Original article

SPECIFIC PRECAUTIONS FOR AVOIDING MICROORGANISM TRANSMISSION: DEVELOPMENT AND VALIDATION OF AN EDUCATIONAL GUIDE*

Luize Fábrega Juskevicius[1], Maria Clara Padoveze[2]

ABSTRACT: This study aimed to develop and validate the content of the educational guide for individuals under specific precautions for avoiding microorganism transmission. It is a methodological study performed in three phases, in two hospitals (public and private) in the city of São Paulo, from May to July 2015, using the theoretical framework of Vulnerability. In the first phase, a questionnaire was applied for capturing the adult individuals' perceptions regarding specific precautions. In the second phase, the educational guide was elaborated. In the third phase, the guide was submitted to specialists in specific precautions and vulnerability for content validation. Interviews were held with 39 individuals, an average of seven days after the institution of the specific precautions, 32 (82%) of whom were under contact precautions. The guide was developed to provide better knowledge of aspects usually neglected by professionals, and to encourage person-centred care. All items had a content validity index of above 75%. The guide presents potential to support professionals in the development of educational actions for adult patients subject to specific precautions.
DESCRIPTORS: Vulnerability in health; Universal precautions; Access to information; Patient participation; Education, health.

PRECAUÇÕES ESPECÍFICAS PARA EVITAR A TRANSMISSÃO DE MICRORGANISMOS: DESENVOLVIMENTO E VALIDAÇÃO DE ROTEIRO EDUCACIONAL

RESUMO: O objetivo deste estudo foi desenvolver e validar o conteúdo do roteiro educativo para indivíduos em precauções específicas para evitar a transmissão de microrganismos. Estudo metodológico, desenvolvido em três fases,em dois hospitais (público e privado) na cidade de São Paulo, no período de maio a julho de 2015, utilizando o referencial teórico de Vulnerabilidade. Na primeira fase, aplicou-se questionário para captação das percepções dos indivíduos adultos sobre precauções específicas. Na segunda fase, elaborou-se o roteiro educativo. Na terceira fase, foi submetido a especialistas em precauções específicas e vulnerabilidade para validação de conteúdo. Foram entrevistados39 indivíduos em média sete dias após a instituição das precauções específicas, 32 (82%) em precaução para contato. O roteiro foi desenvolvido para proporcionar maior conhecimento nos aspectos usualmente negligenciados pelos profissionais e estimular o cuidado centrado no indivíduo. Todos os itens tiveram um índice de validade de conteúdo acima de 75%. O roteiro apresenta potencial para instrumentalizar profissionais na elaboração de ações educativas para pacientes adultos em precauções específicas.
DESCRITORES: Vulnerabilidade em saúde; Precauções universais; Acesso à informação; Participação do paciente; Educação em saúde.

PRECAUCIONES ESPECÍFICAS PARA EVITAR LA TRANSMISIÓN DE MICROORGANISMOS: DESARROLLOY VALIDACIÓN DE GUION EDUCACIONAL

RESUMEN: La finalidad de este estudio fue desarrollar y validar el contenido de guion educativo de precauciones específicas con fines de evitar la transmisión de microorganismos. Es un estudio metodológico, hecho entres fases, en dos hospitales (público y privado) en la ciudad de São Paulo, en periodo de mayo a julio de 2015, utilizándose referencial teórico de Vulnerabilidad. Fue aplicado cuestionario para captación de percepciones de los individuos adultos acerca de precauciones específicas en la primera fase. En la segunda fase, se elaboró guion educativo. En la tercera fase, ello fue sometido a especialistas en precauciones específicas y vulnerabilidad para validación de contenido. Fueron entrevistados 39 individuos, en media siete días después de la institución de las medidas preventivas específicas, 32 (82%) en precaución para contacto. El guion fue desarrollado para proporcionar más conocimiento acerca de los aspectos generalmente negligenciados por los profesionales y estimular el cuidado centrado en el individuo. Todos los puntos tuvieron índice de validad de contenido superior a75%. El guiones una potencial herramienta a los profesionales en la elaboración de acciones educativas para pacientes adultos en precauciones específicas.
DESCRIPTORES: Vulnerabilidad en salud; Precauciones universales; Acceso a la información; Participación del paciente; Educación en salud.

