


## Content validation of an audiovisual resource for people living with HIV

Validação do conteúdo de um recurso audiovisual para pessoas vivendo com HIV  
Validación del contenido de un recurso audiovisual para personas que viven con el VIH

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**How to cite:**

Duarte FH, Araújo NM, Silva SO, Leal NT, Costa TM, Alencar IG, et al. Content validation of an audiovisual resource for people living with HIV. Acta Paul Enferm. 2024;37:eAPE01361.

**DOI**

<http://dx.doi.org/10.37689/acta-ape/2024A00013611>

**Keywords**

Audiovisual aids; HIV; Acquired immunodeficiency syndrome; Sexually transmitted diseases; Teaching materials

**Descritores**

Recursos audiovisuais; HIV; Síndrome da imunodeficiência adquirida; Infecções sexualmente transmissíveis; Materiais de ensino

**Descriptores**

Recursos audiovisuales; VIH; Síndrome de inmunodeficiencia adquirida; Enfermedades de transmisión sexual; Materiales de enseñanza

**Submitted**

July 19, 2022

**Accepted**

July 19, 2023

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**Abstract**

**Objective:** The study aimed to validate the script content of an audiovisual resource for people living with HIV.

**Methods:** This methodological study had a quantitative approach and was guided by the methodological theoretical framework of psychometrics. Content validation was performed by expert judges in the thematic area using the Delphi technique. The sample consisted of 22 judges in the first validation analysis and seven judges in the second analysis.

**Results:** All domains analyzed had a content validity coefficient (CVC) >0.80, with a total CVC (CVCt) of 0.96, almost perfect internal consistency, *Cronbach's* alpha of 0.988, ICC of 0.982 [95%CI 0.969-0.991], and  $p < 0.005$  which was significant in the first round of expert evaluation. In the second analysis, the criteria used for content validation showed a CVCt of 0.97, with the criteria of objectivity, simplicity, clarity, relevance, accuracy, variety, credibility, and balance achieving 100% approval.

**Conclusion:** The script was validated in terms of content, showing to be a representative and relevant instrument for building the audiovisual resource. It contributes to the advancement of scientific knowledge as it presents results with methodological accuracy and innovations in the field of health education for people living with HIV.

**Resumo**

**Objetivo:** Validar o conteúdo do roteiro de um recurso audiovisual para pessoas vivendo com HIV.

**Métodos:** Estudo metodológico com abordagem quantitativa, norteado pelo referencial teórico metodológico da psicometria. A validação de conteúdo foi realizada por juízes especialistas na área temática usando a técnica Delphi. A amostra foi composta por 22 juízes na primeira análise de validação e sete juízes na segunda análise.

**Resultados:** Todos domínios analisados apresentaram coeficiente de validade de conteúdo (CVC) >0,80, com CVC total (CVCt) de 0,96, consistência interna quase perfeita, Alfa de *Cronbach* de 0,988, ICC de 0,982 [IC<sub>95%</sub> 0,969-0,991] e  $p < 0,005$  significativo na primeira rodada de avaliação dos especialistas. Na segunda análise, os critérios usados para validação de conteúdo apresentaram CVCt de 0,97, com os critérios de objetividade, simplicidade, clareza, relevância, precisão, variedade, credibilidade e equilíbrio, atingindo 100% de aprovação.

**Conclusão:** O roteiro foi validado quanto ao conteúdo, mostrando ser um instrumento representativo e pertinente para construção do recurso audiovisual. Ele contribui para o avanço do conhecimento científico pois apresenta resultados com rigor metodológico, com inovações no campo da educação em saúde para pessoas vivendo com HIV.

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**Conflicts of interest:** The authors have nothing to declare.

## Resumen

**Objetivo:** Validar el contenido del guion de un recurso audiovisual para personas que viven con el VIH

**Métodos:** Estudio metodológico con enfoque cuantitativo, norteado por el marco referencial teórico metodológico de la psicometría. La validación de contenido fue realizada por jueces especialistas en el área temática mediante el uso del método Delphi. La muestra estuvo compuesta por 22 jueces en el primer análisis de validación y siete jueces en el segundo análisis.

**Resultados:** Todos los dominios analizados presentaron coeficiente de validez de contenido (CVC)  $>0,80$ , con un CVC total (CVCt) de 0,96, consistencia interna casi perfecta, Alfa de Cronbach de 0,988, ICC de 0,982 [IC<sub>95%</sub> 0,969-0,991] y  $p < 0,005$  significativo en la primera ronda de evaluación de los especialistas. En el segundo análisis, los criterios usados para la validación de contenido presentaron un CVCt de 0,97, con los criterios de objetividad, simplicidad, claridad, relevancia, precisión, variedad, credibilidad y equilibrio, con un 100 % de aprobación.

