermeiros pediatras no manejo da ansiedade da criança em unidades pediátricas, a fim de diminuir seu sofrimento emocional durante a hospitalização.

Resumen

Objetivo: Identificar en la literatura los instrumentos existentes para evaluar la ansiedad de niños hospitalizados.

Métodos: Se trata de una revisión integradora. Las búsquedas se realizaron de enero a mayo de 2017 en las

[1]Escola de Enfermagem, Universidade de São Paulo, São Paulo, SP, Brazil.
[2]Escola de Enfermagem, Universidade de São Paulo, Ribeirão Preto, SP, Brazil.
Conflicts of interest: nothing to declare.

siguientes bases de datos: PubMed, LILACS y CINAHL, con los descriptores anxiety, hospitalized child, inpatients, children, emotional responses, emotional manifestation, emotional reactions, validation studies, manifest anxiety scale y test anxiety scale.

Resultados: Luego de realizar la selección, se analizaron 33 artículos, en los que se identificaron diez instrumentos para evaluar la ansiedad de niños. Ocho instrumentos utilizaron la escala de Likert en las respuestas, uno empleó la escala analógica de uno a diez y el único instrumento que utilizó una estrategia lúdica, el dibujo dirigido, fue el Child Drawing: Hospital.

Conclusión: Se recomienda la traducción, adaptación transcultural y validación del instrumento CH:H. Este estudio tiene el objetivo de contribuir para el conocimiento de los enfermeros pediatras en el manejo de la ansiedad de los niños en unidades pediátricas, a fin de reducir su sufrimiento emocional durante la hospitalización.

Introduction

The increasing advancement of medicine and the improvement of scientific diagnostic and therapeutic processes have enhanced the survival of critically and chronically ill children. Hospitalizations have become prolonged, bringing about the distance from home and the school environment for long periods, increasing the suffering, pain and anguish.[1]

Studies have described the perceptions of hospitalized school children, in addition to demonstrating the importance of including them in their care process, valuing their desires and their uniqueness through communication, playfulness and toys during care, in order to minimize fear and anxiety during hospitalization.[2-4]

Anxiety can be defined as a "feeling of apprehension caused by the anticipation of internal or external danger", with physiological and psychological characteristics, such as fear, insecurity, tension, muscle pain, tremors, sweating, tachycardia and tachypnea. Anxiety usually arises in situations of a sense of threat and imminent but nonspecific danger.[5]

Being more comprehensive, abstract and difficult to define by children, anxiety is more difficult to identify, requiring the application of specific instruments and strategies to evaluate the signs and symptoms the child presents.[6,7]

In this sense, we aimed to identify in the literature the existing tools for the assessment of anxiety in hospitalized children, aiming to equip pediatric nurses to identify the symptoms of anxiety in children and thus propose strategies and interventions appropriate to the situations the child experiences in the hospital.

Methods

This study is an integrative review of the literature. Subsequent stages were followed:

a. Selection of the study question: What is the current knowledge about the assessment of child anxiety in the hospitalization process;

b. Establishment of sample selection criteria: articles on child anxiety assessment instruments, published in the last 10 years (2007-2017), in English, Spanish and Portuguese, in PubMed, LILACS and CINAHL;

c. Literature search: use of descriptors appropriate to the research question in various combinations in the databases mentioned above. Active or manual search for articles by means of similar articles indicated by the databases;

d. Definition of information to be extracted from the studies to be selected: Title of the article and authors; journal, number, volume and year of publication; country; scale used; method; results;

e. Evaluation of the included studies, interpretation of results and presentation of the review: analysis of the various scales found, according to their validity and applicability in our context.[8]

The guiding question of the study was "What instruments for assessing anxiety in children have been described in the scientific literature?". We also used the PICO strategy,[9] where:

- P (patient) = children; hospitalized children
- I (intervention) = instruments for assessing anxiety;
- C (comparison) = not used;
- O (outcomes) = identification of anxiety symptoms in the child.
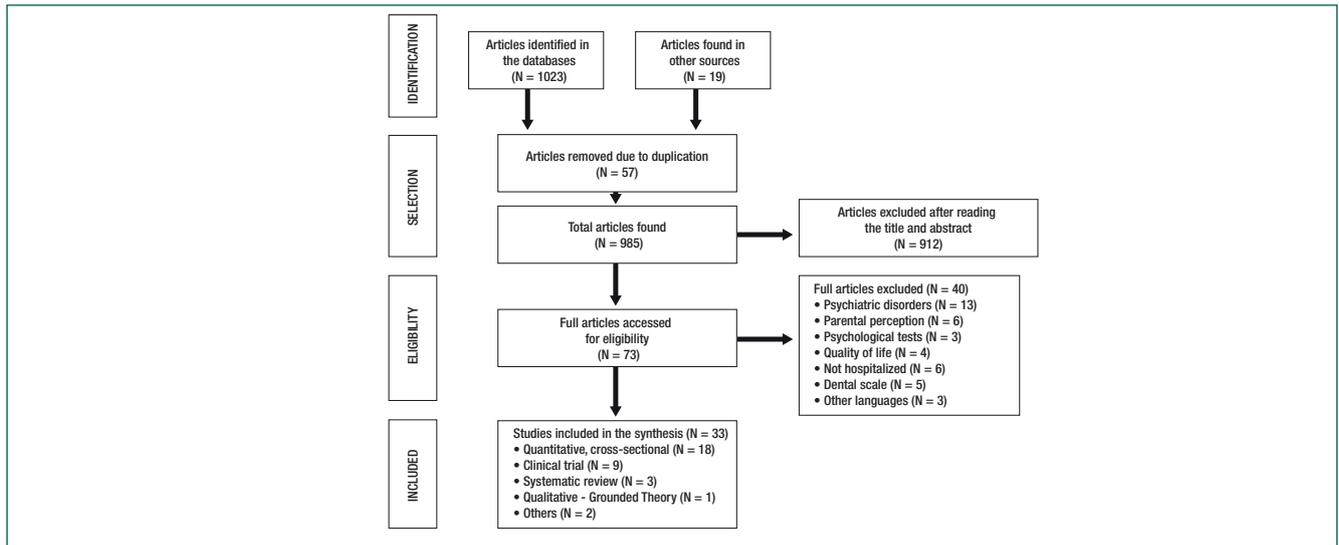
Figure 1. Information flow with the different stages of a systematic review

Thus, we could identify the descriptors for the search in the electronic databases PubMed, LILACS and CINAHL, in the last ten years, executed between January and May 2017, using the following descriptors: anxiety, hospitalized child, inpatients, children, emotional responses, emotional manifestation, emotional reactions, validation studies, manifest anxiety scale and test anxiety scale. In each database, the descriptors were combined in a variety of ways; *inpatient X validation studies X child*; *inpatient X validation studies X anxiety*; *inpatient X anxiety X child; hospitalized child x validation studies*; *manifest anxiety scale X child*; among other combinations. The same was done in LILACS and CINAHL. In total, 1023 articles were obtained, after the exclusion of articles in other languages and on other topics, such as: clinical aspects, mental disorders, nutrition, administrative data, among others. In addition, we executed an active and manual search based on 'articles similar' to the articles found, as indicated by each database, resulting in 19 additional articles, totaling 1042 articles.

Then, 57 articles were removed because they were duplicated and 912 were deleted after reading the title, so that 73 articles remained. After reading the abstract and full texts, 40 articles were excluded, totaling, at the end, 33 articles that were analyzed. The exclusion criteria adopted were: articles not available in English, Portuguese or Spanish (N = 3), articles that addressed quality of life (N = 4),

psychiatric disorders (N = 13), psychological tests (N = 3), non-hospitalized children (N = 6), dental scales (N = 5) and reports and scales completed from the parental perspective (N = 6). At the end, 33 articles were selected, which contained the main scales and assessment tools used to analyze and measure the anxiety of hospitalized children. Among these articles, we found validation studies, systematic and integrative reviews and randomized clinical trials, using the ten selected scales. Figure 1 shows the flowchart according to the PRISMA recommendation.[10]

Results

Integrative reviews do not only present the state of the art on a particular topic, but also contribute to grant the nursing professionals simple and updated access to topics of their interest, with a view to scientifically grounding the care provided to children. Ten child anxiety assessment instruments were identified, which we present below.