*Article extracted from the dissertation entitled: "Specific precautions for avoiding microorganism transmission: elaboration and validation of a guide for contributing to reducing individual vulnerability". School of Nursing of the University of São Paulo, 2016.

[1]RN. M.A in Health Sciences. Infection Control Nurse. School of Nursing of the University of São Paulo. São Paulo, State of São Paulo (SP), Brazil.
[2]RN. Ph.D in Internal Medicine. Lecturer in Collective Health Nursing. School of Nursing of the University of São Paulo. São Paulo, SP, Brazil.

Corresponding author:
Luize Fábrega Juskevicius
Universidade de São Paulo
Av. Dr. Pedro Lessa, 901 - 11025-001 – Santos, SP, Brasil
E-mail: luizejuskevicius@gmail.com

Received: 07/06/2016
Finalized: 07/11/2016

INTRODUCTION

The propagation of infections can occur due to failure to apply standard precautions (StP) and specific precautions (SP) by the healthcare professionals (HCP) and visitors. Studies have demonstrated low adhesion to precautionary measures by HCP, which may be related to aspects of human behavior, such as failure to perceive risk and to underestimate the individual role in the rates of healthcare associated infections (HCAI)[1].

In relation to the individuals and their family members, it is not unusual for guidance to be fragmented and not to clarify aspects regarding precautions, being restricted to indicating what should or should not be done. This may have, as a consequence, failures in adherence to procedures caused by lack of understanding the process as a whole[2].

The SP create physical and social barriers, which can increase levels of stress in the individual who is subjected to these conditions. In this context, the HCP need not only to deal with their own fears of contracting the disease, but also to care about the needs of the individual under their assistance[3]. Access to reliable information has the potential to reduce the negative psychological impacts related to SP.

Individuals under SP may be more vulnerable to the occurrence of adverse events, as the HCP enter their rooms less frequently and visits take less time in comparison with those patients who are not under SP[3-4]. The adverse events related to SP are characterized by having broad and interrelated components, which cannot be evaluated and dealt with apart from each other. Therefore, other ways of reflecting on health interventions are considered important.

Since the 1980s, researchers in collective health have proposed the concept of Vulnerability, to be used as a framework to support the management of threats to health. This concept was born and shaped focused on human immunodeficiency virus (HIV), aiming to achieve more effective results in health and to reduce the stigma associated with the disease[5]. This allowed a new approach by health professionals for developing proposals for interventions, contributing to the advances obtained up to now[6].

The concept of vulnerability is composed of three dimensions, namely: individual, social and programmatic. From the conceptual perspective, these dimensions are interconnected such that they are effectively indivisible. The individual dimension is related to behavior and life experience in the context of the individual's social environment, as well as the extent of awareness regarding the specified situation and the resulting empowerment for transforming it[7].

The concept of vulnerability has potential to support the approaches which aim at reducing adverse events related to SP, as it offers a broader theoretical background which is less technicalist and more centered on the individuals' needs. However, in a literature review we did not identify any studies dedicated to exploring the use of the concept of Vulnerability for supporting actions for the prevention of microorganism transmission in health services[8].

Individual behavior is a relevant determinant of vulnerability, which justifies focusing actions on the individual, although this may not be sufficient for controlling the situation. We consider that the individual's vulnerability in relation to the SP (aerosols, droplets and contact) may be influenced by individual factors, such as: knowledge, perception and even engagement.

The individuals' knowledge and access to information may be important for minimizing vulnerability to adverse events. As a result, which elements are necessary for the development of an educational guide, and which behaviors and attitudes have the potential for reducing individual vulnerability to adverse events, constitutes a matter for investigation.

The individuals who are under SP present two perspectives for vulnerability. One of them involves the individual, and possibly results from inadequate care. The other involves the other individuals in the surroundings; this refers to the potential for cross transmission. Access to the appropriate information may reduce the individual vulnerability to adverse events, and contribute to minimizing the vulnerability of other patients.

