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## RESEARCH ARTICLE

### Audiovisual Technology for HIV/AIDS Prevention in the Elderly: Production and Validation

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#### Abstract:

#### Background:

The elderly population is vulnerable to HIV/AIDS, but there is a lack of educational materials for prevention specifically tailored to this age group.

#### Objectives:

This study aims to validate an educational audiovisual technology for HIV/AIDS prevention in the elderly.

#### Methods:

The study consists of two stages. The first stage involves developing an Educational Video (EV) based on a validated script. The second stage focuses on validating the EV through expert judges in nursing and audiovisual communication/cinema. The video production closely followed the validated script, and recordings were done in three predetermined scenarios. After final editing, the video underwent evaluation by judges who assessed its content and technique using a Likert response scale and the Content Validity Index (CVI). A concordance index of 80% or higher was considered acceptable. Twelve judges participated in the evaluation.

#### Results:

The educational video, the first of its kind nationally and internationally, achieved a CVI ranging from 0.8 to 1.00. The concordance index mostly fell between 80% and 100%. Judges provided feedback, including suggestions and disagreements, which were incorporated to enhance the effectiveness of the EV.

#### Conclusion:

The favorable CVI and positive reception from judges highlight the educational video's potential as a valuable tool for teaching HIV/AIDS prevention to the elderly. It can be utilized by various healthcare professionals in primary, secondary, and tertiary settings to enhance health education practices.

**Keywords:** Elderly, Aging, Educational technology, HIV/AIDS, Content validity Index (CVI), EV.

#### Article History

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## 1. INTRODUCTION

The increase in life expectancy is a worldwide phenomenon observed due to the rising proportion of the population aged 60 and above. In Brazil, the elderly population is projected to grow at a faster rate than the global average. By

the year 2050, the number of elderly individuals worldwide is expected to double, while in Brazil it will nearly triple. Currently, the percentage of elderly individuals is 12.5%, and it is estimated to reach 30% by the mid-century [1 - 3].

Presently, there are approximately 20 million people aged 60 or above in Brazil, accounting for at least 10% of the country's population. According to statistical projections by the World Health Organization (WHO) between 1950 and 2025,

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the elderly population in the country is expected to increase fifteen-fold, while the overall population will only grow five-fold. Consequently, by 2025, Brazil is set to rank sixth in the world in terms of the number of elderly individuals, with approximately 32 million people aged 60 or above [1].

This rapid demographic and epidemiological transition pose significant challenges in the field of health, leading to the emergence of new demands and profound consequences for society and healthcare systems. Simultaneously, some stereotypes about elderly health are being dispelled, giving rise to new concepts and societal organizations [3, 4].

Due to increased longevity and modernity, hormone replacement therapy for women and erectile dysfunction medications for men have emerged. As a result, the elderly are rediscovering pleasurable experiences, including sexual activity. However, unsafe sexual practices render the elderly more vulnerable to Human Immunodeficiency Virus (HIV) and other Sexually Transmitted Infections (STIs) [5 - 7].

To comprehend sexuality in the elderly, it is essential to consider that aging, as a transitional phase, is influenced by a significant set of factors that directly or indirectly impact behavior and sexual response. This fundamental human need, irrespective of age group and its modes of expression, is influenced by various well-studied factors, such as biophysiological, health, psychological, cultural, educational, institutionalization, and the dynamics of sexual relationships [8 - 10].

Despite the numerous difficulties encountered during the aging process, sexuality should not be dismissed as unimportant, as it is a vital physiological need of human beings. Currently, sexuality is recognized as one of the important dimensions of quality of life [5 - 8]. Studies demonstrate that in Brazil, cases of HIV/AIDS infection in the elderly predominantly occur through sexual transmission. Misconceptions held by family members and professionals that elderly individuals do not engage in sexual activity contribute to this perception [5, 10]. The National Program for Sexually Transmitted Diseases (STDs) and AIDS of the Ministry of Health has confirmed an increase in sexually transmitted infections among the elderly, particularly AIDS. The incidence of the disease among the elderly population has nearly doubled in the last ten years, rising from 7.3 in 1996 to 14.5 in 2006 [11].

