Original Article

Validation of a handbook on suicide prevention among students: talking is the best solution

Validação de manual sobre prevenção do suicídio para universitários: falar é a melhor solução

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ABSTRACT

Objective: to validate the content and face of a manual on suicide prevention for university students of the health area. **Methods:** a methodological research involving two steps: content validation with participation of 13 experts; and semantic validation with participation of 82 health students. Two questionnaires with a Likert scale were used. The quantitative analysis was based on descriptive statistics to obtain the Content Validity Index and the Semantic Agreement Index. **Results:** the manual was considered valid by experts and university students, with a content validity index of 0.91 and semantic agreement index of 0.96. However, the manual underwent a textual and illustrative restructuring in the aspects of objectives, relevance, structure and presentation. **Conclusion:** after validation, the manual proved to be an appropriate tool for educational actions to be distributed to health university students.

Descriptors: Educational Technology; Health Education; Suicide; Validation Studies.

RESUMO

Objetivo: validar o conteúdo e a aparência de um manual sobre prevenção do suicídio para universitários da área da saúde. **Métodos:** pesquisa metodológica, realizada em duas etapas: validação de conteúdo com 13 juízes especialistas na primeira e validação semântica com 82 universitários da área da saúde na segunda. Foram utilizados dois questionários com escala Likert. A análise quantitativa pautou-se na estatística descritiva para obter o Índice de Validade de Conteúdo e o Índice de Concordância Semântica. **Resultados:** o manual foi considerado válido pelos juízes especialistas e pelos universitários, pois obteve o índice de validade de conteúdo de 0,91 e índice de concordância semântica de 0,96. No entanto, passou por uma reestruturação textual e ilustrativa nos aspectos dos objetivos, relevância, estrutura e apresentação. **Conclusão:** o manual, após a validação, revelou-se um dispositivo adequado para mediar ações educativas e ser distribuído a universitários da área da saúde.

Descritores: Tecnologia Educacional; Educação em Saúde; Suicídio; Estudos de Validação.

Introduction

Suicidal behavior includes suicidal ideation, planning, attempting, and suicide itself[1]. The latter can be defined as "a deliberate act of consciously and intentionally causing one's own death, albeit ambivalently, using a means he believes to be lethal"[2:9] or as a "relentless pursuit to solve an unexplained pain, taking one's own life would be an impulsive, intentional, self-exterminating action"[3:11]. This pain has a social origin[3], and is influenced by several factors - biological, psychological, social, economic, cultural and spiritual; it is almost always impossible to define only one single factor as the cause[4-5].

Mental disorders and previous suicide attempts are considered the main risk factors for suicide[2]. Others factors, observed in the general population, are male sex, age over 45 years, unemployment, poverty, divorced or widowed marital status, conflicting interpersonal and family relationships, chronic physical illness, substance abuse, hopelessness, grief, and access to firearms, pesticides or medicines[2,5-6].

College students have higher prevalence of anxiety and depression symptoms when compared to the general population[7], besides being more susceptible to suicidal behavior[1]. Stress experienced during academic training gym is the major cause of depressive disorders[7], anxiety, Burnout syndrome and suicidal ideation among college students, which may result from high workload, pressure to learn a large amount of information, lack of leisure time and social activities, financial problems, lack of social support, residence far from the affective nucleus of origin, high demands within and outside the academic environment, demands associated with the completion of the course, and expectations with the world of work[7-9].

Among all stressors, it has been observed that some are specifically risk factors for suicide, namely, anxiety and mood disorders, traffic accidents, fights involving physical aggression, poor confidence in the communication with parents, alcohol and tobac-

co consumption, and sexual abuse[10]. Between 2011 and 2016, about 48,000 people attempted suicide in Brazil, and by 2015, 56,000 people died for this reason[4]. It is estimated that 15 to 25.0% of those who attempted suicide will do so again the following year, and 10.0% will succeed in a 10-year period[4].

The suicide rate in the population aged between 15 and 29 years increased by 40.0% in the last 10 years[7] and, in 2010, 47.7% of university students complained of psychological distress[7]. It was found in a study that 9.9% of Brazilian university students had had suicidal ideation in the month prior to data collection, and the negative feelings score is proportional to the semester of the course in which the student is enrolled[11].