We believe that the concept of vulnerability may provide a strong theoretical framework for developing a guide to support the HCPs to contribute in reducing individual vulnerability. It is important to emphasize that, although some guidance materials regarding precautions do exist directed towards the general public[9], no guidance tool using this theoretical framework was found in publications. In addition to this, these materials are limited to providing information to the individuals without taking into account their perceptions and beliefs.

The objective of the present study was to develop and validate the content of a guide containing essential elements for education regarding SP for adult individuals, using the concept of vulnerability as its framework.

METHOD

This was a methodological study, as it dealt with the development and validation of a tool(10). The study was performed in three sequential phases: 1) capturing of the perceptions of individuals in situations of SP, through the application of a questionnaire; 2) development of the guide for education and 3) validation of this guide by specialists. A schematic representation of the methodological trajectoryis presented in Figure 1.

The study was undertaken in the municipality of São Paulo, in May – July 2015. The capturing of the individuals' perceptions was carried out through data collection in two health care settings with differing care profiles. Setting 'A' is a private hospital, which provides care financed from private sources (paid for by health insurance or by the individual). Setting 'B' is a teaching hospital, which provides a secondary level of care, fully funded publicly by the Unified Health System (SUS). The study was undertaken in internal medicine and surgery, in both the services.

Phase 1. This phase's objective was to collect information to identify the knowledge of inpatients receiving care under SP in the respective hospitals, regarding their knowledge needs about the topic, through the application of a structured questionnaire. The questionnaire was administered by the main researcher and a nurse trained to assist in this task. To avoid the propagation of microorganisms, data collection was undertaken complying with the recommendations for donning personal protective equipment, according to the standards of the Hospital Infection Prevention and Control Committees (HIPCC) of the institutions.

Study subjects in phase 1: The study had, as its target public, the population of adult individuals under SP. The inclusion criteria were: adults in patients under SP, hospitalized at the time of data collection. The exclusion criteria were: patients in the Intensive Care Unit (ICU), who were non self-orientated, non responsive, or whose cognitive capacity was compromised; in depressive states; or who had other conditions which contraindicated the approach in the form of an interview.

Phase 2. This phase involved the development of the guide having elements which were essential for the education of adult individuals under SP, based on the results obtained in Phase 1 and in a literature review(8). The guide was developed addressed to support the HCPs in educating the individuals under SP, with the objective of reducing the individual vulnerability to adverse events.

Phase 3. This phase's objective was the validation of the content of the educational guide, through consultation with specialists, both in the technical perspective regarding to the SP and in the perspective of the concept of vulnerability. The groups of specialists were composed by nurses with clinical experience and knowledge of SP; and specialists with recognized knowledge on the theoretical framework of vulnerability. Via a letter of invitation, 12 specialists in SP and 11 specialists in vulnerability were invited to participate in each stage of the validation. During this phase, the with drawal of up to four professionals in each stage was considered acceptable.

The first round was the content validation by specialists in SP, who assessed the guide in relation to its content, analyzing its clarity, relevance, objectivity, coverage and representativeness. In the second round, the guide – adjusted based on these considerations – was submitted to the specialists in vulnerability, who validated the guide in relation to the perspective of vulnerability, as certaining whether it had the potential to reduce individual vulnerability to adverse events among individuals

