INTEGRATIVE LITERATURE REVIEW ARTICLE

USE OF THE FRAMEWORK OF SYSTEMIC ORGANIZATION IN FAMILY ASSESSMENT*

USO DEL MODELO TEÓRICO DE LA ORGANIZACIÓN SISTÉMICA EN LA EVALUACIÓN FAMILIAR

Fernanda Lise†, Eda Schwartz‡, Kathryn Hoehn Anderson§, Marie-Luise Friedemann∥

RESUMEN

Objetivo: producir un levantamiento de estudios sobre la aplicación del modelo teórico de la organización sistémica para evaluar la efectividad del funcionamiento familiar y construir el estado de la arte. Método: este es un estudio bibliográfico descriptivo, de tipo revisión integradora, entre 2001 y 2017, en las bases de datos MEDLINE, LILACS, Google Scholar y la Virtual Library SciELO, con consulta con expertos a través de ResearchGate. Resultados: se presentaron 21 estudios desarrollados por enfermeros en seis países, que muestran la validez y confiabilidad del instrumento ASF-E, evaluando la efectividad del funcionamiento familiar, especialmente en condiciones crónicas o vulnerables. Se utilizó la metodología apropiada y el nivel de evidencia IV. Conclusión: se concluye que el modelo teórico de la organización sistémica se ha utilizado porque se considera una herramienta válida para evaluar la salud familiar en diferentes contextos de Enfermería familiar. Descriptores: Enfermería de Familia; Enfermería; Autoeficacia; Teoría de Enfermería; Revisión.

RESUMEN

Objetivo: producir una encuesta de estudios sobre la aplicación del modelo teórico de la organización sistémica para evaluar la efectividad del funcionamiento familiar y construir el estado del arte. Método: este es un estudio bibliográfico descriptivo, tipo revisión integradora, de 2001 a 2017, en las bases de datos MEDLINE, LILACS, Google Scholar y la Virtual Library SciELO, con consulta con expertos a través de ResearchGate. Resultados: se presentaron 21 estudios desarrollados por enfermeros en seis países, que muestran la validez y confiabilidad del instrumento ASF-E, evaluando la efectividad del funcionamiento familiar, especialmente en condiciones crónicas o vulnerables. Se utilizó la metodología apropiada y el nivel de evidencia IV. Conclusión: se concluye que el modelo teórico de la organización sistémica se ha utilizado porque se considera una herramienta válida para evaluar la salud familiar en diferentes contextos de Enfermería familiar. Descriptores: Enfermería de Familia; Enfermería; Autoeficacia; Teoría de Enfermería; Revisión.


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INTRODUCTION

From a systemic perspective, it is known that family health is seen as a dynamic process whose effectiveness can be assessed using instruments based on theoretical models. Through this approach, nurses are allowed to know the organizational structure of families, their operating systems, helping to choose intervention proposals in the family unit.1

Evidence from the literature points to the lack of family assessment instruments based on theoretical models.2 It is considered that such fragility may have negative implications for the practice of family nurses, therefore, the only worldwide association of family nurses, the International Family Nursing Association,3 recommends the use of theoretical models for family assessment and intervention4-18 for considering them effective.3 It is revealed that, among them, are the Framework of Systemic Organization, developed by nurse Profa. Dr. Marile Luise Friedemann, and The Assessment of Strategies in Family-Effectiveness (ASF-E), used to assess the health or functionality of families in different contexts.4,20 The Framework of Systemic Organization aims to achieve four universal targets called stability, growth, control and spirituality, which are maintained by values and beliefs developed in family processes, such as coherence, system maintenance, individuation and system change aimed at maintaining family health.19

It is proposed, by this model, to evaluate family efficacy through family processes measured with the instrument (ASF-E), a nominal scale, composed of 20 items, each item has three alternatives worth one, two or three points. Alternative three with high family efficacy is considered; two, average family effectiveness and alternative one, low family effectiveness. The 20 items that measure the effectiveness of family functioning or family health; the minimum value is 20 points and the total maximum value of the instrument is 60 points. Please note that the general classification is as follows: high level of family effectiveness, with scores between 48 and 60; intermediate level of family effectiveness, with scores between 34 and 47, and low efficiency of family functioning, with scores between 20 and 33 points.4,19

This study is justified since the ASF-E instrument, based on Framework of Systemic Organization, has been widely used globally and tested in families in the United States,9 Mexico,20 Finland,21 Germany and Switzerland,22 Colombia,23 Chile.24 In Brazil, the ASF-E instrument version is in the process of cross-cultural adaptation and validation.25 The objective of this integrative literature review was to produce a survey on the application of Framework of Systemic Organization and build the state of the art on the use of the instrument (ASF-E) in the evaluation of family functionality or health.

