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☑ Implementation science in nursing, health, and education

Video classes for adolescent nursing consultations: development and validation

Videoaulas para a consulta de enfermagem do adolescente: construção e validação

Videoclases para consultas de enfermería del adolescente: construcción y validación

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ABSTRACT

Objective: Create and validate the content of video lessons to support nurses when carrying out adolescent consultations in Primary Health Care.
Method: Methodological research carried out in four stages: 1) Exploration, with 83 nurses and two literature narrative reviews; 2) Construction of scripts and storyboards; 3) scripts and storyboards' content validation; 4) Video classes production. Data analysis was conducted using the Content Validity Index.
Results: The exploratory stage revealed that 85.5% of nurses carry out consultations with adolescents and 44.6% face difficulties. The most cited topics of interest were legal aspects of care, adolescent consultation, pregnancy and risk assessment in adolescence. In the review carried out with the objective of identifying a script for producing the video lessons, no one was found that met the needs of the study. The other narrative reviews showed that nursing training for adolescent consultations is incipient. 14 expert nurses validated the content with a Content Validity Index above 0.9. Afterwards, a series of four video lessons entitled "Teen talk" was produced.
Conclusion: content was validated in terms of objective, structure/presentation and relevance, allowing the video classes to assist in the professional qualification of nurses to carry out consultations for adolescents.
Descriptors: Nurses. Adolescent. Educational technology. Office nursing. Primary Health Care.

RESUMO

Objetivo: Construir e validar o conteúdo de videoaulas para subsidiar o enfermeiro na realização da consulta do adolescente na Atenção Primária à Saúde.
Método: Pesquisa metodológica, realizada em quatro etapas: 1) Fase exploratória com 83 enfermeiros e duas revisões narrativas da literatura; 2) Construção dos roteiros e *storyboards*; 3) Validação de conteúdo dos roteiros e *storyboards*; 4) Produção das videoaulas. Dados analisados pelo Índice de Validade de Conteúdo.
Resultados: Fase exploratória revelou que 85,5% dos enfermeiros realizam consulta ao adolescente, destes 44,6% enfrentam dificuldades. Os temas indicados para as videoaulas foram aspectos legais do atendimento, consulta ao adolescente, gravidez e avaliação de risco na adolescência. Na revisão realizada com objetivo de identificar um roteiro para produzir as videoaulas, não foi encontrado um que atendesse as necessidades do estudo. A outra revisão narrativa revelou que a formação do enfermeiro para o atendimento ao adolescente é incipiente. 14 enfermeiros especialistas validaram o conteúdo com Índice de Validade de Conteúdo acima de 0,9. Foi produzida uma série de quatro videoaulas intitulada "Papo Adolenf".
Conclusão: conteúdo validado quanto ao objetivo, estrutura/apresentação e relevância, permitindo que as videoaulas possam auxiliar na qualificação profissional do enfermeiro para a realização da consulta do adolescente.
Descritores: Enfermeiros. Adolescente. Tecnologia educacional. Enfermagem ambulatorial. Atenção Primária à Saúde.

RESUMEN

Objetivo: construir y validar el contenido de videoclases para apoyar enfermeros en consultas del adolescente en la Atención Primaria de Salud.
Método: investigación metodológica realizada en cuatro etapas: 1) fase exploratoria con 83 enfermeros y dos revisiones narrativas de literatura; 2) construcción: guiones y *storyboards*; 3) validación de contenido: guiones y *storyboards*; 4) producción de las videoclases. El análisis de los datos ocurrió mediante el Índice de Validez de Contenido.
Resultados: la fase exploratoria reveló que el 85,5% de los enfermeros realiza consultas con adolescentes y el 44,6% enfrenta dificultades. Los temas de interés recurrentes fueron aspectos jurídicos de la asistencia, consulta con adolescente, embarazo y evaluación de riesgos en la adolescencia. En la revisión realizada con el objetivo de identificar un guion para producir las videoclases, no se encontró uno que respondiera a las necesidades del estudio. La otra revisión narrativa reveló que la formación de enfermeras para la atención de adolescentes es incipiente. 14 enfermeros especialistas validaron el contenido con un Índice de Validez de Contenido superior a 0,9. Posteriormente fue producida una serie de cuatro videoclases titulada "Charla Adolenf".
Conclusión: contenido fue validado en términos de objetivo, estructura/presentación y relevancia, permitiendo que las videoclases ayuden en la calificación profesional del enfermero para la realización de consultas de los adolescentes.
Descriptores: Enfermeros. Adolescente. Tecnología educacional. Enfermería de consulta. Atención Primaria de Salud.