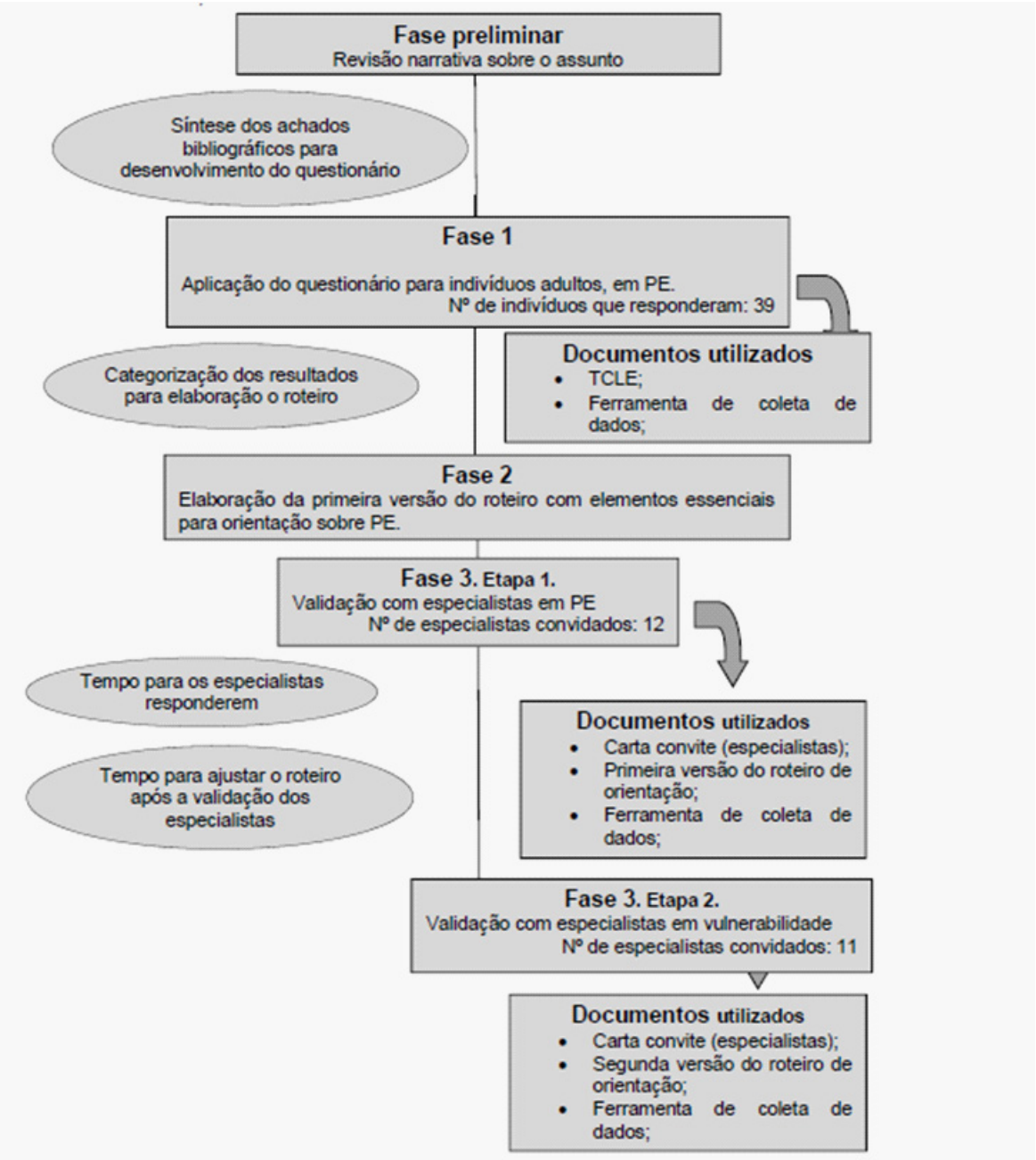

Figure 1 - Schematic representation of the methodological trajectoryof the study "Specific precautions for avoiding microorganism transmission: development and validation of a guide for contributing to reducing individual vulnerability". São Paulo, 2015

under SP. In this phase, the specialists could suggest the removal, addition or modification of the items.

For content validation, a Likert type scale was used, with four response options: (1) totally disagree, (2) disagree, (3) agree, (4) totally agree. The Content Validity Index (CVI) was used, which measures the percentage of judges who agreed regarding a specified aspect of the guide. The score was calculated through the sum of agreement for responses 1 and 2 as produced by the specialists. The CVI, according to the literature, should be from 0.75 to 0.9 agreement in each item[10-11]. For the present study, the statements of the guide which presented CVI of 0.75 were considered to be validated.

This project was submitted to, and approved by, the Research Ethics Committee of the School of Nursing of the University of São Paulo, under Opinion N. 41497015.3.0000.5392.

RESULTS

Phase 1. Among the 39 individuals under SP who responded to the interview, 25 (64.1%) were in setting A and 14 (35.9%) in setting B. The interviews were held an average of 11 days after of in patient admission (ranging from 1 to 87) and seven days after the institution of SP (ranging from 0 to 73). All the individuals interviewed were in single rooms. The characteristics of the individuals from each scenario are presented in Table 1. The mean number of years of study was 14 years in the private setting, and 7 years in the public setting – and the mean age was, respectively, 44 and 52 years old.