Considering that college students have difficulty sharing their suffering regarding suicide because of the stigma against weakness and madness, and also the lack of knowledge and unpreparedness of undergraduate or already graduated professionals to deal with suicidal behavior[11], it is imperative that universities create more centers of psychological support to students[7], spaces that could be environments to talk about suicide, enabling healthy dialogues based on scientific knowledge[1,11].

In this sense, educational technologies in printed format, such as guides and handbooks, stand out by their potential to mediate discussions and dialogues, allowing the target audience to broaden the reading and knowledge about the subject, promoting a reflection on behaviors and actions, and fostering the development of decision autonomy, thus characterizing health promotion[12].

Thus, in view of the above, the team produced a printed educational technology, a handbook, with a view to favoring health promotion and mediating health education actions, as well as sensitizing the target audience, ie health students, regarding the theme, making them to reflect on it.

From the production of this instrument, the following questions emerged: Is the handbook a valid

technological tool to mediate educational actions and to be distributed among university students? What do expert judges and the target public itself suggest about the handbook?

The aim of this study was to validate the content and face of a handbook on suicide prevention for university students of the health area.

Methods

This is a methodological research[13] carried out in two steps: content validation with expert judges and semantic validation with the target audience. The study was conducted from 2016 to 2019, by the University of the State of Amazonas, located in the municipality of Manaus, Amazonas, Brazil. The creation of the handbook was based on the theoretical framework of studies identified through an integrative literature review.

Each step was developed in phases, namely: selection of participants; contact via electronic mail; upon acceptance, sending of the Informed Consent Form (ICF); after return of the ICF, sending of the educational technology and a questionnaire; data analysis (Likert scale score and analysis of suggestions).

In the first step, the experts were selected based on criteria[14-15]; each judge had to obtain a minimum score of five points according to the following criteria: academic title; professional, academic and scientific experience; and published works. Regarding the definition of the number of expert judges, it was considered that it should be between five and ten[15-16], and there should be health, design and pedagogy professionals.

The Lattes Platform was consulted to locate the experts. After identifying convergence with the theme of the handbook, the selection criteria were applied. This way, 19 experts were identified. After invitation, 15 agreed to participate in the study. Then, the instrument was sent and 13 professionals returned it within 15 days.

For collection of information, a validated questionnaire with the following five parts[13] was applied: Identification, Instructions, and three blocks of questions in a Likert scale addressing the 1) Objectives, 2) Structure and presentation, and 3) Relevance. The Likert scale had four response levels: Totally Adequate, Adequate, Partially Adequate, and Inadequate. The Content Validity Index (CVI) was obtained by summing the Totally Adequate and Adequate answers, and then dividing the value by the total number of responses[14-16].

After collection, performed in two evaluation phases, data were entered into a spreadsheet in Microsoft Excel® version 2016, and then treated statistically. The quantitative analysis was based on a minimum CVI[1-5] of 0.8[16]. The version II of the handbook was prepared based on the suggestions offered by the judges who participated in the first evaluation phase. After the second evaluation phase, new suggestions were sent and the version III of the educational technology was created.

In the second step, the selection of college students of the health area from the University of the State of Amazonas was limited to those who were enrolled and regularly attended from the 4th to 8th semester during the second half of 2018. They were selected for convenience from a list of emails provided by the university's academic office. The 82 undergraduates were from four undergraduate health courses: five from the Physical Education course, 23 from Nursing, 31 from Medicine, and 23 from Dentistry.

Information was collected through a validated questionnaire[13] with five parts: Objectives, Organization, Writing Style, Appearance and Motivation. The Likert scale had four response levels: Totally Adequate, Adequate, Partially Adequate, and Inadequate.

After collection, data were entered into a spreadsheet in the Microsoft Excel® version 2016. Then, they were treated statistically. The quantitative analysis was guided by the minimum semantic agreement index (SAI) of 0.8[13]. The SAI was obtained by

summing the Totally Adequate and Adequate answers, divided by the total number of responses[13]. Following this step, and based on suggestions from the target audience, the final version of the 16-page technology named "Suicide Prevention" was prepared. In the pre-text there is the cover, back cover, and summary; in the text, the topics are Initial words, Talking about, Myths and truths, Identifying, How to prevent? How to approach? Where to get help? Final words; and in the post text, there are References.