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INTRODUCTION

The work carried out by nurses in Primary Health Care (PHC) must attend to the population as a whole, being based on the identification of the main health care needs in the field. In the process of defining these needs, the nurse deals with populations/community groups with specific demands, such as adolescents[1].

Adolescence is the period of human development between childhood and adulthood. It is affected by physical, psychological, social, and behavioral transformations, requiring health workers to take a closer look and individualized care with the adolescent[2].

Integral care for adolescents favors health promotion and disease prevention, as it contributes for them to reach their full potential in adulthood. However, there are gaps in the knowledge about this public, owing to the fact that adolescents seldom search for health services and health workers, with the exception of acute complaints or chronic conditions, in addition to the insufficient training or insecurity of professionals when attending this public[3].

Thus, it is worth highlighting that one of the responsibilities of the PHC nurse is getting close to this public and bringing them into the health care network, using, as a strategy, the consultations regulated by Resolution No. 736, from January 17, 2024, by the Federal Council of Nursing (COFEN)[4]. The consultation must be organized and recorded according to the stages of the nursing process: nursing evaluation, nursing diagnosis, nursing planning, nursing implementation and nursing evolution [4].

In the PHC, nursing consultations are an essential component to attend to the complex and multifaceted demands of adolescents that are in an important period of their lives, characterized by fast and significant changes that make it essential for them to access health services and receive care from health workers trained to understand and address these transformations in a broad and sensible way[2].

Adolescent consultations require a closer look, due to the numerous transformations that take place during adolescence. One must know how to listen, analyze, interpret, and search for solutions to implement appropriate interventions, seeking to minimize health risks and improve the wellbeing of this population. Nevertheless, this type of consultation has not yet been carried out by a significant number of nurses, be it due to the lack of aptitude regarding this target audience, lack of training, especially regarding physical examination, or to the fact there is no easy instrument to handle and guide this process[5].

Additionally, a previous study[6] mentioned that the lack of search for the consultations may also be related to the fact that there is a lack of understanding of the fact this is a care technology that favors the autonomy of the nurse in decision making, based on competence and scientific knowledge that can help solve problems.

Considering this issue, the constant evolution of knowledge and the need to train the nurse to provide consultations for adolescents in Primary Health Care, this study presents video lessons as a strategy for permanent health education (PHE), as they provide innovative opportunities for flexible and accessible learning, which may contribute for the training process of nurses[7].

Video classes allow expanding knowledge and disseminating ideas. The use of this audiovisual resource to increase the quality of nurse professional practice has been a tool that allows addressing many types of content in a didactic, attractive, and dynamic way. It can be accessed by them at different times, according to their availability[8].

To ensure the techno-scientific quality of the content of a video lesson[9] and evaluate whether it measures what it aims to measure (10), that is, if the content is in accordance with the goals established, the scripts must be validated before the production starts. Also, after validating the scripts, a general revision must be conducted for potential corrections that may have been missed in the elements of each scene, so the final steps of the production of the media can be taken[9].

Therefore, the goal of this study was to develop and validate the content of video lessons to support nurses to provide consultations for adolescents in Primary Health Care.

METHOD

This study is part of the macro-research "Development of Technologies for Nursing Consultations in Primary Health Care", contemplated by Notice No. 08/2021, from an agreement between the Institution for Higher Education Personnel Improvement (CAPES) and the COFEN. This is a methodological study, consisting of the development and validation of video lessons. It is an exploratory, descriptive technological production, created using a quantitative approach. The study was developed in four stages: 1) Exploration; 2) Development of scripts and storyboards; 3) Validation of the content of scripts and storyboards; and 4) Video class production[11-13].

Exploration: a situational diagnosis was made with 83 nurses from the PHC of a health region located in western Santa Catarina, from August to October 2022. 90 nurses who were part of a WhatsApp® group that gathers professionals from this health region were invited. The invitation was sent with a link that included a survey comprising ten questions, four of which were open and six, closed. The survey was created in Google Forms and its goal was to

identify the difficulties and needs of these workers regarding consultations with the adolescent public. There were also questions about topics of interest for the video lessons, and participants answered freely about their needs and the topics they considered important.