Numerous educational technologies exist to provide information regarding health promotion, disease prevention, and different forms of treatment, which can be utilized within the context of HIV in the elderly. Considering the aforementioned circumstances and the physical and psychological vulnerability of this age group, as well as the lack of educational materials targeting HIV/AIDS prevention in the elderly population, this study aims to validate an educational audiovisual technology for HIV/AIDS prevention among the elderly population.

## 2. METHODS

It is a methodological study that aims to investigate the development and validation of technologies, including

products, processes, policies, and educational programs, with potential applications and usefulness in existing teaching-learning methods.

To achieve the proposed objectives, the study consisted of two stages: the first step involved the construction of an educational video based on a previously validated script, and the second stage focused on the validation of the educational video.

The script was developed after conducting previous research on the perception of the elderly regarding the risk of HIV contamination. Additionally, there are reports highlighting the challenges faced by this population in living with HIV/AIDS. The video production involved a detailed script that guided the production team during filming and scene selection. The script aimed to provide textual information to the reader about what the viewer will see and hear in the video [8]. The development of the script followed audiovisual pedagogy principles in an attempt to effectively convey scientific knowledge through the video medium.

After the video script was prepared, it underwent validation by judges who conducted technical and content analysis, ensuring the accuracy and appropriateness of the text. The judges were experts in the field of health, specifically in STI/HIV/AIDS and educational technologies for the elderly. Nine specialists were invited to participate in the validation process, selected through intentional sampling, which allowed for the voluntary selection of individuals with expertise in the study's subject matter. The selection was based on recommendations from other professionals in the field. This intentional sampling approach was chosen based on the assumption that the researcher's knowledge of certain subjects can contribute valuable data to the research. Moreover, the careful selection of individuals with pre-established characteristics offers both theoretical and practical benefits for the development of the video [12, 13].

Professionals from the Health Care Network for the Elderly and the STD/AIDS departments of the Municipal and State Secretaries of Ceará were invited, along with the researchers from various universities. Out of the judges selected for the study, 10 were contacted *via* email, telephone, and social networks, and three were contacted in person after accepting their participation in the study. Information about the process, including video content validation, was sent to them *via* email along with an official letter of invitation.

Data collection involved the use of instruments for video assessment. Technical, content, and appearance experts from both the healthcare and audiovisual communication fields evaluated the following topics: objectives, content, relevance, ambiance/presentation, functionality, and usability.

The instrument used for the expert judges to fill out consisted of a total of 37 evaluative items (affirmatives) grouped into nine categories. The aspects evaluated by the experts in each variable were: objectives, content, relevance, functionality, usability, efficiency, and audiovisual resources. The instrument for validating the video content was designed to assess the relevance and clarity of the instrument itself. Each criterion in the assessment was assigned a concept on a Likert

five-point scale, and each rater scored their degree of agreement. The response scale was as follows:

- 5 = I totally agree
- 4 = I agree
- 3 = Neither agree nor disagree
- 2 = I disagree
- 1 = I totally disagree

The judges were asked to provide written observations at the end of each evaluated item in case of disagreement, as well as to report any identified errors or absence of pertinent subjects in the video. The importance of these records was emphasized for the adaptation and improvement of the technology.

The adequacy of the behavioral items was analyzed using the Content Validity Index (CVI). The CVI calculates the proportion of experts who considered the content to be valid for each item. For the entire instrument, the CVI measures the proportion of all items evaluated as having valid content. The index was calculated by dividing the sum of responses considered adequate by the total number of answers [14].

An agreement was considered good when the I-CVI values were greater than or equal to 0.80 and the S-CVI values were greater than or equal to 0.90. For agreement index analysis, Pasquali [15] suggests an index that is considered satisfactory above 80%. The CVI is a useful measure for quantifying the level of agreement among experts. Items that obtained agreement rates equal to or higher than 80% were considered validated, while those with lower agreement rates were reviewed.

The study followed the principles of Resolution No. 466/12 of the National Council of Health/Ministry of Health, which pertains to research involving human subjects, and adhered to ethical principles in research. The research project was submitted to and approved by the Research Ethics Committee under protocol no. CAAE 24830614.8.0000.5052 at the University of Fortaleza (UNIFOR).

**3. RESULTS**

**3.1. Production of the Video**

This stage involved the participation of six actors from theater groups in Fortaleza, along with a guest actor representing the Nurse. It is important to note that multiple rehearsals were conducted with the actors to prepare them for their respective roles. The script was provided to each actor in advance for adaptation.