**Conclusión:** Se validó el guion en cuanto al contenido, lo que demuestra que es un instrumento representativo y pertinente para la elaboración del recurso audiovisual. Contribuye al avance del conocimiento científico ya que presenta resultados con rigor metodológico, con innovaciones en el campo de la educación para la salud para personas que viven con el VIH.

## Introduction

Infection with the human immunodeficiency virus (HIV) is still a worldwide public health problem, affecting around 420,000 people of all ages.<sup>(1,2)</sup> The diagnosis of HIV infection contributes to reducing morbidity and mortality and reducing transmission when carried out early, both through access to timely Antiretroviral Therapy (TARV/ART) as well as prophylaxis for opportunistic infections and immunizations.<sup>(3,4)</sup>

However, the diagnosis of HIV/AIDS is still delayed in many countries, even where policies aimed at population testing are developed.<sup>(5)</sup> This delay may be associated with barriers related to health services and knowledge deficit or inadequate assimilation, delaying attendance and diagnosis.<sup>(6)</sup>

Thus, the timeline of discovery of infection by individuals causes feelings such as fear, guilt, and social isolation. This period requires the attention of the multidisciplinary team, especially nurses, who must offer care centered on the quality of life of people who will live with an infection, prioritizing useful information in the diagnosis and providing guidance on tests, treatment, and their new living conditions.<sup>(7,8)</sup>

In this context, the use of strategies, such as educational technologies, contributes to strengthening health education. Educational technologies can be defined as instruments that facilitate the teaching-learning process: audiovisual resources show promising results in people living with HIV (PLHIV), standing out for their plain language, ease of transmission of knowledge, and improvement in the mental health of individuals.<sup>(9)</sup>

The insertion of educational technologies aimed at PLHIV in health services has shown significant results in promoting self-care, adherence to treatment, reduction in HIV-related stigma, and improvement in quality of life.<sup>(10-12)</sup>

Furthermore, the use of pictures and sound to convey content is an essential resource for understanding the information conveyed by educational technology.<sup>(10,13)</sup> However, the use of such resources requires adaptations for the tool to reach its educational objective. In this sense, methodological studies can contribute to the construction and validation of audiovisual tools, expanding the supply of resources for health education.<sup>(8)</sup>

Content validation, which seeks to identify whether the built instrument accurately measures what it proposes to measure, is among the development stages of educational technologies being representative and relevant for the topic under study.<sup>(14)</sup>

In this perspective, its content must be validated by specialists in the area (evaluators); on the other hand, nurses can contribute as health professionals, associating the scientific knowledge of the area with new ways of managing care for PLHIV. Therefore, this study aimed to validate the script content of an audiovisual resource for PLHIV.

## Methods

This is a methodological study of a quantitative approach to the validation of script content to develop an audio-visual resource for PLHIV. This study was

guided by the methodological theoretical framework of psychometrics.<sup>(14)</sup>

The validation process will make it possible to verify that the script items explore all the concepts listed to evaluate their content.<sup>(15)</sup> Thus, the present study followed two (empirical and analytical) of the three poles of the methodological procedure described by Pasquali.<sup>(14)</sup> The stages of the theoretical procedure were carried out through a preliminary study (scope review), which allowed mapping and organizing of the concepts to build the current script.

The following concepts were then addressed in the script: definition and the etiological agent of HIV, clinical manifestations, diagnostic tests, need for consultations and follow-up, treatment and correct use of antiretroviral drugs, adverse treatment effects, partnership protection, pre-exposure prophylaxis and vaccination, self-care actions, care to prevent opportunistic diseases and Sexually Transmitted Infections (STIs), care to maintain a safe pregnancy, prevention of vertical transmission and assistance to psychosocial factors.

The instrument contained 34 items, which were divided into five categories: A: matters related to general guidelines on transmission, clinical manifestations, treatment, and social difficulties; B: script for general care for PLHIV (such as correct use of medications and their effects, strategies to maintain treatment adherence, and relevance of monitoring laboratory tests); C: actions for a healthy life and improvements in self-care. D: strategies to reduce viral transmission, correct use of condoms, and family planning, and E: motivational strategies for improvement and emotional support of PLHIV.