Revised children's manifest anxiety scale – RCMAS

The RCMAS is the revised version of the Children's Manifest Scale - CMAS, from 1956,[11] which initially contained 53 items. It was readapted and validated by Reynolds and Richmond[12,13] and

Richmond and Millar,[14] for psychological tests in children and adolescents aged 6 to 19 years. It is known as "What I think and feel" and contains 37 self-report items to assess the anxiety of children and adolescents between 7 and 17 years old. It can be applied individually or in group, but was developed to be answered by the person himself. It is divided into an anxiety scale and a lie scale.

The anxiety scale has a total score calculated on 28 items, divided into three factors: physiological, worry and concentration.[12-14]

The remaining nine items constitute the 'Lie Scale' domain, which is an assessment of the extent to which the child needs the approval of parents and/or peers. The scale contains two factors and the answers can be "yes" or "no". High scores on the subscales represent different types and origins of anxiety.[12-14]

The scale was translated and adapted to Portuguese, but was not validated with hospitalized school children.[15] In the Brazilian scale, there was a small change in the division of the factors: seven items for the Physiological, ten items for the Concern factor and 11 items for Concentration, maintaining the two factors of the lie scale, totaling 37 items. The validation was considered successful, with psychometric quality results very similar to international studies.[15]

Screen for child anxiety related emotional disorders – child version. (SCARED – C)

The objective was to create a reliable instrument to be used in screening for anxiety disorders in children and adolescents: general anxiety disorder, separation anxiety disorder, panic syndrome, social phobia and school phobia. Initially created with 85 items, the instrument was shortened to 38 and finally validated with 41 items. In all versions, five factors were kept: somatic/panic - 13 items; generalized anxiety - nine items; separation anxiety - eight items; social phobia - seven items and school phobia - four items. Item scores vary on a Likert scale from zero to two. For each item, the child chooses the answer that best describes how he or she has felt in the last three months, with total scores ranging from zero to 82, and high scores revealing high levels of anxiety.[16,17]

It was validated for Brazilian Portuguese by Isolan et al.,[18] preserving the same factors as the original scale. The scale is easy and quick to apply, and also low cost.[18]

Children's depression inventory – CDI

Mostly used to provide data on psychiatric disorders, more specifically depression. Nevertheless, it is also used in randomized clinical trials to measure anxiety levels.[19] Developed by Kovacs[20] for children and adolescents aged 7 to 17 years, the inventory is an adaptation of the Beck Depression Inventory – BDI,[21] and consists of 27 alternative questions that are either self-reported or answered by other informants, such as family members or teachers. The scale is divided into five factors, including affective, cognitive and social symptoms: negative mood, interpersonal problems, ineffectiveness, anhedonia and negative self-esteem. The items refer to the feelings the child has perceived in the last two weeks, being scored zero when the first alternative is chosen (absence of symptom); one when the second alternative is chosen (mild symptom) and two when the third alternative is chosen (clear symptom), with total scores ranging from zero to 54. Depression traits are considered positive when the score is equal to or greater than 18. There are variations of the scale that have been validated in several versions, including short and translated ones. This questionnaire was adapted in Brazil by Gouveia et al.[22] and subsequently validated by Golfeto et al.,[23] already in the 20- item form and using 17 as the cut-off point, that is, scores superior to 17 indicate probable depressive conditions. In their validation, Cruvinel, Boruchovitch and Santos[24] did not reach conclusions on how many items are necessary for the inventory, as they used the original study by Kovacs[20] and the adapted version by Gouveia et al.[22] in separate samples and with different results.

Multidimensional anxiety scale for children – MASC

This is a self-report scale to assess the anxiety of children and adolescents aged eight to 19 years in the affective, physical, cognitive and behavioral domains. The instrument can be applied individually or in a

group, but the child/adolescent him-/herself needs to answer it. It consists of 39 items, distributed in four factors: physical symptoms (tension/restlessness; somatic/autonomic), social anxiety (humiliation and fear of public rejection), damage prevention (confrontations and perfectionism) and separation anxiety. The answers are scored on a four-point Likert scale.[25-27] In a Master's thesis, Nunes[28] developed the validation and cultural adaptation in Brazil, being named MASC-VB, which was used by Vianna[25] in a Master's research. Both authors report that the scale has good psychometric performance for use in the Brazilian population.[25,28]