The scenes were recorded multiple times to achieve satisfactory results in terms of camera angles, lighting, actor performances, and dialogue. Some textual elements, such as lettering, were created and added during the editing process to provide guidance to viewers on topics like “what is HIV/AIDS?” and “how to use a condom?”, among others.

**3.2. Post-production of the Educational Video**

Once the recording phase was completed, the production

team proceeded with video editing, organizing the scenes and dialogues. The soundtrack was chosen to complement the video.

After the initial editing was finished, several adjustments were made during the revision process. The researcher, the producer, and the study's support team watched the video multiple times and provided suggestions for necessary changes. The changes made primarily focused on improving the video's visual aesthetics. The final version of the educational video has a total duration of 13 minutes and 37 seconds, divided into several segments of varying lengths, including the credits.

**3.3. Validation Process by Expert Judges**

For this stage of the study, expert judges were selected based on the previously mentioned criteria. Eleven female judges (85.0%), all nurses, and two male judges (15.0%), one nurse and one film and audiovisual professional, participated. The average age of the judges was 39 years, ranging from 27 to 57 years, with a standard deviation of 9.39 years. The judges' professional experience ranged from 3 to 35 years, with most working in the nursing education field (69%), one in clinical practice (8%), and three concurrently in both education and clinical practice (23%). Based on the criteria used to evaluate technical and content expertise, it was observed that the experts received high scores in the overall assessment. Out of the total number of judges, five scored 11 points, two scored 12 points, and only one scored 5 points. It should be noted that the maximum score possible was 13 points, and the minimum was 3 points.

These findings demonstrate the high level of expertise among the selected judges, thereby justifying the credibility of the video's development within the classification system. It is worth mentioning that the technical specialists evaluated the same categories as the content specialists (Table 1).

**Table 1. Characterization of expert judges participating in the validation study of audiovisual HIV/AIDS prevention in the elderly population according to selection criteria, Fortaleza, Brazil.**

Criteria	n	%
Doctorate degree	07	53
Master's degree	04	31
Specialization	02	16
Professional experience and/or research with VE	06	47
Professional experience and/or research with visual communication	07	53
Professional experience and/or research with educational technology production	11	84
Professional experience and/or research with the elderly population	11	84
Professional experience and/or research on the HIV/AIDS theme	09	69

Source: Authors' own elaboration.

When it comes to the goals of the video, there was agreement among the majority of experts. Five out of the six evaluated items were classified as “I agree” and “I totally agree,” with a CVI of 0.9. This indicates that the video's objectives are in line with the study's objective, providing

information that aligns with the daily needs of the elderly and is relevant to their quality of life.

Regarding the judges' assessment, they found the video to be informative but not necessarily encouraging behavior change. Here are some considerations from the judges:

“A change in behavior is a multifactorial issue. It cannot be claimed that an educational video alone has the potential to bring about that change. In my opinion, the video has the prerogative of providing information that is often lacking for this specific population” (Judge 1).

“Longer follow-up is needed to assess behavior change and identify the factors influencing non-change when working with the elderly population” (Judge 2).

Regarding the evaluation of the CONTENT, out of the eight items analyzed, seven had a validation rate greater than 80%. Among the 13 evaluating judges, two disagreed and three chose not to agree or disagree with the statement that the content was consistent with the objective of informing the elderly population about HIV/AIDS and generating behavior change. These responses reaffirm the previous item's statement that the objective of educational technology is to generate knowledge rather than behavioral changes.

One judge (Judge 2) mentioned that the video itself does not change behavior or prevent HIV but rather generates knowledge. They suggested increasing the speed of speech during the initial conversation between the two seniors.

The third topic evaluated was RELEVANCE, which assesses the degree of significance of the items. Subcategory 3.4 obtained a validation rate of 70%. It was requested to increase the number of scenes depicting elderly people in environments frequented by them, representing situations of vulnerability. The other sub-items received agreement rates of 100% (The film portrays important aspects for the prevention of HIV/AIDS in the elderly population), 80% (relevance of the images necessary for the elderly to reflect on the importance of HIV prevention/AIDS), and 90% (the film shows scenes in which the elderly can identify with everyday situations presented), respectively.

