Original Article

Validation of an instrument for the evaluation of adolescents' knowledge about Hansen's disease

Validação de instrumento para avaliação do conhecimento de adolescentes sobre hanseníase

Validación del instrumento para la evaluación del conocimiento de los adolescentes sobre la hanseniasis

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Keywords
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Descritores
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Abstract
Objective: To construct and validate instruments for the evaluation of adolescents' knowledge about Hansen's disease and characterization of these subjects.
Methods: Methodological study developed in three steps, namely: construction of instruments; face and content validation with seven judges; and semantic validation with 20 adolescents aged from 10 to 14 years.
Results: There was more than 80% agreement among judges in all domains, items and components evaluated. The general agreement among judges for the instrument for evaluation of adolescents' knowledge on Hansen's disease with 14 items was 89%, and for the instrument for characterization of participants with 17 items, agreement was 93%. In the semantic validation, the instruments were considered of good understanding, and there were no difficulties for completing them. Among adolescents, 10% reported having or having had cases of Hansen's disease in the family. Most adolescents (55%) had never heard of or received information about Hansen's disease, and most (60%) also said they did not know what Hansen's disease was.
Conclusion: The instruments constructed to evaluate adolescents' knowledge about Hansen's disease and to characterize the studied population were considered valid regarding face, content and semantics. The appearance, comprehension and relevance were considered as very good or excellent in both instruments, and they can be applied to the target population.

Resumo
Objetivo: Construir e validar instrumentos para avaliação do conhecimento de adolescentes sobre hanseníase e caracterização dos sujeitos.
Métodos: Pesquisa metodológica, desenvolvida em três etapas, a saber: construção dos instrumentos; validação de face e conteúdo com sete juízes; e validação semântica com 20 adolescentes, de 10 a 14 anos.
Resultados: Houve concordância superior a 80% entre os juízes quanto a todos os domínios, itens e componentes avaliados. A concordância geral entre os juízes para o instrumento de avaliação do conhecimento de adolescentes sobre hanseníase, com 14 itens, foi de 89% e do instrumento para caracterização dos participantes, com 17 itens, foi de 93%. Na validação semântica, os instrumentos foram considerados com boa compreensão, e não houve dificuldades para seu preenchimento. Entre os adolescentes, 10% afirmaram ter ou ter tido casos de hanseníase na família. A maioria dos adolescentes (55%) nunca tinha ouvido falar ou tinha recebido informações sobre hanseníase, assim como a maioria (60%) afirmou não saber o que era a hanseníase.
Conclusão: Os instrumentos construídos para avaliar o conhecimento de adolescentes sobre hanseníase e caracterizar a população estudada foram considerados válidos quanto à face, ao conteúdo e à semântica. Ambos os instrumentos apresentaram aparência, compreensão e relevância consideradas muito boas ou excelentes, podendo ser aplicados ao público de estudo.

Resumen
Objetivo: Construir y validar instrumentos para evaluar el conocimiento de adolescentes sobre hanseniasis y caracterización de los sujetos.
Métodos: Investigación metodológica desarrollada en tres etapas, a saber: construcción de los instrumentos, validación de cara y contenido con siete jueces y validación semántica con 20 adolescentes de 10 a 14 años.
Resultados: Hubo correspondencia superior al 80% entre los jueces en cuanto a todos los elementos, ítems y componentes evaluados. La correspondencia general entre los jueces para el instrumento de evaluación del conocimiento de adolescentes sobre hanseniasis, con 14 ítems, fue del 89%, y del instrumento para caracterización de los participantes, con 17 ítems, fue del 93%. En la validación semántica los instrumentos fueron considerados con buena comprensión y no hubo dificultades para su diligenciamiento. Entre los adolescentes, el 10% afirmó tener o haber tenido casos de hanseniasis en la familia. La mayoría de los adolescentes (55%) nunca había oído hablar o había recibido información sobre la hanseniasis, así como la mayoría (60%) afirmó no saber lo que era la hanseniasis.
Conclusión: Los instrumentos construidos para evaluar el conocimiento de adolescentes sobre hanseniasis y caracterizar a la población estudiada fueron considerados válidos en cuanto a la cara, el contenido y la semántica. Ambos instrumentos presentaron apariencia, comprensión y relevancia consideradas muy buenas o excelentes, por lo que se pudieron aplicar al público estudiado.

