

## APPLICATION OF THE VIGNETTE TECHNIQUE IN NURSING RESEARCH WITH THE ELDERLY\*

Aplicação da técnica de vinheta na pesquisa em enfermagem com idosos

Aplicación de la técnica de viñeta en la investigación en enfermería con ancianos

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### ABSTRACT

**Objective:** to describe the design, validation and application of vignettes in research on the perception of risk of falls in the elderly. **Method:** methodological study of the preparation of an instrument for data collection and validation by a committee of 15 judges from Brazil and Portugal. **Results:** the instrument validation process with the 20 vignettes resulted in an IVC of 0.90. Of these, we opted to exclude 08 (eight) who presented individual calculations, with values below 0.90. Twelve vignettes were applied to the elderly, whose individual IVC ranged from 0.96 to 1.0. **Conclusion:** the technique of vignette was adequate to evaluate the perception of risk of falls of elderly residents of the community.

**Descriptors:** Elderly health; Technologies; Accidents by falls; Nursing; Search.

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## RESUMO

**Objetivo:** descrever a elaboração, validação e aplicação de vinhetas em pesquisas sobre percepção de risco de quedas de idosos. **Método:** estudo metodológico de elaboração de instrumento de coleta de dados e validação por um comitê de 15 juizes do Brasil e Portugal. **Resultados:** o processo de validação de conteúdo do instrumento com as 20 vinhetas resultou em um IVC de 0,90. Destas optou-se por excluir 08 (oito) que apresentaram cálculo individual, com valores abaixo de 0,90. Foram aplicadas aos idosos, 12 vinhetas cujo IVC individual variou de 0,96 a 1,0. **Conclusão:** a técnica de vinheta foi adequada para avaliar a percepção de risco de quedas de idosos residentes da comunidade.

**Descritores:** Saúde do idoso; Tecnologias; Acidentes por quedas; Enfermagem; Pesquisa.

## RESUMEN

**Objetivo:** describir la elaboración, validación y aplicación de viñetas en investigaciones sobre percepción de riesgo de caídas de ancianos. **Método:** estudio metodológico de preparación del instrumento de recolección de datos y validación por un panel de 15 jueces de Brasil y Portugal. **Resultados:** el proceso de validación de contenido del instrumento con las 20 viñetas resultó en un IVC de 0,90. De estas se optó por excluir 08 (ocho) que presentaron cálculo individual, con valores por debajo de 0,90. Se aplicaron a los ancianos, 12 viñetas cuyo IVC individual varía de 0,96 a 1,0. **Conclusión:** la técnica de viñeta fue adecuada para evaluar la percepción de riesgo de caídas de ancianos residentes de la comunidad.

**Descriptorios:** Salud del anciano; Tecnologías; Acidentes por caídas; Enfermería; Investigación.

## INTRODUCTION

Methodological studies and innovative research techniques are still a challenge for nursing.<sup>1-3</sup> Therefore, it is necessary to undertake investigations that analyze the potential of these techniques, such as vignettes.<sup>2</sup>

The vignette is a methodological technique that simulates a real-life experience or not, with information that instigates the participants to express the way they (re) act under such situation.<sup>4-6</sup>

There are different forms of vignettes, such as images, videos, and those that use narrative descriptions in writing.<sup>7,8</sup> The vignette technique is an alternative that allows expanding the possibilities of other data collection techniques commonly used in nursing research such as interview and observation, allowing the capture of individuals' perceptions, feelings, behaviors, and decisions.<sup>2,5</sup>

Its use as a research technique started in the 1950s in Anthropology and in the 1970s with Social Psychology. Later, in 1980, interest in the use of this technique in the health area emerged as a research resource for collecting data such as attitudes, perceptions, beliefs, values, and abstract concepts of the health-disease process.<sup>8</sup>

In nursing, the vignette started to be used in the 1990s, specifically to detect nurses' attitudes or beliefs concerning specific groups of patients or to identify behaviors of people in existing situations in health care.<sup>2,9</sup>

The vignette provides benefits, such as the possibility of drawing participants' attention when compared to the use of other methodologies. It is a technique that allows investigating different real-life problems and can be an alternative for research carried out individually or in groups.<sup>6,10</sup>

Studies have demonstrated the importance of using vignettes for different purposes, as follows: investigating aspects of the therapeutic experience of eating disorders,<sup>1</sup> clinical treatment guideline for chronic neuropathic pain,<sup>12</sup> studying human behavior,<sup>13</sup> and medical behavior in the health care environment.<sup>10</sup>

In research involving elderly people, the use of vignettes has been little explored, even though it is a technique that considers the specificities of aging, favoring the selection of everyday situations and allowing the use of technological resources to bring the elderly closer to reality through visual stimulation.<sup>3</sup>

This study meant to describe the design, validation process and application of the image vignette technique on the perception of accidental falls involving elderly people.

