Reliability and validity of the family satisfaction instrument in families of children with pneumonia

Nani Nurhaeni

Faculty of Nursing, Universitas Indonesia, Depok, Jawa Barat, Indonesia

KEYWORDS
Family satisfaction; Instrument; Reliable; Valid

Abstract
Objective: Family satisfaction has become an integral part of quality of care in hospitals. Thus, it is crucial to develop instruments that measure family satisfaction. The purpose of this study was to examine the validity and reliability of a family satisfaction questionnaire.

Method: This study used a survey questionnaire consisting of 26 items that identified nurses’ constructs of behaviors and communication. The population surveyed were families whose children were hospitalized due to pneumonia.

Results: The results revealed that only 16 items of the instrument demonstrated evidence of acceptable constructs of reliability and validity. The study recommends further studies that add other potential constructs related to family satisfaction.

Introduction
Patient satisfaction is a critical indicator of the quality of health care. In order to stay competitive in the healthcare market, hospitals should maintain high levels of its customer satisfaction such as patients or families. Patient satisfaction will not only increase patient loyalty, but also enhance the hospital reputation. An enhanced reputation may lead to greater patient volumes and profits, as well as a decrease in the number of malpractice claims, and better efficiency. In regard to pediatric patients, measuring children’s satisfaction may require strenuous efforts. Children can neither make decisions concerning their own care nor determine the level of satisfaction with the care delivered. Thus, satisfaction can only be measured through the perception of family members and other surrogate decision makers.

Since nurses provide primary service to patients, family satisfaction with nursing care is an essential element of the quality of care delivered by the hospital. Nonetheless, nurses are challenged to use a valid and reliable instrument that considers family members as an important factor in determining the level of satisfaction. In addition, the instrument must take into account all attributes of satisfaction level, comprising:
- Art of care
- Technical quality
- Accessibility
- Costs
- Physical environment
- Internal environment
- Healthcare providers and other sources
- Sustainability of care and its impact

Wagner and Bear suggest 4 attributes of satisfaction associated with nursing care. These attributes include (1) non-intimidating gestures, (2) information regarding the patient’s health status, (3) involvement of patients in decision-making, and (4) nurses’ professional competencies. These attributes result in the condition of satisfaction or dissatisfaction. Satisfied patients and families are more likely to be compliant with the care provided by the hospital and will return for continuing care. On the contrary, dis-
satisfied patients and families are more likely to be recalcitrant and stop their treatment, thereby reducing the hospital’s revenue.

Takeyama et al. recommended using a questionnaire to assess family satisfaction while receiving health education during discharge planning, or at the time of the patient’s cognitive evaluation after discharge planning. Family satisfaction can also be measured after the family receives all information concerning specific treatments required for the child at home.

**Method**

This study examined the reliability and validity of the family satisfaction instrument. Family satisfaction was measured through a survey. The participants were parents whose children were hospitalized due to pneumonia. Data were collected at two district hospitals in the capital city of Indonesia.

The instrument was developed in accordance with professional nursing competencies in the form of behavior and communication constructs. It comprised 21 items focused on behavioral constructs and five items that addressed communication constructs. The reliability and validity of the instrument were assessed using Cronbach’s alpha and the corrected item-total correlations (rit). An instrument with Cronbach’s alpha coefficient of 0.8 or higher (scale total), and a rit higher than 0.3 we considered adequate.

**Results**

A total of 30 subjects were surveyed. Five subjects were excluded due to incomplete data. The data cleaning produced the sample size of 25 for further analysis.

Of the 26 items in the instrument, 16 (items 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 15, 16, 18, 24, 25, and 26) had a reliability coefficient of higher than 0.8 and validity higher than 0.3. The invalid items comprised item numbers 6, 7, 13, 14, 17, 19, 20, 21, 22, and 23. Results for each item are shown in Table 1.