OBJECTIVE

- To produce a survey on the application of the Framework of Systemic Organization in the evaluation of the effectiveness of family functioning and build the state of the art.

METHOD

This is a descriptive bibliographic study, integrative literature review, to present the state of the art of using the Framework of Systemic Organization and the instrument (ASF-E) to evaluate the effectiveness of family functioning or health. This review comprises the PhD thesis project entitled “Cross-cultural Adaptation and Validity of The Assessment of Strategies in Family-Effectiveness (ASF-E) instrument for use in Brazil: Nursing Strategies for Family Care”. The thesis project was approved by the Research Ethics Committee number 2.088.36 / 2017 and CAAE 68095317.3.0000.5316.

This study was developed following the following steps: 1st) Identification of the theme and selection of the review question; 2nd) Establishment of inclusion and exclusion criteria; 3rd) Identification of pre-selected and selected studies; 4th) Categorization of the selected studies; 5th) Analysis and interpretation of the results; and 6) Presentation of Results.26

For data collection, a protocol developed by the authors including information about the publications and their authors, year of publication, purpose, design, population and main results was used, according to the guidelines of the Preferred Items of Systematic Reviews and Meta-Analyses (PRISMA).27-8

The research question that guided the study was motivated by the need to know the contributions of the theoretical model of the systemic organization in the evaluation of the family and the absence of records of its use by Nursing in Brazil. Therefore, the following question was formulated: “What is the state of the art of the use of the theoretical model of systemic organization in the evaluation of the effectiveness of family functioning and its contributions in the practice of nurses with families?”. For the analysis, the Pico method was used (Patient, Intervention, Comparison and Outcomes),29-30 in order to ensure the quality of the data collection stage and to avoid selection biases, the evaluation of all studies by two reviewers independently in February 2018 was performed using the instrument described above in the first step of the methodology.

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For the selection of studies, the search limits were defined as the inclusion of primary studies that answered the research question, published in the format of scientific articles, between 2001 and 2017, with quantitative methodologies, available in full, in English, Spanish and Portuguese. The search strategies used the MeSH terms Family AND Nursing AND Self Efficacy in the electronic databases Medical Literature Analysis and Retrieval System Online (MEDLINE), via PubMed. The controlled descriptors Nursing and Family and Self Efficacy were elected in the electronic database Latin American and Caribbean Health Sciences Literature (LILACS). In addition to the above terms, the uncontrolled descriptor Functionality was used in the Scientific Electronic Library Online (SciELO) electronic library. The gray literature from Google Scholar was consulted and also used the snowball technique, with the publications in the profiles of family health specialists registered in ResearchGate using the above terms. Due to the temporal limitation to the date of publication of the theoretical model.4

Literature review articles, conference abstracts, news, letters to the editor, theses, dissertations, course completion papers, duplicate studies and those that did not address the proposed theme were excluded. Articles with duplicates were added to the database containing the largest number of studies. This organization enabled the detailed visualization of the information for further analysis.

A careful evaluation of the studies was performed based on the reading of the titles and abstracts, as well as the full reading of the selected articles. In the data collection, the described instrument was used and, for the bibliographic data treatment, there was justice, integrity, impartiality and respect to the original authors of the publications that composed this study. For the synthesis of the data, the results found in the articles on the use of the theoretical model of systemic organization in family assessment were described.

Evidence levels were evaluated according to the literature recommendation.31 Through the search strategies used, 682 articles were identified, 295 in MEDLINE via PubMed, 223 in LILACS, 44 in SciELO Virtual Library, 118 in Google Scholar and two at ResearchGate. After reading the titles and abstracts, 651 studies were excluded because they did not meet the criteria and did not answer the question. Twenty-five studies were selected for full reading; of these, four were excluded for not answering the question. The study sample consisted of 21 articles represented in Figure 1.
Figure 2. Flowchart of study selection adapted from Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2009). Pelotas (RS), Brazil, 2018.