This research was approved by the Research Ethics Committee of the University of the State of Amazonas with protocol nº 1,941,992/17, according to the rules of Resolution nº 466/12 of the National Health Council of the Ministry of Health.

Results

In the first step, 13 expert judges aged between 21 and 60 years participated in the content validation, including three designers, four nurses, one pedagogue, two psychologists and three psychiatrists. Of these, eight were male; six had completed a doctorate, two had a master's degree and three had specialization. Nine judges worked mainly as teachers.

Regarding professional experience, seven had experience in mental health, on average 15 years; two had experience in educational technologies, on average 30 years; and one in health education, 13 years. The experts presented scores from 5.0 to 60.0, according to the selection criteria adopted. This variation is due to the vast scientific production of professors with longer training, as opposed to newly graduated professionals.

Two evaluations were made in the first step. The overall CVI of the educational technology at first was 0.65 after adjustments; and after the suggestions of the experts, the second overall CVI was 0.91 (Table 1).

Table 1 - Content Validity Indices of the first and second experts' evaluations according to blocks of the instrument. Manaus, AM, Brazil, 2019

Blocks	Content Validity Index	
	1rst Evaluation	2nd Evaluation
Objectives	0.58	0.92
Structure and presentation	0.63	0.89
Relevance	0.75	0.91
Overall total	0.65	0.91

The Objectives block obtained a CVI of 0.58 in the first step. The judges' suggestions in this block were related to the specification of the data addressed to the undergraduates, language adequacy, approach to the concepts of resilience and suicidal ideation, intention and plan. In the second round, a CVI of 0.92 was obtained.

The Relevance block obtained a CVI of 0.75 in the first step. The suggestions in this block were: inclusion of literature recommendations on the theme; indication of institutions where help can be obtained; guidelines for people who suffer. In the second round, a CVI of 0.89 was obtained. The Structure and Presentation block obtained in the first step a CVI of 0.63. Suggestions in this block were: inclusion of initial presentation and final message; refinement of illustrations; making a more attractive cover; decreasing the amount of text; and making adjustments of appearance. In the second round, a CVI of 0.91 was obtained.

In the second stage, 82 university students of the health area from the University of the State of Amazonas, aged between 18 and 32 years participated in the semantic validation. Of these, 56 were female. The fourth semester was attended by 18 academics; the 5th by 8; the 6th by 19; the 7th by 22; and the 8th by 15.

A single assessment was performed at this step, and the overall SAI for the educational technology was 0.96. All items in the 5 blocks of the instrument had SAI > 0.8. The suggestions presented were: specifica-

tion of the peculiarities of the university students in this theme; explanation of the choice of a sunflower in the cover; provision of details about scheduling of consultations; inclusion of guidance for the people who suffer; and adjustments related to appearance (Table 2).

Table 2 - Semantic Agreement Index of the second step according to the instrument blocks. Manaus, AM, Brazil, 2019

Blocks	Semantic Agreement Index
	1st evaluation
Objectives	0.90
Organization	0.98
Writting style	0.99
Appearance	0.98
Motivation	0.97
Overall total	0.96

As for the question at the end of the instrument, after the Likert scale, about whether college students agreed that educational technology could be distributed in digital format, of the 82 students, 80 answered yes. It was also observed that many students included comments in the questionnaire about the lack of psychological support from the university and difficulties in following the guidelines described in the handbook for suicide prevention, mainly due to lack of time.

Discussion

Considering the results obtained in the two steps, the adjustments complied with the judges' suggestions and were endorsed by the target audience. However, a limitation is the lack of recent and specific epidemiological data on alcohol consumption among the university population, which is evidenced in studies on the subject[1,18]. The low number of studies on suicide prevention among college students resulted in a little detailed information included in the handbook after the evaluation. The difficulty in obtaining updated data thus represents a limitation of the study. However, due to the low number of researches on the subject among university students, it is believed that the present production is a significant contribution to stimulate future research. Based on the overall results of the two steps, the educational technology responded to the goal of improving the understanding of undergraduate students about suicide prevention. Ver sequencia nas duas versões

In the first step, the validation presented an adequate sample among the expert judges, because professionals from the most diverse areas were represented. This is considered essential for the evaluation of educational technologies, because contributions from professionals of the health area as well as other areas, such as design, are reunited[17].