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Introduction

Hansen's disease (also known as leprosy) is a chronic, infectious, contagious disease caused by the *Mycobacterium leprae* bacillus, and it has high endemicity in Brazil.[1,2] It mainly affects the peripheral nervous system, skin and other tissues, such as the reticuloendothelial system, bones and joints, mucous membranes, eyes, testicles, muscles and adrenal glands. Its clinical presentation varies from few to generalized lesions. In most patients, Hansen's disease initially presents as a macular and hypopigmented lesion. However, in the absence of treatment, these patients develop more severe forms of the disease that cause deformities and physical disabilities.[3]

Children under 15 years old affected by this disease can have their growth and development compromised. As a result, they may need to deal with certain deprivations that affect not only patients' physical aspects, but also their social and psychological sphere.[4]

The negative social representations of the body with leprosy come from the symbolic construction based on beliefs, fears and terror that originated social taboos around Hansen's disease.[5] This is a historical disease permeated by myths and taboos that are difficult to demystify hence, many patients experience stigma and social segregation, and their quality of life is impaired.[6]

Although in Brazil there was a decreasing trend in the detection rate of Hansen's disease in children between 2001 and 2016, the average rate in the country was classified as very high endemicity. In 2016, the detection rate in this population was 2.71 per 100 thousand inhabitants, considered high. In addition, there are stationary trends and hyperendemicity in some Federation Units and Brazilian capitals, such as Mato Grosso and Cuiabá, respectively.[2]

In the state of Mato Grosso, there was a trend of growth in the proportion of new multibacillary cases and in the proportion of new cases with grade 2 physical disability in children under 15 years between years 2001 and 2013. These factors indicate late diagnosis and the permanence of sources of transmissibility of the disease.[7]

One of the strategies advocated by the Ministry of Health for reducing the burden of Hansen's disease is health education. This is essential for the promotion of knowledge about Hansen's disease to the general public, especially those aged under 15 years, because this population is considered vulnerable. Its purpose is to encourage the population to seek health services if there is doubt about presence of disease, and to eliminate false cultural concepts, inform about the general aspects of the disease and promote self-care.[1]

In addition, coherent educational measures should assist in the population's process of reconstructing social representations of the Hansen's disease. Stigmatization reflects the knowledge of the population's social belongings on the disease.[5]

In an integrative review study[8] about educational practices on Hansen's disease with adolescents, were identified nine studies that developed this type of intervention. The studies analyzed indicated that most adolescents had already heard of the disease in a superficial way, especially those who live in hyperendemic areas, but in general, when evaluated, they demonstrated a lack of knowledge about Hansen's disease. However, such evaluation was not done with valid and reliable instruments. The conduction of more robust studies on the effectiveness of educational interventions on Hansen's disease is recommended.[8]

In spite of studies on educational interventions with an evaluation component of adolescents' knowledge and the necessity to use validated and reliable instruments for this evaluation, in the literature were found no instruments that evaluate such a construct. This shows the need to develop an instrument to evaluate the target public's knowledge on the subject addressed.

The objective of this study was to construct and validate instruments for the evaluation of adolescents' knowledge about Hansen's disease and characterization of these subjects.

Methods

Methodological study conducted at a public school in the urban zone of the city of Cuiabá (state of Mato

Grosso/MT) that was randomly chosen through the Excel® software. The coordinator of the school included in the study authorized the development of the research, as requested by the Superintendency of Basic Education of the State.

The research was conducted in three steps, namely: construction of the instrument; face and content validation by the judges' committee; and checking of semantics with adolescents. For the construction of the instrument, the researcher must carefully monitor the construction of each item, ensure its clarity, sensitivity and precision.[9] After the construction of an instrument, its validation is important to check if it measures exactly what it proposes to measure through methods such as face, content and semantics validation, either related to a criterion of the instrument or to the construct as a whole.[10,11] Subsequently, experimental and analytical procedures can be applied in order to ensure the other attributes of an instrument.[11]

In the process of construction and face and content validation, was formed a committee of judges specialized in the areas of validation, pediatrics/hebiatrics and Hansen's disease. Twenty-three specialists chosen by non-probabilistic convenience sampling through analysis of the Lattes Curriculum were invited to participate. All had clinical experience and publications in one of three cited areas. Seven experts agreed to participate in the study. In the literature, there is no consensus on the number of judges, but seven judges is considered sufficient at this step.[11,12]