State trait inventory for children - STAI-C
The STAI-C scale aims to evaluate two types of anxiety in children and adolescents aged between 9 and 12 years: the 'trait-anxiety', which refers to individual differences that favor the person's anxiety and the 'state-anxiety', which relates to the difference in the tendency to react increasingly intense to the anxiety of the moment.[29,30]

It consists of two self-report scales with 20 items each, with three alternative answers and total scores of 20 to 60 in each.[29] The child is asked how (s)he usually feels (to measure trait-anxiety) and how (s)he is feeling at that moment (to measure state-anxiety), with four alternative answers each. State-anxiety is characterized as a transient emotional state, in which scores may vary in intensity and increase or decrease over time; trait-anxiety is characterized as a permanent anxious response of the individual's personality. Validated in Brazil as STAI: State-Trait Anxiety Inventory.[30]

State anxiety scale for children – SASC-R
Created to primarily determine the social anxiety level of children and their social relationships by La Greca et al.[31] in 1988 and subsequently revised by La Greca and Stone in 1993[32]. Currently, it is also used to determine the anxiety level of children undergoing painful procedures and surgeries. Composed of 26 items, divided into three factors: fear of negative evaluation by colleagues, social prevention and specific distress for new situations and prevention and generalized social distress. Each

item has a score of one to five.[31,32] Translated into several languages, but not yet in Portuguese.

Children's emotional manifestation scale – CEMS
Observational scale developed and validated by Li and Lopez[33] to analyze anxiety in children in the preoperative period or before an invasive, stressful or painful procedure. It consists of five behavioral categories; each category consists of observing five behaviors: facial expression, vocalization, activity, interaction and level of cooperation, and each of these categories has a score from one to five, depending on the level and intensity. The total score can range from five to 25. High scores indicate high anxiety behaviors and negative emotions.[33] This scale has not been translated into Portuguese yet.

Emotional reaction instrument checklist (ERC)
Developed to measure positive and negative emotional responses of children from seven to 18 years of age regarding hospitalization and surgeries. The checklist contains 16 self-report items with up to four points for each item, on a scale from zero to three, one - by no means to four - really, divided into seven emotional items: happy, sad, exalted, angry, calm/relaxed, scared/frightened and nervous/concerned, and children should respond to the numbers and not the sentences. High scores on the scale indicate greater positive emotions or less anguish.[34-36] The instrument was also validated in Korean as ERI-K[35] and English as ERI-E.[36] Scale not translated into Portuguese.

Visual analogue scale - VAS
It consists of a 10-cm horizontal line with different terms and phrases, such as: "I'm not anxious" and at the end "I'm very anxious", in which the child is asked to answer or mark the one that is most convenient, zero being the minimum anxiety and ten the maximum. The application of the scale implies that the child can read and has sufficient cognitive development to understand the meaning of the scale and know how to self-evaluate. Despite the limitation, the authors underline the simple and fast nature of the scale, which can be used in various scenarios.[37] The analogue scale is most commonly used in pain measurement.[38,39]

Child drawing hospital – CD:H

The instrument Child Drawing: Hospital, created by nurses Clatworthy, Simon and Tiedeman,[40,41] was designed to measure the anxiety of hospitalized school-age children from their own point of view and arouses interest due to its easy applicability to clinical practice in hospitals. During the application, the patient is asked to draw a person in the hospital. Based on the drawing, the pediatric nurse will be able to evaluate the patient using the CD:H, scoring the characteristics drawn and obtaining the child's level of anxiety. The CD:H consists of a manual with guidelines to evaluate the drawing and a template with the item scores.[40]

The drawing will be scored according to the classification of the CD:H. The CD:H is divided into three parts: A, B and C. Part A consists of 14 items, which evaluate: position; action; length; width; size of the person; facial expression and eyes; predominant color; number of colors used; use of paper; location on paper; inclusion and size of hospital equipment and development level. Part B consists of eight items that will assume high levels of anxiety, such as: whether any part of the body the child has drawn is omitted or exaggerated. Part C refers to the *gestalt* of the drawing, that is, the evaluator will score the effect the drawing produces on his person, ranging from pleasant to oppressed.[40]

Discussion

The child's adaptation to the hospitalization depends on exogenous and endogenous factors, the first being dependent on the parents' attitudes and the length of stay in the hospital, added to previous experiences. The endogenous factors are the personal characteristics of each child to face the disease. Therefore, as the child's adaptation and perception mechanisms are not fully developed, coping with hospitalization can trigger stressful feelings, such as anxiety.[42]

In addition to the physical aspects, the care needs during the child's hospitalization include the evaluation, monitoring and treatment of emotional and social aspects, in order to minimize the suffering. In addition, it is worth noting that not all children face the hospitalization process equally.[43]

In this sense, it is important that nurses use instruments validated in Brazilian Portuguese to identify early symptoms of anxiety behavior.