The study included the selection of specialists in the HIV/AIDS area. To complete this step, recruitment was carried out by analyzing the CVs of researchers on the Lattes platform. The search strategy considered the following items: search mode [subject (title) (infectious-contagious diseases); academic training and title (master's and doctorate), professional performance: (Major Areas of Health Sciences and Nursing).

For the selection of judges, Fehring's criteria<sup>(16)</sup> were adopted using a minimum score of five points

for selection. The scoring criteria were as follows: master's degree in nursing (2 points); master's degree in nursing with a dissertation in the area of infectious-contagious diseases and HIV/AIDS (1 point); doctorate in nursing with a thesis in the area of infectious diseases and HIV/AIDS (2 points); publications in the area of infectious-contagious diseases and HIV/AIDS (2 points); recent clinical practice ( $\geq$  one year) in the area of infectious diseases and HIV/AIDS (4 points); training (specialization) in infectious-contagious diseases and HIV/AIDS (2 points). Professionals who did not reach the minimum score were excluded.

In content validation, Pasquali<sup>(14)</sup> highlighted the need for six judges. Thus, Fehring's criteria<sup>(16)</sup> were used to pre-select about 50 experts (they were invited to participate in the script validation through the electronic addresses available on the Lattes platform). The Delphi technique was used to perform content validation.<sup>(17)</sup>

In the script analysis, the judges considered the online questionnaire prepared in *Google Forms*, with the *Likert* scale format. The judgment varied as follows: I agree (3), partially agree (2), and disagree (1).

After the first analysis, a second form was sent with adaptations to the script and evaluation of the 12 criteria established by Pasquali<sup>(14)</sup> considering: objectivity, clarity, accuracy, behavior, typicality, simplicity, relevance, modality, credibility, variety, amplitude, and balance.

Data collection occurred in the period February-May 2022. The data obtained were organized, processed, and analyzed using *Microsoft Excel* (2016) software. The descriptive statistical analysis was performed using relative frequencies, minimum and maximum values, mean, and standard deviation, using the *Statistical Package for the Social Sciences* (SPSS; v. 20.0) software. At the end of each Delphi validation round, the content validity coefficient (CVC) was calculated.

The CVC values were calculated using the formula suggested by Hernandez-Nieto<sup>(18)</sup> considering the content validity coefficients per item (CVCi) and total (CVCt); the error calculation (Pei) was used to discount possible bias in each item.

Items that reached  $CVC > 0.80$  beyond the 5% significance level were considered valid. The intra-class correlation coefficient (ICC) was calculated to assess the instrument's reliability; *Cronbach's* Alpha was calculated to check internal consistency.

The study was approved by the Ethics and Research Committee of the Federal University of Rio Grande do Norte (UFRN; CAAE: 44714621.0.0000.5537; Opinion: 4,619,717). The judges participated by signing the Free and Informed Consent Form (TCLE) that was sent to their *emails*.

## Results

When validating the script for the audiovisual resource, the first and second analyses obtained adhesion of 22 and seven judges, respectively. Regarding the characterization of experts in the first Delphi round, 15 (68.0%) of them were female, with a mean age of 35 years ( $SD=7.96$ ). Regarding academic degrees, 50.0% of them had a master's degree, with a mean experience time of 6 years ( $SD=6.91$ ). The judges disagreed with eight of the 34 script items in the C and E categories. In the other categories, there was agreement or partial agreement. All categories had  $CVC > 0.80$  with  $CVC_t$  of 0.96 (Table 1). The reliability assessment showed almost perfect internal consistency, with *Cronbach's* alpha of 0.988, ICC of 0.982 [95%CI: 0.969-0.991, and significant  $p < 0.005$ .

Given the 34 items, the judges made suggestions to improve the instrument (Chart 1).

The suggestions were accepted after the first analysis and a new Delphi run is required. Seven specialists participated in this stage; four (57.1%) of them were female; mean age of 36 years ( $SD=8.44$ ), 71.4% with a master's degree, and experience time of 3.28 years ( $SD=3.03$ ). In addition to the script, the items shown in Table 2 were analyzed. Thus, all categories obtained levels of agreement  $\geq 80\%$ , with a  $CVC_t$  of 0.97. For the calculation of CVC, all items reached the suitability indices (Table 2).

The reliability evaluation showed a *Cronbach's* Alpha of 0.897; ICC of 0.892 [CI<sub>95%</sub> 0.706-0.978], and  $p < 0.005$  significant.