For the semantic validation, adolescents from 10 to 14 years of age were selected for convenience. The first four students of each age who agreed to participate and handed the parental Informed Consent form were included. Brainstorm was the analysis technique used in the evaluation of items. It is aimed at collecting ideas from all participants. Five groups per age were formed (10, 11, 12, 13 and 14 years old) with four subjects in each, and 20 subjects in total. Validation started in the youngest age group, and one session was sufficient for achieving the purpose.[11]

The instrument for evaluation of adolescent' knowledge about Hansen's disease contains closed and multiple choice answers. According to several authors, this is the most efficient way for knowledge psychometric evaluation,[13,14] thus it is a nominal measurement.[9] The construction of the Instrument for the Evaluation of Adolescents' Knowledge about Hansen's disease was based on the 'Guidelines for Surveillance, Attention and Elimination of Hansen's disease as a Public Health Problem: Technical and Operational Manual' of the Ministry of Health. Through these guidelines, were determined the domains of the instrument and then, were developed the items.[1] The instrument for characterization of adolescents has questions about sociodemographic and epidemiological variables, as follows: age, date of birth, sex, school year, time in the same school, if they have ever heard or received information about Hansen's disease, if they know what Hansen's disease is, if there are or there were people with Hansen's disease in the family, if they have ever been examined for Hansen's disease, in which situation they were examined, if they know any neighbor, someone from school, classroom or other place that has or had Hansen's disease, and if they have or had Hansen's disease.

Both instruments were validated using the specific platform for online surveys called SurveyMonkey®. It is an electronic platform that allows the collection, analysis and transfer of data directly to a statistical analysis software.

Regarding the evaluation, the judges were asked to analyze each of the items regarding criteria of appearance, comprehension and relevance by means of a 5-point Likert scale (1 to 5). For appearance and comprehension, the options were: 1 bad; 2, reasonable; 3, good; 4, very good; and 5, excellent. For relevance, the options were: 1 irrelevant; 2, little relevance; 3, moderately relevant; 4, relevant; and 5, highly relevant.

Changes were made to inadequate and ambiguous items, and those that best fit the designated situation were readjusted. Items were added according to experts' opinion, always maintaining the proposal of the instrument.

For the quantitative analysis of content validation, was applied the Content Validity Index,[10] which measured the proportion of judges in agreement on the components evaluated (appearance,

comprehension and relevance) in each item and for the whole instrument.

In the evaluation of a component for a specific item, the analysis procedure consisted of adding up the number of judges who assigned 4 or 5 points of the Likert scale and divide the result by the number of judges. In order to evaluate the average agreement of judges in relation to each item, was calculated the simple arithmetic mean of the Content Validity Indexes of the components evaluated in each item, thereby obtaining the Content Validity Index of each item. The agreement of the instrument as a whole was evaluated by the simple arithmetic mean of the Content Validity Index of each item.

In all evaluations, was considered the minimum agreement of 0.80 between judges, so that all items and components evaluated with a Content Validity Index lower than 0.80 were revised and reanalyzed.[10]

The questionnaires were completed by participants individually. Subsequently, item by item was presented to each group, and the members were asked to reproduce them, as the item should be understood correctly. If the item was not understood, the subjects should suggest changes in its formulation. If items were difficult to comprehend after five sessions, they were excluded.[11]

Questions like 'did you have any difficulty completing this questionnaire?'; 'would you like to change anything?' and 'did you understand the question?' were asked by researchers during the recorded session. Then, dialogues were transcribed, organized and analyzed with use of the descriptive technique.

The database was structured with use of the Excel software and double independent typing. Data from both banks were compared with the Data Compare tool to avoid possible inconsistencies. The descriptive analysis was performed through frequency tables and use of the Statistical Package for Social Science (SPSS), version 20.0.

Results

The instrument for evaluation of adolescents' knowledge about Hansen's disease was constructed based on the following nine domains: definition and etiology (item 1), epidemiological facts (item 2), signs and symptoms (item 3), transmission (items 4 and 5), stigma and prejudice (items 5, 6 and 14), diagnosis (item 7), treatment (items 8, 9 and 10), deformities and disabilities (items 11 and 12), and disease control measures (items 13 and 14). After the instrument was developed, the items of each domain were submitted to face and content validation by the expert committee until reaching the minimum agreement of 0.80 among specialists in a total of 14 items (Appendix 1).