**Discussion**

The survey items used to assess family satisfaction were developed based on literature studies and consensus among experts. The perceptions of family toward the quality of nursing care constituted the constructs of family satisfaction. As stated by Roberti and Fitzpatrick, satisfaction with healthcare services can be measured by knowing family perception of the quality of care delivered. Furthermore, Yagil et al. explained that the evaluation of nursing care, as part of quality of care, is predicted through evaluation of caring behavior, treatment, instruction, and the patient’s environment. Therefore, these aspects also need attention from nurses to achieve better quality of care.

Hong et al. stated that there were positive trends in increased parent satisfaction ratings of communication from

**Table 1**

<table>
<thead>
<tr>
<th>No.</th>
<th>Construct</th>
<th>Statements</th>
<th>r</th>
<th>rit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Communication</td>
<td>Nurses introduce themselves before delivering care to my child</td>
<td>.873</td>
<td>.398</td>
</tr>
<tr>
<td>2</td>
<td>Behavior</td>
<td>Nurses demonstrate a caring attitude and pay attention to my child</td>
<td>.871</td>
<td>.466</td>
</tr>
<tr>
<td>3</td>
<td>Behavior</td>
<td>Nurses listen to my family’s complaints</td>
<td>.869</td>
<td>.514</td>
</tr>
<tr>
<td>4</td>
<td>Communication</td>
<td>Nurses regularly provide information that I can understand concerning my child’s health status</td>
<td>.867</td>
<td>.564</td>
</tr>
<tr>
<td>5</td>
<td>Behavior</td>
<td>Nurses respond and come immediately whenever my child complains</td>
<td>.865</td>
<td>.608</td>
</tr>
<tr>
<td>6</td>
<td>Behavior</td>
<td>Nurses show little respect to my family and my family’s culture</td>
<td>.872</td>
<td>.439</td>
</tr>
<tr>
<td>7</td>
<td>Communication</td>
<td>Nurses seem unfriendly during communication with me and my family</td>
<td>.875</td>
<td>.378</td>
</tr>
<tr>
<td>8</td>
<td>Behavior</td>
<td>Nurses provide comfort whenever my child is in pain</td>
<td>.864</td>
<td>.649</td>
</tr>
<tr>
<td>9</td>
<td>Behavior</td>
<td>Nurses are always helpful</td>
<td>.858</td>
<td>.777</td>
</tr>
<tr>
<td>10</td>
<td>Behavior</td>
<td>Nurses are skilled in inserting intravenous lines</td>
<td>.875</td>
<td>.468</td>
</tr>
<tr>
<td>11</td>
<td>Communication</td>
<td>Nurses encourage me to accompany my child during procedures</td>
<td>.855</td>
<td>.781</td>
</tr>
<tr>
<td>12</td>
<td>Behavior</td>
<td>Nurses involve me in treatment planning and decision-making</td>
<td>.866</td>
<td>.579</td>
</tr>
<tr>
<td>13</td>
<td>Behavior</td>
<td>Nurses provide complete explanations of the purpose of procedures given to my child</td>
<td>.868</td>
<td>.553</td>
</tr>
<tr>
<td>14</td>
<td>Behavior</td>
<td>Nurses teach me how to care for a child with pneumonia</td>
<td>.874</td>
<td>.389</td>
</tr>
<tr>
<td>15</td>
<td>Behavior</td>
<td>Nurses appreciate my ability to care for my child during hospitalization</td>
<td>.874</td>
<td>.389</td>
</tr>
<tr>
<td>16</td>
<td>Behavior</td>
<td>I am happy with the service delivered by nurses during my child’s hospitalization</td>
<td>.873</td>
<td>.414</td>
</tr>
</tbody>
</table>

rit, corrected item-total correlation.
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Donagh et al. and Henrich et al. Both studies showed that family satisfaction increased when nurses showed their genuine concern and respect for family members. Furthermore, nurses were expected to be able to meet patient and family needs, involved the patient and family members in decision-making related to the patient’s treatment, and provided comfort for the patient and family members. In addition, in the studies conducted by Latour et al. and Haines and Childs, development of a parent satisfaction instrument: Perceptions of pediatric intensive care nurses and physicians. J Crit Care. 2009;24:255-66.

References