## METHODS

It is a methodological study addressing the elaboration and validation of vignettes using image as a technique for collecting data on Risk Perception (RP) of elderly people. RP is the ability that each individual has to interpret the threatening situations that can cause some damage to life.<sup>14</sup> It is a subjective phenomenon, a process in which cognitive and emotional functions are involved that allow each person to make their interpretation and assessment of risk<sup>15,16</sup> and decide on the specific behavior that can be protective or risky.<sup>17</sup>

To access the RP of elderly people regarding their risk of falling, it was considered that the vignette technique would be appropriate, as it allows the exploration of subjective elements of human behavior that are difficult to be collected, such as beliefs, values and perceptions, behaviors, attitudes and knowledge. In addition to being useful for conveying a message, arousing attention, producing sensations, instigating participants to make judgments and/or make decisions.<sup>4,5,10</sup>

The instrument to be applied using the vignette technique was developed in five stages: choosing the vignette's format and content; building an instrument to be evaluated by judges; selecting the experts (judges) for evaluation; content validation and application of vignettes.

This is an excerpt from the matrix study entitled "Prevalence of the elderly's perception on their risk of accidental falls and associated factors". This study was approved by the Ethics and Research Committee from the *Júlio Muller* University Hospital under the Legal Opinion No. 1.375.313/2015.

The vignettes were applied over the period from May to August 2016 with elderly participants enrolled in the Healthy

Longevity Program (HLP), from the *Universidade Federal de Mato Grosso (UFMT)* in Cuiabá city, Mato Grosso State, Brazil. There were included elderlies who lived in the community and participated in the HLP, having their cognitive and communication skills assessed through the Mini-Mental State Examination (MMSE).<sup>18</sup>

## RESULTS

### Vignette's format and content

Based on the literature addressing falls, 12 short textual vignettes were initially created, with situations in which there were environmental and behavioral risk factors for falls in older people. Nevertheless, when conducting the pilot test, difficulties in concentrating, understanding, and interpreting the narratives were identified by the elderly, probably due to low schooling, visual and hearing deficits. Therefore, it was decided to change the format of textual vignettes to images.

For the elaboration of vignettes using image, it was built an image databank of public domain, which were obtained on the internet, based on the following selection criteria: (1) the situations presented to the participants should meet the research goals;<sup>10</sup> (2) represent probable scenarios and close to the reality experienced by the elderly;<sup>5</sup> (3) represent a contextualized situation<sup>19</sup> for elderlies to achieve an adequate understanding of the environments and/or behaviors that represented a risk of falls for them; (4) be suitable for both female and male participants; (5) attract attention and stimulating the elderly's imagination, enabling him to perceive the situation of risk for falls; (6) be presented in a larger size<sup>7</sup> and good quality that would allow the elderly to see it properly.

Twenty images were selected that addressed risk situations and environments for the elderly's daily falls, such as walking on a wet and smooth floor, climbing stairs without using a handrail and with weight in their hands, climbing on benches to reach objects, obstructing the elderly's passage through excess/proximity of furniture, objects/toys scattered on the floor, household activities with a high risk of falling - climbing stairs to clean gutters, washing sidewalks/balcony/backyards, climbing the collective bus step, using alcohol, poor lighting, using slippers, rugs, steps, and irregular sidewalks.

In addition to the images, two questions were elaborated to be applied in the interview with the elderly. The first, regarding the perception they had about the risk factors for falls during that situation, in which they would have to respond from the perspective of their peers. The second,

regarding their perception on risk of an accidental fall during that situation.

Then a new pilot test was carried out with the vignettes using image to identify possible problems and/or inadequacies in their format, which were corrected before the beginning of the research, as well as the selection of the appropriate number of vignettes that would allow exploring all aspects of the studied phenomenon.

The vignettes were tested using a tablet (a 10 inches screen personal computer). A few elderlies showed initial distrust in handling this equipment because it was not part of their reality, but in a short period and with the help of the interviewers, they got used to it. This equipment proved to be useful and adequate because it allows more comprehensive interactivity between the interviewers and the elderlies, and an easy understanding of the situation presented and a faster response speed. Furthermore, this technological resource allowed to either increase or decrease the images improving their visualization.

### Building an instrument to be evaluated by judges

To provide greater reliability and credibility in the vignettes, they were appraised by experts. For this evaluation, an instrument was elaborated with questions according to the literature on the subject to verify the ability that the vignette has to achieve the objectives of the study, presentation, and representation (general organization, size, and quality of images, consistency between images and questions). The answer options for each question were "yes", "no" and "partially".

### Selecting the experts (judges) for evaluation

The following criteria were considered: maximum degree - doctorate or master, studying falls and/or risk perception, studying elderly people, using vignettes, having experience in the field of geriatrics or gerontology, producing scientific work on risk perception, vignettes or falls. A total of 34 experts were selected, of which 15 have participated in the validation process.