The expert's committee was composed of seven judges represented by four nurses, one doctor, one occupational therapist and one pedagogue. Of these, two had expertise in the area of validation of instruments, two in the area of Hansen's disease and three in the area of hebiatrics. There was a predominance of female sex (71.4%), professionals with a nursing degree (57.4%), time since graduation greater than 30 years (71.4%), professional experience of more than 20 years in the area of practice (71.4%) and PhD degree (85.7%). All judges (100.0%) had articles published in journals indexed in their area of activity.

After evaluation by the expert's committee, all domains of the instrument obtained Content Validity Index ≥ 0.88. This was possible after incorporating the experts' suggestions, such as grammatical changes, substitution of terms considered as of difficult understanding and alteration of the sequence of items.

The experts' judgment regarding appearance and comprehension of items was expressed by the average Content Validity Index of 0.85, but, in terms of relevance, this average index of items was 0.98 (Table 1). Regarding the three aspects of the evaluation, for all items was obtained the average Content Validity Index ≥0.85, and the overall index of the instrument was 0.89.

An instrument for sociodemographic and epidemiological characterization of these adolescents was also developed and validated by the experts. It included 17 open and closed questions about sociodemographic and epidemiological variables (Appendix 2). Regarding the appearance, the mean

Table 1. Content Validity Indexes obtained from the experts' evaluation regarding the three components of evaluation, Instrument for Evaluation of Adolescents' Knowledge about Hansen's disease

Item	Components of evaluation			Mean
	Appearance	Comprehension	Relevance	
1	0.85	0.85	1.00	0.90
2	0.85	0.85	1.00	0.90
3	0.85	0.85	1.00	0.90
4	0.85	0.85	1.00	0.90
5	0.85	0.85	1.00	0.90
6	0.85	0.85	1.00	0.90
7	0.85	0.85	1.00	0.90
8	0.85	0.85	1.00	0.90
9	0.85	0.85	1.00	0.90
10	0.85	0.85	0.85	0.85
11	0.85	0.85	1.00	0.90
12	0.85	0.85	1.00	0.90
13	0.85	0.85	1.00	0.90
14	0.85	0.85	1.00	0.90
Mean	0.85	0.85	0.98	0.89

Content Validity Index of items was 0.85, but in terms of comprehension and relevance, the mean index of items was 0.97. As shown in table 2, the mean Content Validity Index of all items for the three components of the evaluation was ≥0.90 and the overall index of the instrument was 0.93.

Table 2. Content Validity Indexes obtained from the experts' evaluation regarding the three components of evaluation of the sociodemographic and epidemiological questionnaire

Item	Components of evaluation			Mean
	Appearance	Comprehension	Relevance	
1	0.85	1.00	1.00	0.95
2	0.85	1.00	1.00	0.95
3	0.85	1.00	1.00	0.95
4	0.85	1.00	1.00	0.95
5	0.85	1.00	1.00	0.95
6	0.85	1.00	1.00	0.95
7	0.85	0.85	1.00	0.90
8	0.85	1.00	0.85	0.90
9	0.85	0.85	1.00	0.90
10	0.85	1.00	0.85	0.90
11	0.85	0.85	1.00	0.90
12	0.85	1.00	1.00	0.95
13	0.85	1.00	1.00	0.95
14	0.85	1.00	0.85	0.90
15	0.85	1.00	1.00	0.95
16	0.85	1.00	1.00	0.95
17	0.85	1.00	1.00	0.95
Mean	0.85	0.97	0.97	0.93

After the face and content validation with agreement higher than 0.85 among judges for all items and components evaluated, the instruments were semantically validated by adolescents, who did not suggest changes (100%), affirmed that comprehension was good (100%), and reported no difficulties with completing it (100%). However, researchers felt the need to add an observation in questions 6 and 10 of the sociodemographic and epidemiological questionnaire related to moving on to the following question in case the answer was 'no' or 'I don't know' (eg "if your answer is 'no' or 'I don't know', skip to question 12"). This was because questions 7 and 11 were related to the previous questions if the answer was 'yes'.

Most adolescents (70.0%) were female (Table 3), and had never heard or received information about the disease (55.0%), and 60.0% reported not knowing what Hansen's disease was. Among adolescents who had heard or received information about Hansen's disease, most said this occurred at school (66.7%). Those who reported having or having had Hansen's disease cases in the family accounted for 10%, and adolescents who knew of a neighbor with Hansen's disease at the time of research or previously represented 5% of the sample.