RESULTS

It was built, through the survey of the studies developed with the application of the Framework of Systemic Organization, to build the state of the art on the use of the instrument (ASF-E) in the evaluation of the effectiveness of the family functioning. The 21 studies analyzed by nurses from six countries were developed.\(^22-3,33,34-49\) It was found that, in addition to the original language, English, the instrument (ASF-E)\(^4\) has been translated into three languages: Spanish,\(^22\) Finnish,\(^22\) and German.\(^23\) Regarding the methodology adopted by the studies, different approaches were evidenced, mainly related to the statistical tests used. Studies were categorized with the assessment of the level of evidence as level IV (Figure 2).

<table>
<thead>
<tr>
<th>Country/ Author</th>
<th>P Sample (N) and context</th>
<th>I Approach/ Outline</th>
<th>C Results using ASF-E</th>
<th>O LE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland 2001(^{22})</td>
<td>196 individuals adults from inpatient clinical units.</td>
<td>Quantitative and cross-sectional. Analysis of validity and internal consistency.</td>
<td>It presented IV acceptable reliability level and construct validity.</td>
<td>-</td>
</tr>
<tr>
<td>Finland 2003(^{33})</td>
<td>196 individuals adults from inpatient clinical units.</td>
<td>Quantitative and cross-sectional.</td>
<td>It presented IV acceptable reliability level and construct validity.</td>
<td>-</td>
</tr>
<tr>
<td>Switzerland and Germany</td>
<td>209 Swedish individuals and 343 German</td>
<td>Quantitative and cross-sectional.</td>
<td>The factor analysis was presented with</td>
<td>-</td>
</tr>
<tr>
<td>Year</td>
<td>Location</td>
<td>Sample</td>
<td>Methods</td>
<td>Validity and Reliability</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
<td>------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>2006</td>
<td>Mexico</td>
<td>100 elderly families</td>
<td>Quantitative, cross-sectional and correlational.</td>
<td>18 items and acceptable reliability level.</td>
</tr>
<tr>
<td>2007</td>
<td>Mexico</td>
<td>97 families from elderly in chronic conditions</td>
<td>Quantitative, cross-sectional and correlational.</td>
<td>Identified positive correlation between the physical capacity of the elderly and the family functionality level.</td>
</tr>
<tr>
<td>2009</td>
<td>Colombia</td>
<td>171 teenage parents</td>
<td>Quantitative and cross-sectional.</td>
<td>Identified level of family functionality among families composed of adolescent parents.</td>
</tr>
<tr>
<td>2009</td>
<td>Mexico</td>
<td>888 parents of children with motor disabilities</td>
<td>Quantitative, cross-sectional and correlational.</td>
<td>Identified inter level of family functionality. Identified positive correlation between informal caregiver burden of the child with motor disability and family functionality.</td>
</tr>
<tr>
<td>2010</td>
<td>Colombia</td>
<td>102 families with teenagers</td>
<td>Quantitative and cross-sectional.</td>
<td>Identified level of family functionality.</td>
</tr>
<tr>
<td>2011</td>
<td>Colombia</td>
<td>90 college teens</td>
<td>Quantitative and cross-sectional.</td>
<td>Identified level of family functionality among college adolescents.</td>
</tr>
<tr>
<td>2011</td>
<td>Colombia</td>
<td>23 families in which a person has suicidal intent.</td>
<td>Quantitative and cross-sectional.</td>
<td>Identified level of family functionality.</td>
</tr>
<tr>
<td>2011</td>
<td>Colombia</td>
<td>77 families of pregnant adolescents and 104 families with non-pregnant adolescents.</td>
<td>Quantitative, cross-sectional and correlational. Families of pregnant and non-pregnant adolescents.</td>
<td>Identified high level of family functionality in families of pregnant adolescents and intermediate level in families of non-pregnant adolescents.</td>
</tr>
<tr>
<td>2011</td>
<td>Colombia</td>
<td>157 families of</td>
<td>Quantitative and cross-sectional.</td>
<td>Identified high level of family functionality.</td>
</tr>
</tbody>
</table>


The results of the classification of the PICO strategy and characterization of studies using ASF-E to assess the effectiveness of family functioning, 2019.