Inclusion criteria were: being a nurse and working in PHC in one of the municipalities that comprise the health region, and being a member of the WhatsApp® group. Nurses on vacation or on leave during the period the questionnaire was sent were excluded.

Still in the exploratory stage, after surveying the topics of interest for the video lessons, two narrative literature reviews were conducted. The first aimed to identify whether there was a script to guide the production of the video lessons. A search for studies in May 2022 was carried out by inserting, in the Google Scholar search engine, the Portuguese words for script ("Roteiro"), video lesson ("Videoaula"), method ("Método"), and distance education (EAD), which were crossed using the Boolean operator AND. The search considered the period from 2012 to 2022. We included articles, thesis, and dissertation, as long as their full text was available in Portuguese, English, or Spanish.

The second narrative review was guided by the following research question: How do consultations for adolescents take place in Primary Health Care in Brazil? The search was carried out in the Virtual Health Library in July 2022, using and crossing the following descriptors: "Adolescent" AND "Nursing" AND "Primary Health Care". We included articles whose full text was available in Portuguese and were published from 2012 to 2022, as long as they were about studies conducted in Brazil and answered our guiding question. Duplicates were excluded.

Development of the script and the storyboards: In this stage, four scripts and storyboards were created to form a series of four video lessons. The scripts were carried out based on the instrument for script creation adapted from three studies, which had been selected in the narrative review (exploratory stage)[14-16]. Thus, each script and storyboard was formed by scenes that included lines, images, and the length of the respective scene.

Content validation: took place after the scripts and storyboards of the video lessons were elaborated. This stage was carried out with the aid of specialist nurses, who evaluated and guaranteed the quality and reliability of the content in each video lesson, ensuring that they were adequate for their specific purpose[11].

Inclusion criteria for specialist nurses included: being a nurse, working in PHC and/or being a teacher in the field of knowledge children and adolescents and/or having scientific publications in the field of adolescence. Specialists were chosen using the snowball method[17]. The first participant was invited intentionally. A research team member got in touch with a professional they already knew, who worked in the PHC and was experienced in attending teenagers. After this professional answered the questionnaire, she recommended another participant, and thus, in a similar fashion, the others were indicated.

We excluded those who had participated in the exploratory stage, were on vacation, or on leave in the period the survey was sent.

As a result, 43 specialist nurses were invited, 20 of whom were interested in participating. A link for the scripts and storyboards was sent to their personal e-mail, as well as a survey created in Google Forms with the following parts: 1- Informed Consent Form that must be read and agreed to; 2- characterization of the specialist; 3- Instructions on how to fill in the content validation instrument; 4- Content validation instrument.

From the 20 specialist nurses who showed interest in participating, 14 analyzed the content of the scripts and storyboards and validated it. This number is in agreement with the literature used as reference, which recommends from 6 to 20 specialists[10]. Regarding the other specialists, four gave explanations as to why they were unavailable, and three did not answer within the previously selected time frame of 20 days, after three attempts of contact via e-mail in which the invite and the link for the scripts, storyboards, and validation questionnaire were sent once more.

Subsequently, we analyzed the results of the content validation using the Content Validity Index (CVI), which was calculated for each video lesson using a four-point Likert Scale, where 1- inadequate, 2- partially inadequate, 3- adequate and 4- totally adequate. If the participant gave the score 1 or 2, they were to describe, in the space available after each item, the reason for giving this score[18,19].

The items evaluated in the adapted instrument [18,19] were separated into three sections, namely: section 1- Objective: to assess whether the video lesson proposed reached the goal of supporting the nurse in consultations with adolescents; section 2 – Structure and presentation: to evaluate whether the organization and structure of the video lesson are coherent and adequate to be used by the nurse during their practice, and in accordance with the goal they were created for; section 3 – relevance: evaluate whether the content is significant and whether the nurse is interested in implementing it in their practice.

The CVI was calculated according to the following formula: number of 3 and 4 responses (adequate and totally adequate) divided by the total number of responses[11]. A minimum value of 0.80 as considered to be the cutoff point for the CVI, as it

suggests a high level of agreement between the specialists regarding the relevance and adequacy of the content, and, consequently, as it pertains to the reliability of the construct. After content validation, the fourth stage of the research was conducted: the production of the video lessons. For this stage, we counted on the aid of an audiovisual designer and producer.