### Content validation

The Content Validity Index (CVI) was used. The analysis of the 20 images by the experts resulted in a CVI of 0.90. Nonetheless, even if the total vignettes reached the established standard value, there were exclude 08 (eight) that showed calculations with values below 0.90. Ultimately, 12 vignettes compose the data collection instrument, where its individual CVI ranged from 0.96 to 1.0. A few of them are shown in **Figure 1**.

**Figure 1** – Vignettes that are part of the instrument. Cuiabá city, Mato Grosso State, Brazil, 2018

**Vignette 4**



Source:  
<http://pq.arq.ufmg.br/ufmg/reports/view/536>

**Vignette 7**



Source:  
<http://santiagando.blogspot.com.br/2012/06/challenge-accepted-sala.html>

**Vignette 8**



Source:  
<http://thumbs.dreamstime.com/t/equipe-limpeza-de-uma-calha-da-chuva-em-uma-escada-45101981.jpg>

**Vignette 10**



Source:  
<http://bengalalegal.com/blog/?cat=3>

## Application of vignettes

Considering the 223 elderly participants in the HLP, 20 refused to participate and 13 failed in the MMSE. Hence, the vignettes were applied to 190 elderlies.

The vignettes were applied using a tablet, which made it possible to enlarge the images and interact with the elderlies.

## DISCUSSION

Herein, the vignette technique used images. There is no consensus concerning the best format, but in its elaboration, the characteristics of the participants, their cognitive skills, and possible situations to happen in their reality should be considered.<sup>5,7</sup> The ability of a vignette to produce data relevant to the research depends on several factors, including how the questions are designed. The images can be accompanied by questions that elicit answers from the participant's viewpoint, wondering how he would react to the situation presented in the vignette.<sup>7</sup>

Textual vignettes require more time to process the individual's interpretation of the situation, while the use of videos or images allows answers to be obtained right away. Another advantage of using vignettes using

image is that they tend to draw more attention from the participants and facilitate the understanding of situations by visual stimulus.<sup>7</sup>

For the instrument to have recognized quality, the validation process is a fundamental aspect for the legitimacy and credibility of the results. The most widely used validation methods are the construct, criterion, and content validity.<sup>20</sup> Here, the content validity was used, which provides information about the representativeness and clarity of a finite universe of behaviors.<sup>21</sup> A meticulous judgment process in which the degree of agreement of the experts on the vignettes' content is appraised.<sup>22,23</sup>

The selection of the 15 experts to compose the committee systematically took place, meeting the criteria proposed by Alexandre and Coluci<sup>22</sup> - the number of six or more judges is recommended to carry out the evaluation and consider the experience and qualification of the members. It may be advantageous to take into account the experts' knowledge about the subjects investigated.<sup>4</sup>

There are several methods described in the literature capable of evaluating the degree of agreement between the judges during the process of content validation of an instrument.<sup>4,22</sup> The CVI is one of them, widely used in the

health area and measures the proportion or percentage of judges who are in agreement on a certain aspect of the instrument and its items. Likewise, it allows analyzing each item individually and the instrument as a whole.<sup>22</sup> The final recommended agreement value is 0.90 or more.<sup>4</sup>

Although the general result of the 20 images has achieved satisfactory CVI. Herein, it was decided to select the images through the individual results. After analysis by the judges, the problems found were corrected and the suggestions were integrated in order to improve their quality. Hence, 12 images comprise the instrument, validated by a CVI that ranged from 0.96 to 1.0. Thus, the value established for this work corresponds to a significant value, which supports the legitimacy and credibility of this research due to the quality of the validated instrument.<sup>4,24</sup>

In the application of the instrument, some facilities were identified, the images represented real-life situations, the use of technology (tablet) made it possible to enlarge the images, especially for the elderly with impaired visual acuity, who, over time, might suffer physiological changes in their eye lenses, visual field deficit and retinal diseases.<sup>18</sup>

Moreover, the novelty in the use of images through an electronic device has become attractive, dynamic, and aroused the curiosity of the elderly. One of the advantages of using this type of vignette is that it facilitates the understanding of situations through visual stimulation.<sup>7</sup>

Concerning the limitations of the instrument application, the environment has become a challenge. Sometimes depending on the location of data collection, the daylight produced a dark image, then making it difficult to visualize. Although this study had this limitation, the use of the vignette proved to be efficient for data collection.

## CONCLUSIONS

The vignettes produced using images is a valid technique for collecting RP data from falls involving elderly people. This technique is a methodological alternative to elucidate responses to various situations, which require participants to reveal their perceptions and, at the same time, reflection, and critical thinking.

Furthermore, this technique applied through the tablet enabled the elderlies to interact with technology, then constituting an innovative tool that attracted the curiosity and interest of this population.

Considering the validation process of this instrument, it was possible to conclude that the vignettes are pertinent tools to be implemented for assessing the RP of elderly people, considering they achieved satisfactory CVI after the experts' evaluation and also because it was recognized by the researchers as both effective and easily applicable instrument during the data collection.

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