**Table 1.** First analysis of the judges' (n=22) agreement with the script of the audiovisual resource.

Categories - Script Evaluation Items	Means	CVCi*	CVCc‡
Initial guidelines			
A.1 - Definition and the etiological agent of HIV	2.90	0.96	0.96
A.2 - Transmission of the HIV	2.95	0.98	0.97
A.3 - Clinical manifestations	2.90	0.96	0.96
A.4 - Disclosure and coping with the diagnosis	2.90	0.96	0.96
A.5 - HIV test	2.90	0.96	0.96
A.6 - Adherence to treatment	2.95	0.98	0.98
A.7 - Consultations and monitoring of medical services	2.86	0.95	0.95
A.8 - Stigma in family and community; demystification of the disease	2.95	0.98	0.98
A.9 - Relationships with serodiscordant partners	2.95	0.98	0.98
A.10 - Way of life and social coexistence	2.90	0.96	0.96
A.11 - Vulnerability	2.95	0.98	0.98
General Care			
B.1 - Treatment and correct use of antiretroviral drugs	2.95	0.98	0.98
B.2 - Adverse effects of treatment	2.95	0.98	0.98
B.3 - Diary strategies and drug reminders	2.95	0.98	0.98
B.4 - Changes in sexual behavior and combined prevention	2.90	0.96	0.96
B.5 - HIV testing services	2.95	0.98	0.98
B.6 - Tests for T-CD4 count and viral load	2.95	0.98	0.98
B.7 - Partner protection, pre-exposure prophylaxis, and vaccination	2.86	0.95	0.98
Healthy life			
C.1 - Self-care actions	2.90	0.96	0.96
C.2 - About a balanced diet	2.90	0.96	0.96
C.3 - Exercises and physical activities	2.90	0.96	0.96
Sexual Health			
D.1 - Safe sexual behavior	2.86	0.95	0.95
D.2 - Strategies for HIV/AIDS prevention	2.95	0.98	0.98
D.3 - Correct use of male and female condoms	2.86	0.95	0.95
D.4 - Care to prevent opportunistic diseases and STIs	2.95	0.98	0.98
D.5 - Care to maintain a safe pregnancy and prevent vertical transmission	2.86	0.95	0.95
D.6 - Family planning services	2.90	0.96	0.96
D.7 - Care in the prenatal, childbirth, and postpartum periods; breast-feeding	2.90	0.96	0.96
D.8 - HIV test for babies	2.90	0.96	0.96
Emotional Support			
E.1 - Mental health and emotional imbalance	2.86	0.95	0.95
E.2 - Humor and stress	2.77	0.92	0.92
E.3 - Affective and social relationships	2.86	0.95	0.95
E.4 - Family support and assistance with psychosocial factors	2.86	0.95	0.95
E.5 - Use of motivational and supportive messages	2.72	0.90	0.90
CVCt§			0.96

\*CVCi: Content validity coefficient per item; †Pei: For an error of 2.9288E-38 (applied to all items); ‡CVCc: Final content validity coefficient of each item; CVCt: Total Content validity coefficient. Source: Elaboration of the authors (2022).

The judges made suggestions for some items such as A3: "Review terminology: serodiscordant"; A4: "It is important to mention vertical transmission, accidents with biological material, and sharing of sharp objects". Edit the excerpt: "like him, I follow my life like" to "with him" (J4); A7: "I believe it is important to address care in the prevention of vertical transmission" (J6); A8: "Strengthen

**Chart 1.** Experts' suggestions in the first analysis.

Categories	Suggestions
A1	I suggest that this be done succinctly, as I believe that this issue is more relevant to health professionals. (J1)
A3	Clinical manifestations: it is not clear whether this concerns opportunistic diseases and whether there will be a distinction between HIV and AIDS. (J3)
A5	HIV tests could be inverted in the sense that the tests are performed before clinical manifestations, as the results will not always be positive. (J3)
A7	Medical consultations and follow-up and support services: I suggest putting monitoring and consultations with health professionals, to extend care to an interdisciplinary team, not just centered on medical professionals. If there are no support services, I also suggest placing NGOs to support people living with HIV. (J2)
B7	I suggest adding post-exposure prophylaxis (PeP) for partners here. Protection of the sexual partnership (item B.7) also involves combined prevention. (J6)
D1	As described, it implies that people living with HIV (and/or other sexually transmitted infections) or people's behavior are "risks". I suggest putting [Strategy for] (J2) Disseminate and/or facilitate access to HIV/AIDS and other sexually transmitted infection prevention technologies. Care to prevent opportunistic diseases and STIs (wouldn't it be just for STIs?) I believe that changing behavior is a delicate and problematic item to be worked on. (J8)
D3	Preferably, not using female or male condoms, but internal and external condoms. (J10)
E1	An emotional support item could be added to the reference health services (mainly). (J5)
E2	I believe that mood swings and stress are not just specific conditions for people who are HIV positive. (J3)