This research was approved by the Research Ethics Committee of the institution where the study took place. It was approved on October 19, 2021, by Opinion No. 5.047.628 and CAAE No. 50165621.2.0000.0118. In order to ensure the anonymity of participants, each one was identified by the word "Expert" followed by a number given according to the order in which they sent back the survey. All participants signed the informed consent. This study was in agreement with the terms of Resolutions No. 466/2012 and No. 510/2016 of the National Health Council.

RESULTS

Exploratory stage

In this stage, we carried out the situational diagnosis. 82 nurses participated. 85.5% of them performed adolescent consultations, 84.3% carried out activities in the School Health Program, and 44.6% had some difficulty when consulting adolescents. Among the main challenges mentioned, 13.5% highlighted bringing the adolescent in for the consultation, 24.3% the creation of bonds of trust, 16.2% the lack of protocols or scripts to carry out the consultation, 13.5% the lack of training/qualification to carry out the consultation, and 32.5% the type of language to address these individuals.

The topics that professionals found difficult to address in regard to adolescents were sexuality (24.2%), teenage pregnancy (11.8%), sexually transmitted infections (12.0%), forms of violence (2.4%), use of alcohol and other drugs (18.2%), mental health (20.3%), physical examination (8.5%), and secrecy/presence of a guardian (2.6%).

Based on these results, we carried out two narrative reviews of literature to support the development of video lessons. The first was carried out to identify the existence of a script to guide the production of the video lessons. 540 works were found. After reading their abstracts, we selected 8 to read in full, and three of these were used to support the development of an instrument to script the video lessons.

The second narrative review aimed to ascertain how the adolescent consultation in the PHC takes place in Brazil. There were 615 publications in this regard. 609 were excluded after reading their titles and abstracts, as their topic was not in accordance with the topic and the inclusion criteria. Six articles were left and used to guide the development of the video lessons.

Script and storyboard development

We developed the scripts and storyboards of four video lessons with the following topics: Introduction and legal aspects of providing care to adolescents; Consultations with adolescents; Teenage pregnancy; and Risk assessment in adolescence. The set of activities was named "Teen Talk", suggesting that the goal was to promote open, relaxed communication that welcomed the adolescents and sought to get close to them.

The scripts were based on the adapted scripting instrument[14-16], which followed a television model, that is, there were four columns indicating the number of the scene, the lines to be spoken, the content of the images to appear, and the estimated length of each scene. Chart 1 shows this model with a brief description of how each scene was completed, divided in welcoming, thematic/methodological presentation, introduction, development, final considerations, and closing remarks.

Validation of the content of the scripts and storyboards

This stage involved 14 expert nurses. Most were female (12; 85.7%), with a mean age of 33.71 years, worked in the states of Santa Catarina (10; 71.6%), Ceará (2; 14.2%), Paraná (1; 7.1%), and Rio Grande do Sul (1; 7.1%). Regarding their educational level, seven (50%) were masters, four (28.6%) were specialists, and three (21.4%) were doctors. As for their employment, most (10; 71.4%) work in direct assistance, while the others work in teaching, health service management, or research. Regarding how long they have worked in nursing, seven (50%) have done so for more than 10 years, 100% have at least one year experience in the field of family health or adolescent health, and 12 (85.7%) have had at least one year experience with the School Health Program. Additionally, 100% stated that they provided consultations to adolescents, and 10 of them (71.4%) stated to follow the steps of the nursing process.

Tables 1, 2, 3, and 4 present data regarding the content validation of each video lesson, considering the individual CVI of each validated item, the CVI per section (objective, structure/presentation, and relevance), and the general CVI.

The following changes were suggested for video lesson 1:

Chart 1 – Scripting instrument for the video lessons. Chapecó, Santa Catarina, Brazil, 2023.