“To encourage reflection, it is important to portray scenes that make the elderly imagine themselves as vulnerable. This can include everyday situations such as senior gatherings, bingo games, and dances, which are places where they may attend and potentially expose themselves to vulnerable situations. It is crucial to consider that elderly individuals who are more likely to be HIV carriers often have lower socioeconomic and educational levels. Therefore, it is necessary to include situations that are relatable across different social classes” (Judge 10).

In the evaluation of the ENVIRONMENT/PRESENTATION category of educational technology, the judges considered the suitability of the recording environment for the video. This aspect received a CVI of 0.8, with 11 specialists (84.6%) agreeing with the proposition, and two choosing to neither agree nor disagree. Additionally, 100% of the judges agreed that the environment in which the video scenes were recorded provides the elderly

with the opportunity to acquire knowledge through experience and the presented teachings.

In the FUNCTIONALITY category, 92.2% of the judges agreed that the video aligns with the planned functions of the educational video, which aims to fulfill the need for reflection on the prevention of HIV/AIDS in the elderly population. This suggests that the video has the potential to generate positive results in health education promotion related to HIV/AIDS prevention in the elderly. Thus, it demonstrates the successful development of educational technology as a means of preventing HIV/AIDS in this population.

Regarding the USABILITY of the video as an educational technology, which pertains to the efforts required to use the video and the individual judgment of its use by a specific user group, the first two items were evaluated with 100% agreement. This indicates that the video is easy to use, and the concepts and applications are easily understood.

In the following two topics, a CVI of 0.8 was obtained, with two specialists choosing to evaluate as neither disagree nor agree regarding the items related to the clarity and completeness of information without being tedious. This assessment reflects an 80% agreement among the expert judges.

In the EFFICIENCY category, which assesses the relationship between the video's performance level and the resources used according to the study's conditions, the agreement index among the expert judges ranged from 80% to 90% for the four evaluated items. A technical judge from the audiovisual communication field disagreed and provided some considerations. They found the video to be lengthy and suggested including more detailed images of the fictional character's body in the scene. Other judges also suggested increasing the number of dialogues with elderly people and including scenes with elderly individuals of both genders participating in the process of putting on a condom. These suggestions were accepted and incorporated into the revised scenes.

The final domain, which includes six sub-items, pertains to audiovisual resources and sound aspects of educational technology. In this group, topics related to the adequacy of audio in understanding the content, lighting, and framing of the images received maximum evaluation with 100% agreement. As for the suitability of the songs to the environment in which they were inserted, a 92.2% agreement was obtained. This evaluation aligns with the assessment of 12 expert judges from the nursing and audiovisual communication fields.

We evaluated the adequacy of the images in the video, including the suitability of the setting and the appropriateness of the illustrations used in relation to the content of the work. All aspects received a CVI of 0.8, indicating the validation of the audiovisual material resources utilized in the development. The technical evaluator from the visual communication field considered the use of graphic arts to be highly interesting and functional. Some suggested changes were proposed for presenting data in graphs and altering the color and font size of the letters displayed in the scenes. Other specialists deemed the environment in which the nurse character acted to be

effectively utilized, as it provided a relevant space for health-related matters.

#### 4. DISCUSSION

The educational video examined in this study is the first of its kind to be developed on a national and international scale within this theme. It obtained a CVI ranging from 0.8 to 1.00 and a high level of agreement, predominantly falling between 80% to 100%. Consequently, it can be considered an instrument capable of contributing to the prevention and promotion of health in relation to the transmission and prevention methods of HIV/AIDS among the elderly population within the context of educational activities.

The final version of the educational video has a total running time of 13 minutes and 37 seconds, divided into multiple series with varying durations, including the credits. The duration of each series adheres to technical recommendations for educational videos to ensure that the audience remains engaged with the content effectively [16].

To ensure the accuracy of the evaluation, great care was taken in recruiting professionals who possess expertise in the subject area covered by the video. Only highly qualified professionals were sought to evaluate the developed technological material. It is ideal for professionals to possess the necessary skills and specialized knowledge, establishing them as authorities on the subject matter.

The video was also analyzed in relation to its purposes and goals across eight thematic categories, including considerations such as: Does the information align with the daily needs of the elderly in HIV/AIDS prevention? Is the information significant for the quality of life of the elderly? Does it invite or inspire behavioral and attitudinal changes? Can it be shared within the scientific community? Does it fulfill the objectives of professionals and institutions engaged in elderly care and HIV/AIDS prevention activities?