Table 1. Presentation of the general level of effectiveness of family functioning obtained with ASF-E in studies.

<table>
<thead>
<tr>
<th>Country/n (n)</th>
<th>High (%)</th>
<th>Intermediate (%)</th>
<th>Low (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico (88)(^1)</td>
<td>11</td>
<td>58</td>
<td>31</td>
</tr>
<tr>
<td>Colombia (97)(^2)</td>
<td>7</td>
<td>91</td>
<td>1</td>
</tr>
<tr>
<td>Colombia (102)(^3)</td>
<td>4.9</td>
<td>32.4</td>
<td>62.7</td>
</tr>
<tr>
<td>Colombia (883)(^4)</td>
<td>59</td>
<td>29</td>
<td>12</td>
</tr>
<tr>
<td>Colombia (23)(^5)</td>
<td>35</td>
<td>-</td>
<td>60</td>
</tr>
<tr>
<td>Colombia (181)(^6)</td>
<td>39</td>
<td>57</td>
<td>2.9</td>
</tr>
<tr>
<td>Colombia (162)(^7)</td>
<td>32</td>
<td>60</td>
<td>18</td>
</tr>
<tr>
<td>Colombia (86)(^8)</td>
<td>.</td>
<td>18</td>
<td>81</td>
</tr>
<tr>
<td>Colombia (75)(^9)</td>
<td>65</td>
<td>34</td>
<td>1</td>
</tr>
<tr>
<td>Colombia (440)(^10)</td>
<td>1.8</td>
<td>29.3</td>
<td>68.1</td>
</tr>
<tr>
<td>Chile (170)(^11)</td>
<td>81</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

PICO - Patient, Intervention, Comparison and Outcomes; LE - Level of Evidence.
Studies were developed that obtained low classificatory score for the effectiveness of family functioning in different contexts, which can be considered of vulnerability, as in populations with some chronic health condition. It is noted that the main populations studied were families of children with learning disabilities, \textsuperscript{44} teenage families, \textsuperscript{35} families of teenage parents, \textsuperscript{10,47} families with grandchildren and grandparents, \textsuperscript{48} families who experienced suicide attempt by one of its members, \textsuperscript{41} families in situations of violence \textsuperscript{49} and in populations composed of women. \textsuperscript{24} 

In the same way, studies that obtained an intermediate level of effectiveness of family functioning were developed in populations composed of families of children with some chronic health condition. Similarly, studies that obtained an intermediate level of effectiveness of family functioning were developed in populations composed of families of children with some chronic health condition, \textsuperscript{37} mothers of children, \textsuperscript{45} families of non-pregnant adolescents \textsuperscript{42} and adult families with type II diabetes. \textsuperscript{25} 

In addition, studies that showed a high level of effectiveness of family functioning were developed in populations with hospitalized individuals, \textsuperscript{22} in families of pregnant teenagers, \textsuperscript{42} families with school children, \textsuperscript{43,46} adult families in chronic conditions \textsuperscript{39} and families with elderly. \textsuperscript{24} 

In the factorial analysis of the study carried out in Switzerland and Germany, the final instrument corresponded to 18 items with acceptable reliability. \textsuperscript{21} The results of the internal consistency analysis obtained in seven studies that evaluated the instrument reliability test (ASF-E) are presented in table 2.