SCRIPT			
Host: **Subject:**			
Scene	**Lines**	**Images/screen elements**	**Length**
1	Introduces themselves and welcomes the spectator. Talks about the importance of the topic and how it can be applied to situations or discussions.	- Vignette - Caption *Name/role of the host:* *Title:* - Illustrations/photos - Animations	Note: the length of each scene will depend on the content it covers
2	Present the main information about the structural organization of the class: - General objective - Methodology - Evaluation	- Texts/keyword - Illustrations/photos - Animations	
3	*Introduction:* Explain the technical terms and other prerequisite information.	- Texts/keyword - Illustrations/photos - Animations	
4	*Development:* Speak colloquially and try to use images. If a chart is used, narrate and explain the information.	- Texts/keyword - Illustrations/photos - Animations	
5	*Final considerations:* Summarize the topics discussed and suggest further activities to deepen the subject.	- Texts/keyword - Illustrations/photos - Animations	
6	Closing remarks/farewell.	- Texts/keyword - Illustrations/photos - Animations	

Source: Research Data 2023.

Table 1 – Content validity index of the script and storyboard of video lesson 1 "Introduction and legal aspects of providing care to adolescents". Chapecó, Santa Catarina, Brazil, 2023.

Items evaluated	1*	2*	3*	4*	CVI-I †	CVI‡
OBJECTIVES: Purposes, goals, or objectives						
The content facilitates the teaching-learning process in the subject	0	0	7	7	1	
The content allows understanding the topic	0	0	6	8	1	
The content helps the nurse carry out the adolescent consultation	0	0	7	7	1	
The content contributes to clarify possible doubts about the performance of the initial evaluation (anamnesis and physical examination) of the adolescent	0	1	3	10	0.92	1
The content is important to develop activities aimed at attending adolescents	0	0	4	10	1	
STRUCTURING/PRESENTATION: organization, structure, strategy, coherence, and sufficiency						
The language of the content is interactive, enabling an active involvement in the educational process that can help stimulating focus	0	0	9	5	1	
The content follows a logical sequence	0	0	4	10	1	
The information presented is scientific	0	0	4	10	1	
Information is objective and clear	0	0	8	6	1	0.96
Information is necessary and pertinent	0	0	3	11	1	
The topic is current and relevant	0	0	4	10	1	
Information is well structured in regard to orthography and concord	0	3	6	5	0.78	
RELEVANCE: significance, impact, motivation, and interest						
Content contributes to knowledge in the field	0	0	3	11	1	1
The content raises interest about the subject	0	0	4	10	1	
General CVI 0.98						

Source: Research data, 2023.
Caption: *1: inadequate, 2.: partially inadequate, 3: adequate 4: totally adequate. † CVI-I: individual for each question evaluated. ‡CVI per block.

Table 2 – Content validity index of the script and the storyboard of video lesson 2 "Nursing consultation with the adolescent". Chapecó, Santa Catarina, Brazil, 2023.

Items evaluated	1*	2*	3*	4*	CVI-I †	CVI‡
OBJECTIVES: Purposes, goals, or objectives						
The content facilitates the teaching-learning process in the subject	0	0	6	8	1	1
The content allows understanding the topic	0	0	5	9	1	
The content helps the nurse carry out the adolescent consultation	0	0	4	10	1	
The content contributes to clarify possible doubts about the performance of the initial evaluation (anamnesis and physical examination) of the adolescent	0	1	3	10	0.92	
The content is important to develop activities aimed at attending adolescents	0	0	4	10	1	
STRUCTURING/PRESENTATION: organization, structure, strategy, coherence, and sufficiency						
The language of the content is interactive, enabling an active involvement in the educational process that can help stimulating focus	0	0	6	8	1	0.96
The content follows a logical sequence	0	0	3	11	1	
The information presented is scientific	0	0	5	9	1	
Information is objective and clear	0	1	5	8	1	
Information is necessary and pertinent	0	2	2	10	1	
The topic is current and relevant	0	0	2	12	1	
Information is well structured in regard to orthography and concord	0	3	5	6	0.78	
RELEVANCE: significance, impact, motivation, and interest						
Content contributes to knowledge in the field	0	0	3	11	1	1
The content raises interest about the subject	0	0	4	10	1	
General CVI 0.98						

Source: Research data, 2023.
Caption: *1: inadequate, 2.: partially inadequate, 3: adequate 4: totally adequate. † CVI-I: individual for each question evaluated. ‡CVI per block.

Table 3 – Content validity index of the script and storyboard of video class 3 "Teenage pregnancy". Chapecó, Santa Catarina, Brazil, 2023.