**Table 2.** Second analysis of the Judges' (n=7) agreement with the audiovisual resource script.

Categories - Assessment items of the video script	Means	CVCi*	CVCC‡
Initial guidelines			
A - Initial guidelines	2.57	0.85	0.85
B - General care	3.00	1.00	1.00
C - Healthy living	3.00	1.00	1.00
D - Sexual health	2.85	0.95	0.94
E - Emotional support	2.85	0.95	0.94
1. BEHAVIOR - the script is applicable; its diagnostic information is clear and precise.	2.85	0.95	0.94
2. OBJECTIVITY - the information allows for achieving the desired goal using the video.	3.00	1.00	1.00
3. SIMPLICITY - the topics presented in the script express a single idea.	3.00	1.00	1.00
4. CLARITY - the script content is easy to understand.	3.00	1.00	1.00
5. RELEVANCE - the script meets the proposed objectives.	3.00	1.00	1.00
6. PRECISION - the content covered by the script is different from the others and does not confuse it with other infectious-contagious diseases.	3.00	1.00	1.00
7. VARIETY - the script language is suitable for the target audience and allows interactivity with the content presented.	3.00	1.00	1.00
8. MODALITY - the vocabulary of the script content is appropriate to the topic and does not generate ambiguity.	2.85	0.95	0.94
9. TYPICITY - the text vocabulary and the script lines are consistent with the topic; the concepts are adequate.	2.85	0.95	0.94
10. CREDIBILITY - the script formulation contributes to a favorable attitude to the use and understanding of the presented content.	3.00	1.00	1.00
11. AMPLITUDE - the content presented in the script is current and consistent; its depth is sufficient for the target audience to understand the topic.	2.85	0.95	0.94
12. BALANCE - the sequence of script categories is presented coherently, and the arrangement of items is balanced.	3.00	1.00	1.00
CVCC§			0.97

\*CVCi: content validity coefficient per item; †Pei: For an error of 0.00000121 (applied to all items); ‡CVCC: Final content validity coefficient of each item; §CVCC: Total content validity coefficient. Source: Elaboration of the authors (2022).

the health care network, including support groups" (J1); in the evaluation of Modality: "It generates ambiguity when it reports: I received a visit from some health professionals; they came with a very scared look, some with their heads down, others more agitated. The scene presents tension: review and edit more lightly" (J3). All suggestions were reviewed and edited. In the second Delphi round, no item was seen as discordant; the suggestions for the items were marked as "partially agree". Thus, all suggestions pointed out were suitable for the script of the audiovisual resource.

## Discussion

The discussion below was divided into two sessions to better understand the questions about content

validation and the script elements for building the audiovisual resource, involving specific aspects of HIV and the role of health professionals in the process of health education.

### Validation of script content for the construction of an audiovisual resource

Given the results, the script items showed to be pertinent, with agreement >0.80. This value agrees with those found in other studies on educational resources such as booklets and videos for the education of the target audience.<sup>(8,12,13,19)</sup>

Through the suggestions of judges, it was possible to adapt the items, with a dynamic presentation of the topic with a scientific basis, agreeing with the objective of the audiovisual resource.<sup>(8)</sup> The criteria for content validation according to the Pasquali framework (2010)<sup>(14)</sup> obtained a high agreement

(CVC: 0.85-1.00), showing that the instrument items are representative, and its language is clear and objective.

The content validation contributed to adjusting the script's initial items addressing: the diagnosis and definition of the etiological agent, clinical manifestation, test, and follow-up after diagnosis is defined.

The judges' concern with the topics mentioned above agrees with what the literature presents as the main doubts of people living with HIV, which include the form of virus transmission, manifestations and symptoms, self-care practices, control tests, and treatment forms, aspects related to nutrition, and sexual and emotional health.<sup>(13,20)</sup>

The need to add post-exposure prophylaxis (PeP) to the script for partners was another improvement point highlighted by the judges. Knowledge of PLHIV is important as identification and prescription for individuals exposed to the virus are still major challenges in health centers.<sup>(21)</sup> Many studies also report the low adherence of individuals (mainly women) to prophylaxis, and this is an important point of discussion and advice in the first orientations after diagnosis.<sup>(22)</sup>