The development and implementation of educational technology (ET) can lead to behavioral changes, instilling confidence in patients to adopt health-promoting behaviors and fostering a critical awareness of living conditions and health issues. Education holds undeniable importance and serves as a powerful tool in health promotion, enabling the transformation of individual practices and behaviors while fostering autonomy and enhancing the quality of life of the elderly [17].

The evaluation conducted by the judges also indicated that the video fulfills the objectives of professionals working with the elderly population and institutions involved in HIV/AIDS prevention actions, and it is suitable for dissemination within scientific circles.

Professional judgment should be considered in the health education process. This stage of evaluation is also a learning experience and requires us to be open to criticism in order to create something that meets the expectations and needs of individuals who possess different knowledge and interests than our own [18]. Studies confirm that educational materials produced effectively and appropriately for their intended audience can bring about significant changes in the reality of a population. Therefore, it is important to consider the purpose of

the material and the expectations of the target audience [19]. Among the various educational technologies available, videos are considered essential for mass communication, especially in communities that are difficult to reach, as long as they present visually engaging content that captures the viewers' interest [20].

Subitem 2.4 obtained a CVI of 0.8, indicating that the grammatical style is compatible with the level of knowledge of the elderly population. This finding supports Ostherr *et al.*'s [21] assertion that the vocabulary used should align with the message and the target audience, being inviting and easy to understand. When transmitting audiovisual content, it is crucial to respect the language, knowledge, and culture of the viewers. The dialogue between characters should be consistent with the viewers' level of understanding, replacing scientific terms and complex phrases with more accessible language that is easier for the public to comprehend [14]. The information conveyed must be scientifically accurate and presented progressively, consistently, and as comprehensively as possible. It should reflect reliable scientific literature.

On the other hand, relevance is linked to what is indispensable, important, and meaningful in a given context. Therefore, an effort was made to address relevant aspects of the prevention of HIV/AIDS among the elderly population, aiming to include the elderly in the process and encourage reflection on the importance of HIV/AIDS prevention measures, which have been historically undervalued by public service policies in the country. Education and culture are inseparable aspects of paramount importance in the field of health, whether within academic settings or community environments. They enable professionals to broaden their perspectives on healthcare processes [19].

Comparato [22] emphasizes the importance of selecting the environment in which the drama will unfold. The author asserts that the "where" encompasses not only geographical elements but also a multifaceted aspect of reality. Factors such as camera angles, lighting, spatial proportions, sets, decor, costumes, and props are all essential elements in creating an audiovisual setting.

The educational video (EV) has the ability to make information universal and adaptable, as it generates interest among individuals from diverse social classes and educational backgrounds, belonging to any community. Furthermore, videos have the power to educate, discuss, disseminate information, evoke emotions, and provide a voice and opportunity for people. Literature showcases numerous successful experiences that highlight the importance of using videos as instructional tools, as they facilitate audience understanding and interest in the subject matter, enhancing the teaching and learning process.

Using simple language can also enhance patient motivation to engage with and maintain interest in educational materials, minimizing communication barriers and increasing efficiency and reach. Well-prepared content or information presented in a clear and easily understandable manner improves patient knowledge and satisfaction, influences health-related behaviors, and facilitates decision-making.

The evaluation of the educational technology was completed by content judges, including nursing specialists and an audiovisual communication technician, with revisions made based on the suggestions provided by some experts. Prompt attention was given to these suggestions to optimize the use of the developed educational technology. This process of adapting the video according to the judges' recommendations is an essential step in making the technology more comprehensive, scientifically rigorous, and effective in achieving its intended objectives. It is a demanding process that involves gathering all the suggestions, analyzing them, assessing their implementability, and restructuring the video's script to incorporate the proposed improvements. However, the rewards are significant when one observes the substantial progress achieved for the target audience. This stage is also recognized by researchers as highly important for enhancing the material to be validated, involving revisions, information deletion, and/or substitution of terms as suggested.