<table>
<thead>
<tr>
<th>Evaluation of total instrument reliability (ASF-E)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach</td>
<td>0.85\textsuperscript{22}</td>
</tr>
<tr>
<td></td>
<td>0.82\textsuperscript{23}</td>
</tr>
<tr>
<td></td>
<td>0.80\textsuperscript{21}</td>
</tr>
<tr>
<td></td>
<td>0.67\textsuperscript{24}</td>
</tr>
<tr>
<td></td>
<td>0.74\textsuperscript{25}</td>
</tr>
</tbody>
</table>

**DISCUSSION**

It was evidenced by the studies, the use of the Framework of Systemic Organization and the instrument (ASF-E) to evaluate the health level or functionality of the families, in different countries, languages and scenarios of the practice of nurses with families. It is believed that this represents an advance in the quality of family health care provided by nurses because it is supported by a theoretical model that allows for safe intervention in the family. \textsuperscript{1} 

In the results, it was observed that there was a predominance of studies in the Spanish language, developed mainly by Colombian nurses. \textsuperscript{36,38,9,41,2,44} 

47 This is possibly due to their concern with using a reliable instrument and its availability in the Spanish language, as it was adapted and translated almost two decades ago in Mexico, \textsuperscript{21} and had its reliability tested in Colombia. \textsuperscript{24,39} 

Also noteworthy in relation to language, the Portuguese from Portugal translation not presented in the review for not meeting the inclusion criteria (not published in a scientific journal); similarly, two other studies conducted in Spain and Ecuador evaluated the effectiveness of family functioning and appear as gray literature in academic and / or research work. Therefore, in addition to the six study countries that made up the review, ASF-E was used by nurses from ten countries (USA, Mexico, Germany, Finland, Sweden, Colombia, Chile, Ecuador, Spain and Portugal) and in five languages (English, Spanish, German, Finnish and Portuguese).

It is explained that, despite the diversity of methodological approaches, especially in relation to statistical analyzes, they may be considered adequate for the purposes established by the authors of the evaluated studies. The level of evidence allowed them to be classified as non-experimental design and / or correlative descriptive research, \textsuperscript{32} considered adequate to evaluate the effectiveness of family functioning with the use of the instrument (ASF-E). \textsuperscript{6} 

Therefore, they can be reproduced in these countries, following the methodology described. \textsuperscript{4,21,23,26} 

As for the results of interventions evaluated with the PICO strategy, evidence of construct validity and instrument reliability\textsuperscript{22 3,50} for corroborating previous tests. \textsuperscript{1,21-2} It is noteworthy that psychometric behavior may present differences between populations and be influenced by economic and cultural factors as occurred with the Finnish instrument. \textsuperscript{22} In the assessment of reliability, the studies also presented the acceptable internal consistency, which is considered a quality seal measured by its reliability. \textsuperscript{51} The internal consistency analysis obtained in seven studies evaluating the instrument reliability test (ASF-E), demonstrating acceptable reliability. \textsuperscript{22-4,39} 

As strategies to compare the results obtained by (ASF-E), it is reported that some studies have applied other assessment tools, which may contribute to the complementarity of information on family health level and support the decision making of the nurse when intervening in the health of families; For example, the use of an instrument to assess anxiety level, caregiver burden and physical capacity contributed to the

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evaluation of the family organization to function as a system.

It was evidenced, among the outcomes of the correlational studies, that the higher the level of effectiveness of family functioning and the lower the risk of intra-familial violence,49 better adherence to glycemic control treatment25 and the physical capacity of the elderly,34 family congruence (or harmony) being a protective factor for family health.20,49

As contributions to nursing practice with families, this study provided evidence of the practical applicability of the Framework of Systemic Organization with the instrument (ASF-E) to evaluate the effectiveness of family functioning. These results are expected to encourage family nurses to use theoretical models that are consistent in their practices to understand how the family is organized to function and effectively respond as a system to the demands.20

CONCLUSION

It is believed that the results of this study allowed us to produce a survey of studies on the application of the Framework of Systemic Organization in the evaluation of the effectiveness of family functioning and build the state of the art. From this, it can be affirmed that instruments developed by Nursing for nursing practice with families favor the evaluation and development of intervention strategies, as it is supported by a consistent theoretical model.

It is concluded that the contribution of this study to the practice with families lies in the presentation of evidence of the use of a consistent theoretical model and, especially, the Brazilian nurses, who are developing the process of transcultural adaptation of the family, (ASF-E / Brazil) for Brazilian Portuguese and presentation of validation and reliability test results with Brazilian families. The limitations of this study include the impossibility of accessing Nursing databases from other countries and the lack of meta-analysis as a consequence of the methodological heterogeneity adopted in the studies, not aiming to evaluate interventions, which does not diminish the quality of the results.

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