In addition, education of people with HIV and the community about prophylaxis is essential to optimize the service and accessibility, helping to identify the possibility of contagion to health professionals.<sup>(23,24)</sup>

The educational videos aimed at guiding PLHIV are audiovisual resources that reproduce reality, thus favoring the teaching and transmission of information with a clear, simplified, and universal language. Checking such audiovisual resources contributes as a tool of professional practice, awakens the interest of the receiver in matters considered confidential, and helps in the trust relationship between subjects and professionals.<sup>(8)</sup>

In script validation, improvements have been added to the items on emotional support, in which the necessary support for PLHIV was worked on due to stress and mood variations. Literature shows the importance of this item as a work focus for health education in the construction and validation of educational technologies, as some aspects, such

as the disease itself, stress with the recent diagnosis, socioeconomic situation, depression, and the side effects of the treatment, are present mental health problems.<sup>(25)</sup>

A randomized clinical trial using video to counsel 50 people with HIV confirms this; this essay showed that mental health care is associated with self-care, greater adherence to antiretroviral therapy, and reduced mortality, in addition to improving the support network.<sup>(9)</sup>

The social problems involved with stigma and prejudices associated with PLHIV also influence the behavior and acceptance of an educational technology that addresses the issue. Studies show that there is a fear that technology could expose the health condition, triggering impacts directly related to coping with the disease and refusing treatment.<sup>(26)</sup> Thus, guidance with attention to emotional support is essential to demystify some established concepts and provide listening, maintaining privacy, and achieving acceptable technology inclusion.

### Use of audiovisual educational technologies for health education of PLHIV

In the health education of PLHIV, strategies developed by health professionals to help them learn are essential. The role of nurses is highlighted in the construction of actions aimed at health education, in which resources such as educational technologies are used to facilitate communication and knowledge acquisition, reduce information barriers, promote coping with the disease, and contribute to increasing adherence to treatment.<sup>(25)</sup>

Primary Health Care (PHC) is among the nurses' performance scenarios, where strengthening health education is possible by inserting educational technologies. During conversation rounds, lectures, and discussions, PHC nurses can promote well-being and guide PLHIV.<sup>(27)</sup>

PLHIV can increase their coping power by acquiring knowledge through educational technologies; this can be seen in a study in which a video about HIV was directed to patients in the waiting room of an infectious diseases service. The study showed a positive effect in improving adherence to antiretroviral treatment and reducing HIV stigma.<sup>(10)</sup>

Thus, it was evidenced that educational technologies act as emancipators by encouraging PLHIV self-care and recommending the adoption of practices guided by health professionals.<sup>(27)</sup>

One study analyzed under this prism the videos posted on YouTube about HIV/AIDS, adolescence, and their implications for care practice, highlighting the influence that the media can exert on viewers and how much they stimulate changing habits. The topics of prevention, transmission, viral load, medications, and clinical manifestations are among the most discussed contents in the videos.<sup>(28)</sup>

Printed technologies, such as booklets, are another tool that has been pointed out in studies to increase self-care in PLHIV. These materials reinforce the guidelines given by health professionals and contribute to the adoption of healthy practices.<sup>(13,29)</sup> In this context, a study that evaluated the effectiveness of an educational booklet was highlighted, evidencing the improvement in knowledge, attitude, and practice of healthy living in PLHIV.<sup>(30)</sup>

Through this study, it is possible to observe that educational technologies contribute to acquiring knowledge and strengthening self-care in PLHIV. Thus, such results contribute to health professionals, especially nurses involved in the health education process, seeking to insert validated instruments in their actions to improve the life quality of the target audience.

We emphasize that the judges are not psychometrists and this is a limitation of the study; thus, the eventual replication of this study is restricted to methodological studies within the HIV/AIDS topic for the adult public.

## Conclusion

The video script was validated by expert judges regarding its content as an audiovisual resource for educating individuals recently diagnosed with HIV, showing that its items are representative of the topic addressed. The study contributes to the advancement of scientific knowledge, as it presents results with methodological rigor and its script allows creating technologies that facilitate the approach and

education of people living with HIV. This technology was produced by nurses with an attentive look for care in the application of health education to the target audience, which could encourage the replication of this tool in related areas.

## Collaborations

Duarte FHS, Araújo NM, Silva SO, Leal NTB, Costa TMS, Alencar IGM, Dantas RAN, and Dantas DV contributed to the study design, data analysis and interpretation, manuscript writing, relevant critical review of the intellectual content, and approval of the final version to be published.

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