This research has limitations, the first of which pertains to the representation of the target population that can be minimized as reported by other studies [4, 23, 24]. The evaluation of the educational video was conducted by content judges, including nursing specialists and an audiovisual communication technician. While these professionals possess expertise in their respective fields, their perspectives may not fully capture the diverse experiences and perspectives of the elderly population targeted by the video. A second limitation of this study is the potential influence of contextual factors on the effectiveness and applicability of educational video. The evaluation focused on the adequacy of the content, presentation, and usability of the video, but did not take into account the specific contextual factors in which the video would be implemented, such as cultural differences, socioeconomic backgrounds, or educational levels of the target audience. These contextual factors can significantly impact the reception and effectiveness of educational interventions. Future research should consider these contextual factors to provide a more comprehensive understanding of the video's effectiveness in diverse settings.

## CONCLUSION

The validation of this educational technology underwent a rigorous development process by a video production team experienced in creating works of this nature. It was validated by expert judges in the fields of nursing and audiovisual/cinema communication in terms of content, technical aspects, and appearance. This process allowed the evaluators to identify weaknesses in the development of the educational tool and provide suggestions based on technical-scientific experiences, tailored to the characteristics of the target population.

The video represents an impactful technology for preventing HIV/AIDS in the elderly population and can be utilized by various professionals in their health education practices across primary, secondary, and tertiary spheres. The meticulous attention and care given to the construction and validation of this educational technology demonstrate the autonomy that new technologies, such as videos, provide to

healthcare professionals. These innovative methods of knowledge exchange with the public bring the addressed content closer to reality, sparking interest and fostering better learning.

## LIST OF ABBREVIATIONS

<b>HIV</b>	=	Human Immunodeficiency Virus
<b>AIDS</b>	=	Acquired Immune Deficiency Syndrome
<b>SIT</b>	=	Sexually Transmitted Infections
<b>CVI</b>	=	Content Validity Index
<b>EV</b>	=	Educational Video

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The research project was submitted to and approved by the Research Ethics Committee under protocol no. CAAE 24830614.8.0000.5052 at the University of Fortaleza (UNIFOR).

## HUMAN AND ANIMAL RIGHTS

No animals were used that are the base of this study followed the principles of Resolution No. 466/12 of the National Council of Health/Ministry of Health, which pertains to research involving human subjects, and adhered to ethical principles in research.

## CONSENT FOR PUBLICATION

Informed consent was obtained from all participants of this study.

## AVAILABILITY OF DATA AND MATERIALS

The data and supportive information are available within the article.

## FUNDING

None.

## CONFLICT OF INTEREST

The authors declare no conflict of interest financial or otherwise.

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Declared none.

## REFERENCES

- [1] World health statistics overview 2019: monitoring health for the SDGs, sustainable development goals. World Health Organization. 2019.
- [2] Souza Júnior EV, Cruz DP, Siqueira LR, *et al.* Sexuality and its effects on older adults' depressive symptoms and quality of life. *Rev Bras Enferm* 2023; 76(1): e20210645. [<http://dx.doi.org/10.1590/0034-7167-2021-0645>] [PMID: 36753192]
- [3] Ribeiro EG, Mendoza IYQ, Cintra MTG, Bicalho MAC, Guimarães GL, Moraes EN. Frailty in the elderly: Screening possibilities in primary health care. *Rev Bras Enferm* 2022; 75(2): e20200973. [<http://dx.doi.org/10.1590/0034-7167-2020-0973>] [PMID: 34614095]
- [4] Queiroz AAFLN, Sousa AFL, Brignol S, Araújo TME, Reis RK. Vulnerability to HIV among older men who have sex with men users of dating apps in Brazil. *Braz J Infect Dis* 2019; 23(5): 298-306.