The *Child Drawing: Hospital* was the only instrument found that permits the evaluation of children using a playful strategy such as drawing. Child drawing is an instrument that allows the child to express his/her feelings and anxieties, as (s)he is not able yet to express his/her emotional condition. It is through the drawing that the child organizes, processes information and develops concepts.[4] In addition, drawing is a pleasant activity, being a common task in the children's life experience.

As the child grows, the drawing of the human figure starts to emerge. Around the age of six, head and trunk drawings begin to appear and, at the age of seven, more precise strokes appear, with the inclusion of other body parts such as knees and heels.[44,45] Around the age of nine until the start of adolescence, the drawings are realistic, containing a larger number details and sexual differentiation. In addition, the children become more critical of their drawing for it to be as real as possible.[46,47]

The projective use of drawings allows the professional to obtain an initial sample of how the individual behaves or reacts to certain considerably unstructured situations, in addition to allowing greater interaction between the professional and the patient.[48,49] For Freitas[43], the drawing the hospitalized child is asked to make permits gaining better data to understand their clinical condition, as well as the emotions it gives rise to. In addition, although it is only one stage of the evaluation process, it allows the children to organize information and process experiences, being stimulated to develop their unique representation of the world.[50,51]

It is worth noting that the projective drawing technique does not provide a diagnosis of the child's emotional state as a whole, but information about how the child is feeling at that moment. If necessary, especially for the most anxious, the child should be referred to specialized professionals, such as psychologists and psychiatrists, for the sake of more in-depth assessments.[47]

It is fundamental that nurses recognize the symptoms of anxiety through the reactions of school-aged children, so as to be alert to physical, emotional and behavioral indications.[7] In addition, nurses should provide moments that reduce feelings of anxiety, using techniques that involve toys, stories and drawings, which are projective measures to assess emotional states of childhood. Therefore, the drawing of the human figure ensures the early identification of psychological problems and a better understanding of the child's emotional state at that moment.[47,50]

Conclusion

When basing the care they provide on scientific evidence, pediatric nurses need training to use the most appropriate tools for the children's biopsychosocial assessment in the various childcare scenarios. Thus, the translation, cross-cultural adaptation and validation of the CD:H are recommended. This study aims to contribute to pediatric nurses' knowledge in the management of child anxiety in pediatric wards and the proposal of possible interventions in childcare, aiming to reduce their emotional suffering during hospitalization.

References

1. Nóbrega RD, Collet N, Gomes IP, Holanda ER, Araújo YB. [Hospitalized school-age children: the meaning of a chronic condition]. Texto Contexto Enferm. 2010;19(3):425–33. Portuguese.

2. Santos PM, Silva LF, Depianti JR, Cursino EG, Ribeiro CA. Os cuidados de enfermagem na percepção da criança hospitalizada. Rev Bras Enferm. 2016;69(4):646-53.

3. Costa TS, Morais AC. A hospitalização infantil: vivência de crianças a partir de representações gráficas. Rev Enferm UFPE on line. 2017;11(Supl. 1):358-67.

4. Silva JM. [The drawing in the expression of feelings in hospitalized children]. Fractal: Rev Psicol. 2010;22(2):447–56. Portuguese.

5. Sadock BJ. Compêndio de Psiquiatria: ciências do comportamento e psiquiatria clínica. 9a ed. Porto Alegre: Art Med; 2007.

6. Bay EJ, Algase DL. Fear and anxiety: a simultaneous concept analysis. Nurs Diagn. 1999;10(3):103–11.

7. Gomes GL, da Nóbrega MM. Anxiety in children following hospitalization: a proposal for a nursing diagnosis. Rev Lat Am Enferm. 2015;23(5):963–70.