Table 1 - Characterization of the adult individuals under specific precautions by hospital unit (n=39). São Paulo, SP, Brazil, 2015

	Setting A		Setting B	
Variable	**N.**	**(%)**	**N.**	**(%)**
Gender				
Female	12	48	6	42
Male	13	52	8	57
Inpatient unit				
Internal Medicine	19	76	8	57
Surgery	3	12	6	42
Precautions instituted				
Registered in medical records	15	60	10	71
Not registered	10	40	4	28

The individuals who were under SP for contact numbered 32(82%), the SP for droplets and mixed precautions (contact + droplet or contact + aerosols) numbered one each (2.5%) and the SP for aerosols numbered four (10.2%). The SP for contact were instituted due to colonization by multiresistant microorganismsin 14% of occasions, due to infection in 53%, and due to investigation of multi-resistant organisms in 32% of occasions.

The information on the individuals' knowledge concerning SP is summarized in Table 2.

Table 2 - Main information regarding the individuals' knowledge regarding specific precautions (n=39). São Paulo, SP, Brazil, 2015

Questions	**Yes n(%)**
Do you know why you were hospitalized?	37 (94.8)
Do you know if this diagnosis requires any specific care?	19 (48.7)
Do you know how your disease is transmitted?	17 (43.5)
Did the health professionals advise you as to why they use PPE?*	26 (66.6)
Have you received information on Hand Hygiene?	16 (41)
Do you believe that you can receive visits normally, without any restrictions?	38 (97.4)
Have family members and visitors received any advice on how to act with regard to the specific precautions?	17 (42.8)
Have you been hospitalized before under specific precautions?	15 (38.4)

*PPE: Personal Protective Equipment

The interviewees' perception in relation to the frequency of use of PPE by HCP is shown in Table 3. The patients indicated their perception of the frequency of the use of all the PPE, including those used in StP.

The interviewees' perception in relation to the health education received is summarized in Table 4.

Table 3 - Use of personal protective equipment by the professionals, according to the perception of the interviewed individuals, and the type of specific precaution (n=39). São Paulo, SP, Brazil, 2015

Type of SP**	**Total of patients subject to SP****	**PPE***	**Frequency, according to the patient's perception**			
			Always	Sometimes	During Procedures	Never
Aerosols	4	Apron	0	0	0	4
		Gloves	2	0	1	1
		Surgical mask	0	0	0	4
		N-95 Respirator	4	0	0	0
Contact	32	**Apron**	20	4	6	2
		Gloves	20	4	8	0
		Surgical mask	1	2	7	22
		N-95 Respirator	0	0	0	32
Droplet	1	Apron	0	0	0	1
		Gloves	0	0	1	0
		Surgical mask	1	0	0	0
		N-95 Respirator	0	0	0	0
Contact + Aerosols	1	**Apron**	0	1	0	0
		Gloves	1	0	0	0
		Surgical mask	0	0	0	1
		N-95 Respirator	1	0	0	0
Contact + Droplet	1	**Apron**	0	1	0	0
		Gloves	1	0	0	0
		Surgical mask	1	0	0	0
		N-95 Respirator	0	0	0	0

*PPE: Personal Protective Equipment; **SP: Specific precautions. NB: items in **bold** refer to the PPE required for each SP according to the requirements of the HIPCC.

Table 4 - Information provided by the professionals to the individuals under specific precautions regarding the use of personal protective equipment (n=26). São Paulo, SP, Brazil, 2015

Variables	**nº**	**%**
What was explained?		
What to use	15	57.6
When to use it	10	38.4
How to use it	15	57.6
What happens if you do not use it	18	69.2
Which professional provided the advice?		
Auxiliary nurse/nursing technician	10	38.4
Nurse	18	69.2
Physician	10	38.4
When was the advice given?		
At the time of hospitalization	12	46.1
After the institution of specific precautions	12	46.1
After questioning a professional	1	3.8
How was the advice given?		
Only spoken	24	92
Illustrated, with an illustrative sign or printed material	2	7.6

The interviewees considered that they knew sufficient regarding the SP in 16 (41%) of the cases, while 16 (41%) indicated that they had partial knowledge, and seven (17.9%) said that they had no information on the topic. The interviewees were questioned regarding behavior in relation to SP, considering their beliefs and feelings. They believed that the SP measures protect them 26 (66.6%), their family 29 (74.3%) and the other patients 32 (82%). In relation to the personal habits of hand hygiene, 37 (94.8%) of the individuals mentioned washing their hands only after using the toilet, and 30 (79.4%) prior to eating.