Judges from the health area suggested addressing data on suicide among college students in more detail, identified in researches that translate local realities[1]. This required an adaptation regarding the insertion of contents about suicidal behavior among students.

Regarding the first block of the instrument, the experts suggested providing the definitions of resilience and suicidal ideation, intention and plan. Thus, such explanations were included in the handbook. Resilience can be defined as a "set of social and psychic processes that facilitate coping with adverse situations, resulting in adaptation and positive transformation"[18:12]. Suicidal ideation means to think about suicide, seeing oneself as the agent of one's own death[5,19]. Suicidal intention is the desire for the self-destructive act to result in death through the suicide plan outlined by the person who is suffering[19].

Regarding the suggestions obtained in the second block, the inclusion of literature recommendations on suicide prevention in the handbook stood out. The media has the important role of conveying information about suicide prevention in a serious way, avoiding romanticized or sensational approaches. But the media also omits information, generating a

chain of misinformation about the existence of mental health support institutions and data based in scientific knowledge[20].

Still regarding the second block, despite the lack of public interventions on the mental health of college students[1], aspects related to the Psychosocial Care Network of Manaus were inserted in the handbook. Regarding public intervention, the initiative of the University of the State of Amazonas, the study site, which until 2019 did not provide psychological support for students, deserves mention. In the first half of 2019, the Psychosocial Care Space, a student support service, started to offer hours and forms of scheduling or reception. The mental health of students needs to be considered, especially in public institutions[1].

In the third block, regarding the suggestions on illustrations and appearance, these suggestions were considered appropriate and the changes were made. Research points out that visual sharpness is a vehicle of communication and, for this reason, can influence readers about social, moral and ethical values. It is important to emphasize that printed educational technologies, such as the validated handbook, need to be fully integrated into the social imaginary, because only this way they will achieve their purpose, conveying, through symbols and signs, the content and messages that have to be conveyed to the target audience[17].

Ensuring the validation order first by the expert group and then by the target audience was important, as it is necessary that before being evaluated by university students, the contents be evaluated by experts from the health area and other areas, so as to be adequate, updated, correct, attractive and organized[17]. Such decision adopted in this study proved to be positive in this sense.

In the second step, in which the students evaluated the handbook, there was questioning about the meaning of the sunflower chosen for the cover. The sunflower represents flowering and vitality. Moreover, on sunny days, this flower seeks the sun, whereas on cloudy days, in the absence of sunlight, sunflowers turn to each other[20]. Thus, a parallel can be drawn with the forms of suicide prevention, which usually include the support of close people. The requested explanation was inserted into the handbook immediately after the cover.

The results obtained in the second step indicated the importance of the appearance of an educational technology to the target audience. The organization of a printed material, such as the handbook, should consider the following aspects: What is the best sequence? What are the appropriate figures to be presented? What messages need to be conveyed? Such aspects facilitate both the attention and the readability of the educational material[17], which was addressed in the final version.

The validated handbook is considered a tool for health education in the university context. Health education, mediated by educational technologies, becomes a challenge precisely because technologies need to only to be created, but also validated in order to make them suitable for wide dissemination[13]. Another challenge is to give the target audience as well as the experts the opportunity to express. As the results indicated, the target audience also points out relevant aspects to be included, and are indicators of the readability and clarity of the contents conveyed[17].

A technology could be an instrument for multiplying knowledge and perhaps transforming attitudes. In this sense, an application study is suggested, as well as annual reviews of the handbook, based on updated scientific knowledge.

Conclusion

The educational technology on suicide prevention was recognized as valid and thus proves to be a device to promote health, mediate health education actions, and to be distributed among university students, since the agreement in the second evaluation of the second step was higher than the minimum proposed.

Acknowledgments

Collaborations

Siqueira AF contributed in the execution of research, analysis and interpretation of data, writing of the article, critical review of the intellectual content, and final approval of the version to be published. Ferreira DS, Monteiro WF, Teixeira E and Barbosa IPB collaborated in the design of the project, relevant critical review of the intellectual content, and final approval of the version to be published.

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