8. Mendes KD, Silveira RC, Galvao CM. Revisão integrativa: método de pesquisa para incorporação de evidências na saúde e na enfermagem. Texto Contexto Enferm. 2008;17(4):758–64.

9. Santos CM, Pimenta CA, Nobre MR. A estratégia pico para a construção da pergunta de pesquisa e busca de evidências. Rev Lat Am Enferm. 2007; 15(3):508-11.

10. Galvão TF, Pansani TS, Harrad D. Principais itens para relatar revisões sistemáticas e meta-análises: a recomendação PRISMA. Epidemiol Serv Saude. 2015;24(2):335–42.

11. Castaneda A, McCandless BR, Palermo DS. The children's form of the manifest anxiety scale. Child Dev. 1956;27(3):317.

12. Reynolds CR, Richmond BO, What I. What I think and feel: a revised measure of children's manifest anxiety. J Abnorm Child Psychol. 1978;6(2):271–80.

13. Reynolds CR, Richmond BO. Factor structure and construct validity of "what I think and feel": The Revised Children's Manifest Anxiety Scale. J Pers Assess. 1979;43(3):281–3.

14. Richmond BO, Millar GW, What I. Think and Feel: a cross-cultural study of anxiety in children. Psychol Sch. 1984;21(2):255–8.

15. Gorayeb MA, Gorayeb R. O que penso e sinto – Adaptação da Revised Childrens Manifest Anxiety Scale (RCMAS) para o português. Temas Psicol. 2008;16(1):1–11.

16. Birmaher B, Khetarpal S, Brent D, Cully M, Balach L, Kaufman J, et al. The Screen for Child Anxiety Related Emotional Disorders (SCARED): scale construction and psychometric characteristics. J Am Acad Child Adolesc Psychiatry. 1997;36(4):545–53.

17. Birmaher B, Brent DA, Chiappetta L, Bridge J, Monga S, Baugher M. Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED): a replication study. J Am Acad Child Adolesc Psychiatry. 1999;38(10):1230–6.

18. Isolan L, Salum GA, Osowski AT, Amaro E, Manfro GG. Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED) in Brazilian children and adolescents. J Anxiety Disord. 2011;25(5):741–8.

19. Potasz C, De Varela MJ, De Carvalho LC, Do Prado LF, Do Prado GF. Effect of play activities on hospitalized children's stress: a randomized clinical trial. Scand J Occup Ther. 2013;20(1):71–9.

20. Kovacs M. Children's depression inventory manual. Toronto: Multi-Health Systems; 1992.

21. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. Arch Gen Psychiatry. 1961;4(6):561–71.

22. Gouveia RV, Barbosa GA, Almeida HJ, Gaião AA. [nventário de Depressão Infantil – CDI: estudo de adaptação com Escolares de João Pessoa. J Bras Psiquiatr. 1995;44(7):345–9.

23. Golfeto JH, Veiga MH, Souza L, Barbeira C. Propriedade psicométricas do Inventário de Depressão Infantil (CDI) aplicado em uma amostra de escolares de Ribeirão Preto. Rev Psiquiatr Clin (Santiago). 2002;29(2):66–70.

24. Cruvinel M, Boruchovitch E, Santos AA. [Child Depression Inventory (CDI): analyses of its psychometrical properties]. Fractal: Rev Psicol. 2008;20(2):473–90. Portuguese.

25. Vianna RR. Avaliação dos níveis de ansiedade de uma amostra de escolares no Rio de Janeiro através da Escala Multidimensional de Ansiedade para Crianças (MASC-VB). Psicol Clin. 2009;21(2):493–504.

26. March JS, Parker JD, Sullivan K, Stallings P, Conners CK. The Multidimensional Anxiety Scale for Children (MASC): factor structure, reliability, and validity. J Am Acad Child Adolesc Psychiatry. 1997;36(4):554–65.

27. March JS, Sullivan K, Parker J. Test-retest reliability of the Multidimensional Anxiety Scale for Children. J Anxiety Disord. 1999;13(4):349–58.

28. Nunes MM. Validade e confiabilidade da escala multidimensional de ansiedade para crianças [dissertação]. São Paulo: Universidade de São Paulo, Faculdade de Medicina; 2004.