Three (7.6%) of the interviewees believed that the HCP entered their room less frequently due to the SP. The interviewees noticed that the HCP spent the same time in the room with SP in 19 (48.7%), and did not notice any difference in 17 (43.5%) of occasions. Only one (2.5%) believed that the HCP spent more time in the room due to the SP, while two believe that they spent less time for the same reason. Regarding the use of PPE by the team, 32 (82%) of the interviewees believed that all the professionals should use PPE upon entering the room, or when in contact with the bed. In spite of this, 12 (84%) did nothing when the team were not using PPE and only one questioned the professional who did not use PPE. Another patient advised the staff to use PPE, while another did not know how to approach the professional and was worried about the professional's reaction. Of the individuals who needed to leave the room for some procedure, five (45.4%) reported not using any additional measure.

The feelings related to the SP situation were overall positive, such as being well cared for (n=28; 74.3%) and safe (n=23; 61.5%); one interviewee also mentioned increase in comfort and privacy. The negative feelings had less impact: anxious (n=7; 17.9%), angry (n=1; 2.5%), feeling guilty (n=3; 7.6%), alone (n=6; 15.3%), stressed (n=7; 17.9%) and afraid (n=9; 23.0%). Other negative feelings were mentioned by the interviewees, with, respectively, one mention each: hurt, sad, embarrassed, confused, nervous, worried and distrustful of the situation of SP.

Phase 2. The above-mentioned elements supported the development of the educational guide. With the objective of obtaining a better organization, the guide was structured in three topics: When to approach the patient, How to approach the patient, and Monitoring and assessment.

Phase 3. The participants in the study were nurses, with professional experience in infection control and lecturing/research, with an average of 17 years training.

In the first round, all the specialists assessed the material according to the clarity in a first reading. The information was considered pertinent (75%) and relevant (100%) for supporting the HCP in the elaboration of educational actions for adult individuals under SP. The attributes of 'Comprehensiveness' and 'representativeness' of the domain of the SP obtained 75% and 87% of agreement, respectively.

In the second round concerning to the concept of vulnerability, nine specialists gave their contributions. The nurses who participated in the study had professional experience in lecturing/researching, occupational health and management of services, with a mean of 28 years training. For these specialists, the material was considered as having clarity at first reading; the information was considered pertinent (88%) and relevant (100%) for supporting HCP in the elaboration of educational actions for adult individuals in SP. The attributes of 'Comprehensiveness' and 'representativeness' of the domain of individual vulnerability obtained 66.6% and 77% of agreement, respectively.

With the aim of achieving the maximum of agreement possible, the validation process underwent a further procedure through personal interviews with two specialists, so as to obtain better adjustment of the tool; after this stage, the item of 'coverage' received a CVI of 77% of agreement.

DISCUSSION

This study presents a proposal for a guide to support the elaboration of educational actions which aim to contribute to the transformation of the current relationships between nurses and users of the health care services, since it offers a tool which promotes the individuals' autonomy and engagement.

Through the reports of the individuals' perceptions of adhesion to the precautions by the HCP, failures were identified in adhesion to SP for contact, which has also been observed in other studies as being related to a limitation of behavior and perception on the part of the HCP[1].

Authors argued that the nurses do not have a holistic view of the individual as being an agent of his or her own recovery. Furthermore, they describe that the HCP do not properly understand the expression "health education", confusing it with continuous education; in spite of this, the HCP show interest in exercising some form of educational activity for individuals. It therefore seems that the HCP require more information on the issue, so that they may increase their awareness and practice qualified education in health[12].

As shown in the results, there was a difference between the educational levels in the two sites of data collection. One author has indicated that some factors, such as educational level, can influence the understanding of the information and attitudes adopted by the individuals[13]. The guide here in elaborated proposes reclaiming the actual knowledge of each individual prior to introducing new information, considering these potential factors.