Items evaluated	1*	2*	3*	4*	CVI-I †	CVI‡
OBJECTIVES: Purposes, goals, or objectives						
The content facilitates the teaching-learning process in the subject	0	0	4	10	1	0.98
The content allows understanding the topic	0	0	4	10	1	
The content helps the nurse carry out the adolescent consultation	0	0	5	9	1	
The content contributes to clarify possible doubts about the performance of the initial evaluation (anamnesis and physical examination) of the adolescent	0	0	6	8	0.92	
The content is important to develop activities aimed at attending adolescents	0	1	2	11	1	
STRUCTURING/PRESENTATION: organization, structure, strategy, coherence, and sufficiency						
The language of the content is interactive, enabling an active involvement in the educational process that can help stimulating focus	0	0	5	9	1	0.96
The content follows a logical sequence	0	0	6	8	1	
The information presented is scientific	0	0	5	9	1	
Information is objective and clear	0	1	5	8	0.92	
Information is necessary and pertinent	0	1	3	10	0.92	
The topic is current and relevant	0	0	3	11	1	
Information is well structured in regard to orthography and concord	0	1	7	6	0.92	
RELEVANCE: significance, impact, motivation, and interest						
Content contributes to knowledge in the field	0	0	6	8	1	1
The content raises interest about the subject	0	0	4	10	1	
The content of the booklet "Breastfeeding care" is adequate.	0	1	8	5	0.92	0.88

Table 3 – Cont

Items evaluated	1*	2*	3*	4*	CVI-I †	CVI‡
The presentation (colors, font, size) of the "Breastfeeding care" booklet is adequate	0	2	3	9	0.85	
The content of the booklet "Guidelines for pregnant women" is adequate	0	1	4	9	0.92	0.88
The presentation (colors, font, size) of the "Guidelines for pregnant women" booklet is adequate	0	2	5	7	0.85	
The content of the folder "Care for the newborn at home" is adequate	0	1	5	8	0.92	0.92
The presentation (colors, font, size) of the "Care for the newborn at home" booklet is adequate	0	1	6	7	0.92	
General CVI 0.93						

Source: Research data, 2023.
Caption: *1: inadequate, 2.: partially inadequate, 3: adequate 4: totally adequate. † CVI-I: individual for each question evaluated. ‡CVI per block.

Table 4 – Content validity index of the script and storyboard of video lesson 4 "Risk assessment in adolescence". Chapecó, Santa Catarina, Brazil, 2023.

Items evaluated	1*	2*	3*	4*	CVI-I †	CVI‡
OBJECTIVES: Purposes, goals, or objectives						
The content allows understanding the topic	0	0	5	9	1	
The content helps clarify potential doubts regarding risk assessment in teenagers.	0	0	5	9	1	
The content gives support so the nurse can provide care to the adolescents, considering the risk they are exposed to.	0	0	2	12	1	
The content is important to develop activities aimed at attending adolescents	0	1	2	11	0.92	
STRUCTURING/PRESENTATION: organization, structure, strategy, coherence, and sufficiency						
The language of the content is interactive, enabling an active involvement in the educational process that can help stimulating focus	0	1	5	8	0.92	0.96
The content follows a logical sequence	0	0	5	9	1	
The information presented is scientific	0	0	3	11	1	

Table 4 – Cont

Items evaluated	1*	2*	3*	4*	CVI-I †	CVI‡
Information is objective and clear	0	0	5	9	1	
Information is necessary and pertinent	0	0	3	11	1	
The topic is current and relevant	0	0	3	11	1	
Information is well structured in regard to orthography and concord	0	2	5	7	0.85	
RELEVANCE: significance, impact, motivation, and interest						
Content contributes to knowledge in the field	0	0	5	9	1	1
The content raises interest about the subject	0	0	3	11	1	
The content of the booklet "Adolescent consultation: risk assessment" is adequate	0	2	4	8	0.85	0.85
The presentation (colors, letter, size) of the booklet "Adolescent consultation: risk assessment" is adequate	0	3	4	7	0.85	
General CVI 0.93						

Source: Research data, 2023.
Caption: *1: inadequate, 2.: partially inadequate, 3: adequate 4: totally adequate. † CVI-I: individual for each question evaluated. ‡CVI per block.