29. Fioravanti AC, Santos LF, Maissonette S, Cruz AP, Landeira-Fernandez J. [Evaluation of the factorial structure of the trait anxiety scale of the STAI]. Aval Psicol. 2006;5(2):217–24. Portuguese.

30. Biaggio AM, Natalício L, Spielberger CD. Desenvolvimento da forma experimental em português do Inventário de Ansiedade Traço-Estado (IDATE), de Spielberger. Arq Bras Psic Apl. 1977;29(3):31–44.

31. La Greca AM, Dandes SK, Wick P, Shaw K, Stone WL. Development of the social anxiety scale for children: reliability and concurrent validity. J Clin Child Psychol. 1988;17(1):84–91.

32. La Greca AM, Stone WL. Social anxiety scale for children-revised: factor structure and concurrent validity. J Clin Child Psychol. 1993;22(1):17–27.

33. Li HC, Lopez V. Children's Emotional Manifestation Scale: development and testing. J Clin Nurs. 2005;14(2):223–9.

34. Park JH, Foster RL. Examining validity and reliability of the emotional reactions checklist with hospitalized children]. Pain Manag Nurs. 2015;16(4):579–86.

35. Kim JS, Park JH, Foster RL, Cheng S. Psychometric assessment of the Emotional Reactions Instrument-Korean (ERI-K) to measure Korean children's emotional reaction to hospitalization. J Transcult Nurs. 2011;22(1):31–9.

36. Kim JS, Park JH, Foster RL, Tavakoli A. Psychometric validation of Emotional Reaction Instrument-English to measure American children's emotional responses to hospitalisation. J Clin Nurs. 2014;23(11-12):1541–51.

37. Crandall M, Lammers C, Senders C, Savedra M, Braun JV. Initial validation of a numeric zero to ten scale to measure children's state anxiety. Anesth Analg. 2007;105(5):1250–3.

38. Tesler MD, Savedra MC, Holzemer WL, Wilkie DJ, Ward JA, Paul SM. The word-graphic rating scale as a measure of children's and adolescents' pain intensity. Res Nurs Health. 1991;14(5):361–71.

39. Gift AG. Visual analogue scales: measurement of subjective phenomena. Nurs Res. 1989;38(5):286–8.

40. Clatworthy S, Simon K, Tiedeman ME. Child drawing: hospital - an instrument designed to measure the emotional status of hospitalized school-age children. J Pediatr Nurs. 1999;14(1):1–9.

41. Clatworthy S, Simon K, Tiedeman M. Child drawing: hospital manual. J Pediatr Nurs. 1999;14(1):10–8.

42. Quintana AM, Arpini DM, Pereira CR, Santos MS. A vivência hospitalar no olhar da criança internada. Cienc Cuid Saúde. 2007;6(4):414–23.

43. Freitas PG. O desenho da figura humana e o desenho da pessoa doente na avaliação psicológica de crianças hospitalizadas [dissertação]. São Paulo: Instituto de Psicologia, Universidade de São Paulo, Instituto de Psicologia; 2008.

44. Dileo J. Interpreting children's drawings. New York: Brunner/ Mazel Publishers; 1983.

45. Koppitz E. Psychological evaluation of human figure drawings by middle school pupils. New York: Allyn and Bacon; 1984.

46. Dileo J. Young children and their drawings. New York: Brunner/ Mazel Publishers; 1970.

47. Skybo T, Ryan-Wenger N, Su YH. Human figure drawings as a measure of children's emotional status: critical review for practice. J Pediatr Nurs. 2007;22(1):15–28.

48. Buck JN. HTP: casa - árvore - pessoa, técnica projetiva do desenho: manual e guia de interpretação. 2a ed. São Paulo: Vetor; 2009.

49. Driessnack M. Children's drawings as facilitators of communication: a meta-analysis. J Pediatr Nurs. 2005;20(6):415–23.

50. Dolidze K, Smith EL, Tchanturia K. A clinical tool for evaluating emotional well-being: self-drawings of hospitalized children. J Pediatr Nurs. 2013;28(5):470–8.

51. Menezes M, Moré CL, Cruz RM. O desenho como instrumento de medida de processos psicológicos em crianças hospitalizadas. Aval Psicol. 2008;7(2):189–98.