According to a literature review regarding the efficacy of the patients' participation, the individual's participation and involvement in the healthcare has been regarded as having great importance in minimizing adverse events[14]. However, although the individuals interviewed in the present study reported being aware of the reason for their hospitalization, half of them mentioned not having received any advice regarding the SP, indicating that they did not have sufficient knowledge regarding the SP. This indicates a strong need for information and understanding of their situation by the individuals. Furthermore, according to other authors, the family members may contribute to minimizing adverse events, and they should be involved in the educational actions[2,15].

Concerning behavior, it was identified that there is a perception that the SP protect the individuals and others around them. In spite of this, the individuals report keeping silent when HCP adopt an incorrect attitude regarding the use of PPE. This may be due to the difficulty of dialogue between those involved, or fear that this type of approach may affect the individual care that he or she will receive.

The protective behavior responds to the challenge of dialogue between the HCP and inpatients, involving factors concerning both HCP and patients. Among these, the individual's lack of acceptance to perform a new role, in which he or she becomes the main person in charge for his or her health and safety. The HCP, on the other hand, have the tendency to keep control, resisting the involvement of the individual in the decision of care. At other times, the HCP allege a lack of time, not having sufficient knowledge, and not knowing how to deal with the situation[16-17].

This difficulty in communication can be reduced by means of dialogue and the use of the presented guide which has essential elements for the education of individuals subject to SP, therefore reducing the individual vulnerability to adverse events through overcoming the model of imposed education.

Current education in health is based only on the practice of normative education, in which prescriptive information is enforced upon the individuals without taking their experiences into account. The model of dialogic education proposes communication between the educator and person who is educated; this dimension of education presupposes that each individual is the interaction of everything around them[18]. This same author states that the constructivist attitude is the best mean for individuals to seek information which makes sense to them, and that through this, they find ways of overcoming the situations which increase vulnerability.

Our results demonstrated that the majority of the individuals interviewed mentioned positive feelings in relation to the situation of SP, contradicting another study which presents a negative impact on psychological well-being, safety and satisfaction related to these individuals[19].

The guide presented here was developed based on the perceptions of the individuals under SP, based in the theoretical framework of vulnerability. We believe that this tool has potential for supporting the educational actions of the HCP regarding the SP. However, for the utilization and success of the guide, it is essential that the HCP are aware of the importance of the education of the individual who is under their care. Therefore, it is important to highlight this limitation of the tool, which was not developed with the aim of raising awareness of these professionals.

In the content validation, the specialists suggested addressing the guide toward nurses, but the individuals interviewed indicate the participation of other professionals in providing advice regarding SP. For this reason, we chose to extend the scope of this guide to all the categories of HCP.

The study used, as a method of approach, the individuals' perception through a quantitative questionnaire, which imposes some limitations regarding the capturing of human perceptions. Nevertheless, the main objective of this stage was to capture the key elements to be incorporated in an educational project, it not being proposed to deepen the knowledge of these perceptions.

Subsequent stages of this project are being outlined, including this guide's application, the evaluation of its feasibility and its impacts on care practice aiming at minimizing adverse events.

CONCLUSION

It is considered that the guide proposed in this study constitutes an advance regarding tools which provide support for the education of individuals subject to SP, as it addressed aspects which are fundamental for dialogue between the individual and HCP, through the theoretical framework of the concept of vulnerability, its content having been validated by specialists. The guide elaborated through this study is a tool which will contribute to build a basis for the nursing actions in caring for patients under SP, advancing practices of education in health.

REFERENCES

1. de Oliveira AC, Cardosoll CS, Mascarenhas D. Conhecimento e comportamento dos profissionais de um centro de terapia intensiva em relação à adoção das precauções de contato. Rev. Latino-Am. Enfermagem. [Internet]2009;17(5)[acesso em 10 mai 2013]. Disponível: http://dx.doi.org/10.1590/S0104-11692009000500005.

2. Rabelo AHS, de Souza TV. O conhecimento do familiar/acompanhante acerca da precaução de contato: Contribuições para a enfermagem pediátrica. Esc. Anna Nery. [Internet]2009;13(2) [acesso em10 mai 2013]. Disponível: http://dx.doi.org/10.1590/S1414-81452009000200006.