The text in the script have some spelling errors. Some sentences could be rewritten so they would be even easier to understand. In some sentences, there is no grammatical concord. (Expert 1)

Review the text. At some points, it refers to adolescents as "she/him" and at some others as "he/him". Check the use of accents. (Expert 2)

I suggest that, in item 9, where it says "it is important to evaluate the maturity of the adolescent" using the female pronoun, the male pronoun should be used. (Expert 3)

In video lesson 2, experts also suggested rewriting some terms and sentences:

In the survey: Do you help with house chores? Do you get too tired doing that? The correct way of answering was confusing as there are two questions and a single response. Review scene 03, this is written in the records of the consultation. (Expert 1)

Same as the above [regarding video lesson 1]. Some statements could be clearer, and grammatical concord could be improved. (Expert 2)

I suggest that, in item 6, where it says "a theory by Wanda de Aguiar Horta, based on the NHB", there should be a plural. Also, in item 6, where it says the questions "is to know", it should say "are to know". Where it says "as well as qualifying nursing records", I suggest replacing by "qualifying nursing records". (Expert 3)

It is worth noting that the suggestions for video lessons 1 and 2 were accepted. Nevertheless, considering that CVI values were above the minimum recommended level of 0.8, the content was considered validated, and there was no need for a second round of validation with the experts.

No changes were suggested for video lessons 3 and 4.

Production of the video lessons

The video lessons were produced using software from the Adobe Package (Illustrator, Photoshop, Premiere, and After Effects), and are hosted on a free, open access platform. Chart 2 shows them with an access link:

Chart 2 – video lessons produced. Chapecó, Santa Catarina, Brazil, 2023.

Video lesson 1 – Introduction and legal aspects of adolescent care	**Objective: to address the general and legal aspects of adolescent care. Length: 12 minutes and 13 seconds, Access link: https://www.youtube.com/watch?v=wFH0KIHhFyQ&list=PLIUprRfmzPsIIxxs7dhazFUfz0FfKCff1&index=76**
Video lesson 2 – Adolescent consultation	Objective: to give support for nurses to perform the first stage of the adolescent consultation, called nursing evaluation. The script of this video lesson was maid to assist in data collection and physical examination. It was built using the theory by Wanda de Aguiar Horta, based on Basic Human Needs. Length: 19 minutes and 57 seconds. *Access link:* https://www.youtube.com/watch?v=c7Y9NQyJ8-c&list=PLIUprRfmzPsIIxxs7dhazFUfz0FfKCff1&index=71
Video lesson 3 – Pregnancy in Adolescence	Objective: to give support to the nurse regarding care for pregnant adolescents; to recognize the main health and psychological risks, as well as the social impacts; to address prenatal care and actions to prevent new pregnancies in adolescence. Length: 14 minutes 58 seconds. *Access Link:* https://www.youtube.com/watch?v=eFSJDUEgZ20&list=PLIUprRfmzPsIIxxs7dhazFUfz0FfKCff1&index=76&pp=gAQBiAQB
Video lesson 4 – Adolescent risk assessment	Objective: to give support to the nurse in assessing the risk of an adolescent for the use of psychoactive substances, depression, and suicide; to know the risk behaviors to which adolescents are vulnerable; to understand the application of an instrument that helps in the investigation of alcohol and drug use, the presence of depression, and the risk of suicide in adolescence. Length: 16 minutes and 52 seconds. *Access link:* https://www.youtube.com/watch?v=5kSjy4UcvYQ

Source: Research data, 2023.

DISCUSSION

This research outlined the stages of development and validation of a series comprising four video lessons, entitled "Teen talk". Each video lesson discusses a topic that is relevant for the context of nursing consultations with adolescents in the PHC, which was selected after a situational diagnosis.

The content of the video lessons was developed according to the needs that nurses experience in their work context. This strategy has been adopted in other studies, showing itself to be efficient as it is applicable to health care practice[20,21].

The development of methodological research in the field of health, especially in that of nursing, has been growing, these are found in several studies to develop and validate educational technologies[20,22-25]. The development and validation of these technologies lead to a direct connection between theory, practice, and the target audience of the topic investigated, ensuring its methodological rigor[20,21]. This process not only ensures that the educational interventions will be pertinent and efficient, but also science-based, promoting a robust approach, anchored on the practical application of the results found.

Elaborating a script to develop the video classes was a careful strategic approach to fill in the gap found in literature. Since we did not find in literature a script that could meet the specific needs of the present study, we created one based on the results of a literature review [14-16], which enabled us to produce the video lessons.