- [5] [http://dx.doi.org/10.1016/j.bjid.2019.07.005] [PMID: 31472125] Queiroz AAF, Sousa AFL, Sousa AR. Sexuality 'in apps'? Older men who have sex with men and their use of dating apps in Brazil. In: Ageing, Men and Social Relations. 2023; pp. 69-87. [http://dx.doi.org/10.2307/jj.1666827.10]
- [6] Azevedo Junior WS, Santos EP, Pedreira NP, *et al.* Prevalence and vulnerability factors associated with HIV and syphilis in older people from subnormal agglomerate, Brazilian amazon. *Trop Med Infect Dis* 2022; 7(11): 332. [http://dx.doi.org/10.3390/tropicalmed7110332] [PMID: 36355876]
- [7] Sousa LRM, Moura LKB, Valle ARMC, Magalhães RLB, Moura MEB. Social representations of HIV/AIDS by older people and the interface with prevention. *Rev Bras Enferm* 2019; 72(5): 1129-36. [http://dx.doi.org/10.1590/0034-7167-2017-0748] [PMID: 31531650]
- [8] Souza Júnior EV, Souza CS, Silva Filho BF, Siqueira LR, Silva CS, Sawada NO. Sexual function positively correlated with older adults' sexuality and quality of life. *Rev Bras Enferm* 2022; 75(4): e20210939. [http://dx.doi.org/10.1590/0034-7167-2021-0939] [PMID: 35946725]
- [9] Aguiar RB, Leal MCC, Marques APO. Knowledge and attitudes about sexuality in the elderly with HIV. *Cien Saude Colet* 2020; 25(6): 2051-62. [http://dx.doi.org/10.1590/1413-81232020256.18432018] [PMID: 32520253]
- [10] Aguiar RB, Leal MCC, Marques APO, Torres KMS, Tavares MTDB. Elderly people living with HIV - Behavior and knowledge about sexuality: An integrative review. *Cien Saude Colet* 2020; 25(2): 575-84. [http://dx.doi.org/10.1590/1413-81232020252.12052018] [PMID: 32022197]
- [11] Nunes RV. Sexual practices and predisposition to PrEP use among men aged 50 years and older who have sex with men: A cross-sectional study. *J Assoc Nurses AIDS Care* 2023.
- [12] Rodrigues Junior JC, Rebouças CBA, Castro RCMB, Oliveira PMP, Almeida PC, Pagliuca LMF. Development of an educational video for the promotion of eye health in school children. *Texto Contexto Enferm* 2017; 26(2): 26. [http://dx.doi.org/10.1590/0104-07072017006760015]
- [13] Boateng GO, Neilands TB, Frongillo EA, Melgar-Quinonez HR, Young SL. Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Front Public Health* 2018; 6: 149. [http://dx.doi.org/10.3389/fpubh.2018.00149] [PMID: 29942800]
- [14] Alexandre NMC, Coluci MZO. Content validity in the development and adaptation processes of measurement instruments. *Ciênc Saúde Cole* 2011; 16(7): 3061-8.
- [15] Pasquali L. Psychological instrumentation: Fundamentos e práticas. Porto Alegre: Artemed 2010.
- [16] Luna ITV. Educational video focusing on STD/AIDS prevention for homeless adolescents. Doctoral dissertation, Fortaleza: Federal University of Ceará. 2014.
- [17] Janini JP, Bessler D, Vargas AB. Health education and health promotion: Impact on quality of life of elderly. *Saúde Debate* 2015; 39(105): 480-90. [http://dx.doi.org/10.1590/0103-110420151050002015]
- [18] Lima MB, Rebouças CBA, Castro RCMB, Cipriano MAB, Cardoso MVLM, Almeida PC. Construction and validation of educational video for the guidance of parents of children regarding clean intermittent catheterization. *Rev Esc Enferm USP* 2017; 51: e03273. [PMID: 29267731]
- [19] Lopes CR. Health education and culture in the perspective of Paulo Freire Freire. *Rev Enferm UFPE on line* 2017; 11(12): 5122-8.
- [20] Anjos SJSB. Educational video as support technology to the prevention of cervical cancer. Doctoral dissertation, Fortaleza: Universidade Federal do Ceará. 2011.
- [21] Ostherr K. Medical visions: Producing the patient through film, television, and imaging technologies. New York: Oxford University Press 2015.
- [22] Comparato D. From creation to script: Theory and practice. São Paulo: Summus 2009.
- [23] Miranda PIG, Vieira CPB, Araújo TME, Araújo OD, Cardoso JA. Clinical and epidemiological aspects of leprosy in the elderly. *Revista Prevenção De Infecção E Saúde* 2022; 8(1): 3106. [http://dx.doi.org/10.26694/repis.v8i1.3106]
- [24] Cruz AX. Barriers and facilitators to hiv/aids testing among latin immigrant men who have sex with men (MSM): A systematic review of the literature. *Open AIDS J* 2023; 17: e187461362307030.