3. Cardim MG, dos Santos AEV, Nascimento MAL, Biesbroek FCC. Crianças em isolamento hospitalar: relações e vivências com a equipe de enfermagem. RevEnferm UERJ. 2008;16(1):32-8.

4. Morgan DJ, Pineles L, Shardell M, Grahan MM, Mohammadi S, Forrest GN, et al. The effect of contact precautions on healthcare worker activity in acute care hospitals. Infect Control HospEpidemiol. 2013;34(1):69-73.

5. Bertolozzi MR, Nichiata LYI, Takahashi RF, Ciosak SI, Hino P, do Val LF,et al. Os conceitos de vulnerabilidade e adesão na Saúde Coletiva. Rev. esc. enferm. USP.[Internet]2009;43(n.esp2)[acesso em 27 jul2013]. Disponível: http://dx.doi.org/10.1590/S0080-62342009000600031.

6. Meyer DEE, de Mello DF, Valadão MM, Ayres JRCM. "Você aprende. A gente ensina?"Interrogando relações entre educação e saúde desde a perspectiva da vulnerabilidade. Cad. Saúde Pública. [Internet]2006;22(6) [acesso em 06 ago 2013]. Disponível: http://dx.doi.org/10.1590/S0102-311X2006000600022.

7. Nunes L. Usuários dos Serviços de Saúde e os seus direitos. RevBras Bioética. 2006;2(2):201-19.

8. Juskevicius LF, Padoveze MC. Vulnerabilidade dos pacientes quanto às precauções específicas para doenças infecciosas. Revenferm UFPE online. No prelo 2016.

9. da Silva PF, Padoveze MC. Infecções relacionadas a serviços de saúde, orientação para o público em geral: Conhecendo um pouco mais sobre as Precauções Específicas. Centro de Vigilância Epidemiológica; 2012.p.1-9.

10. Polit D, Beck CT. Fundamentos de pesquisa em enfermagem:métodos, avaliação e utilização. 7ª ed. Porto Alegre: Artmed; 2011.

11. Alexandre NMC, Coluci MZO. Validade de conteúdo nos processos de construção e adaptação de instrumentos de medidas. Ciênc. saúde coletiva. 2011;16(7):3061-8.

12. Olivi M, Oliveira MLF Educação para saúde em unidade hospitalar: um espaço profissional do enfermeiro. 2003;2(2):131-8.

13. Kistin CJ. Patient health literacy and the practice of evidence-based medicine. EvidBased Med. [Internet]

2012;17(5) [acesso em04 mai 2013]. Disponível: http://dx.doi.org/10.1136/ebmed-2012-100712.

14. Logtin Y, Sax H, Leape LL, Sheridan SE, Donaldson L, Pittet D. Patient Participation: current knowledge and applicability to patient safety. Mayo Clin Proc. 2010;85(1):53-62.

15. de Morais IM. Vulnerabilidade do doente versus autonomia individual. Rev. Bras. Saúde Mater. Infant.[Internet]2010;10(Suppl.2)[acesso em04 dez 2013].Disponível: http://dx.doi.org/10.1590/S1519-38292010000600010.

16. Guez VMA. Percepções do familiar da criança com germe multirresistente sobre medida de precaução de contato [monografia].Porto Alegre (RS):Universidade Federal do Rio Grande do Sul;2009.

17. Melo G, dos Santos RM, Trezza MCSF. Entendimento e prática de ações educativas de profissionais do Programa Saúde da Família de São Sebastião-AL: detectando dificuldades. Rev. bras. enferm. 2005;58(3):290-5.

18. Ayres JRCM. Práticas educativas e prevenção de HIV/Aids: lições e desafios atuais. Interface, Comun., Saúde, Educ. 2002;6(11):11-24.

19. Abad C, Fearday A, Safdar N. Adverse effects of isolation in hospitalised patients: a systematic review. J Hosp Infect.[Internet]2010;76(2) [acessoem 04 mai 2013]. Disponível: http://dx.doi.org/10.1016/j.jhin.2010.04.027.