The guidance found in the studies[15-16] provided guidelines for producing the script, highlighting how relevant it is to write clearly and objectively, following a logcal sequence to facilitate viewer's understanding. The emphasis on presenting the most relevant aspects of the topic, their practical applicability, and their connection with the previous knowledge of the public ensure that the video lessons produced are relevant and profound.

Avoiding repetition, ambiguity, and visual pollution on the screen are concerns that show commitment with the quality and efficiency of communication, ensuring that the content is communicated in a clear and concise manner. A careful selection of keywords, as well as illustrations and animations, contributes to reiterate the understanding of the content, engaging the viewer in the topic being discussed in a more effective manner.

In turn, the second literature review reiterates the importance of implementing nursing consultations with adolescents as an opportunity, for him and for adolescents in general, to acquire new knowledge. This practice is also seen as a way to raise awareness about self-care, clarifying doubts and promoting an individualized approach that meets the specific needs of this audience[1,26].

Studies suggest that investing in professional training for nurses to attend adolescents is crucial. However, they also show that professionals trained to attend adolescents are still uncommon, which can be an obstacle for the provision of adequate care[3]. Furthermore, the demand of nursing work is often understood as an obstacle to the development of actions directed at adolescents. These actions, when they happen, tend to focus on activities such as scheduling consultations, informal individual conversations, lectures, and guidance, often carried out during the actions developed by the School Health Program [1,26]

Nowadays, nurses are concerned with building bonds and providing adequate care to adolescents, as they recognize how important this is for the well-being and efficacy of health care interventions. Furthermore, the actions of the nurse are extremely important when the adolescent is dealing with health issues or disease, showing how important integrated and holistic approaches are to ensure that they receive as good a care as possible[1,26].

Moreover, the complexity of adolescent care during nursing practice is notorious, indicating that there are areas that require attention and must be improved, both in regard to professional training and reorganization of health services. These pieces of data provide important support for the development of efficient strategies to intervene and improve health care for this specific population group[1,26].

Regarding content validation, it is important for experts to be experienced in the subject, so the quality and pertinence of the development and validation of the technology can be guaranteed[20,27]. Still, studies highlighted the importance of the expertise of the evaluators to ensure that the content addressed answers to the needs and realities faced by the target audience[24,28].

The content validation reached satisfactory results for most items, with a CVI-I above 0.8. However, in section 2, which evaluated the structure/presentation of video lessons 1 and 2, one of the questions obtained a CVI-I of 0.78. Considering that this item was related ot the structure of information, concord, and spelling, we rewrote some elements and carried out a text revision, adapting it to the suggestions of the expert nurses.

The improvement of the content regarding concord and spelling for the final version of the script in the video lessons was also carried out in a study conducted to add, complement, and rewrite some elements, in addition to improving dialogue and reducing or replacing some terms presented[29] From this perspective, it is relevant to have well-structured

information, with adequate spelling and concord, so it can be easily understood and interest its audience[27,28].

Suggestions from the expert nurses contributed to increase the quality of the scripts that were used to produce the video lessons. In this regard, it is important to consider the recommendations, so the study can be improved technically and scientifically[27].

Finally, it is important that we acknowledge the limitations of this study, especially regarding the local nature of the topics addressed. Still, they have the potential to be adapted and replicated in other contexts, since adolescent health care in the context of PHC is still rudimentary and incipient[30]. This limitation highlights the need for later research that explore, expand, and adapt the topics at hand, considering the specific needs and challenges faced by nurses in different geographic regions of the country. There is also a need to implement video lessons in the form of an online course and, later, evaluate the impact of their implementation and of the implementation of nursing consultations for adolescents, and, consequently, to the promotion of the health of this population.

FINAL CONSIDERATIONS

The goal of this study was reached, seeing as the content of the video lessons was validated in line with expectations. This allowed producing the series "Teen talk", formed by four video classes with the potential of helping train the nurse to implant and implement nursing consultations for adolescents in the PHC.

The video lessons thus produced are a significant educational technology with an innovative content, and a PHE strategy to train the nurse so they can carry out consultations for adolescents, providing access to visually stimulating and easy-to-understand content. The lessons were developed as a response to the training needs of nurses, regarding their professional practice, and provided them with practical guidance based on scientific literature.

We expect this study to directly benefit nurses and, indirectly, benefit the adolescents that receive care in the PHC, while also contributing for a positive change in the approach and prioritization of adolescent health at the local, national, and global levels.

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