Table 3. Sociodemographic and epidemiological characteristics of adolescents aged 10 to 14 years

Variables	n(%)
Sex	
Female	14(70.0)
Male	6(30.0)
School grade	
5th	4(20.0)
6th	4(20.0)
7th	6(30.0)
8th	4(20.0)
9th	2(10.0)
Time at the school (year)	
Less than 1	2(10.0)
1-3	8(40.0)
Less than 3	10(50.0)
Has heard/received information about Hansen's disease	
No	11(55.0)
Yes	9(45.0)
Place where has heard/received information about Hansen's disease	
At home	1(11.1)
At school	6(66.7)
In health unit	1(11.1)
On TV	1(11.1)
Knows what Hansen's disease is	
No	12(60.0)
Yes	8(40.0)

Continue...

Continuation.

Variables	n(%)
Has or has had Hansen's disease	
No	20(100.0)
Yes	0(0)
Cases of people with Hansen's disease in the family	
No	18(90.0)
Yes	2(10.0)
Has been examined for Hansen's disease	
No	9(45.0)
Yes	2(10.0)
Doesn't know	9(45.0)
Total	20(100.0)

Discussion

The limitation of this study was the fact that it is strictly a validity assessment, and further research is needed to verify the reliability of the instruments presented here. However, these instruments are considered valid to measure adolescents' knowledge about Hansen's disease and to characterize them.

The evaluation of the instrument demonstrated important and significant characteristics of the construct. The appearance, comprehension and relevance were considered as very good or excellent by the experts. This instrument comprised fields of knowledge already described in other studies that aimed to verify knowledge about Hansen's disease, but did not use valid nor reliable instruments.[15,16]

The conceptual structuring step is very important because the more detailed the specification of the construct, the better the sequence of the process, which guarantees a useful and valid instrument.[12]

The face and content validation by the panel of experts in the area agreed on relevance or high relevance, and very good or excellent appearance and comprehension thus, was identified its applicability to evaluate the desired construct. The experts exerted considerable influence in the development of items, since they represent the latest knowledge in the area.[16,17]

The Content Validity Index is widely used for content validation, since it allows to analyze each domain, each component, each item and the instrument as a whole.[18,19] In a study, was obtained Content Validity Index above 0.8 for most items of an instrument and it was considered valid, because the indices recommended by the adopted reference were contemplated, and the questions were considered clear and representative of the context evaluated.[19] The Instrument for Evaluation of Adolescents' Knowledge about Hansen's disease presented a considerable Content Validity Index, because the closer to value 1, the greater the judges' agreement regarding comprehension, relevance and appearance of the instrument. Consequently, the instrument was considered safe because it presented a content that measured what was proposed.[10]

As this study involves a hyperendemic disease in the state of Mato Grosso and the population under 15 years of age is considered vulnerable, an instrument to characterize adolescents was essential because it will be useful for collection of sociodemographic and epidemiological data. These data are determinants of health, and have been used in most epidemiological studies regarding the subject. An analytical work presented without these variables can lead to erroneous conclusions that the presented factor is a direct cause of the obtained effect.[20]

The characterization instrument constructed in the present study obtained a great Content Validity Index, and was considered valid regarding content, since it also really measured what was proposed.[10]

Authors generally use alternate methods for semantic validation, but most of them perform it by means of a pilot test in the population to be analyzed, which is done with a small sample of people as in the present study.[19,21]

A semantically valid instrument is understandable and applicable to the target population to be studied.[22] Therefore, the constructed and validated instruments can be applied in several situations for evaluating adolescents' knowledge about Hansen's disease and the characterization of this population.

Even though this is a disease of hyperendemicity in the State of Mato Grosso, in this study most adolescents reported not knowing, and having never heard or received information about Hansen's disease. Among adolescents who heard about it, most reported this happened at school. For the control and reduction of Hansen's disease, some actions are recommended, such as health education.[23] The school space has the largest number of adolescents, and is one of the foundations of education, citizenship and formation of a society.[24] Thus, it is a sin-

gular locus, where interlocution between education and health is allowed, which leads to adolescents' greater responsibility on a subject as complex as Hansen's disease.[25]

Subjects that reported cases of Hansen's disease in the family had never been examined for the disease, and the examination of contacts, an effective method for the early diagnosis and consequent interruption of the chain of transmission, was not performed.[26] This is understood as a barrier to disease control and elimination, because a healthy individual in contact with a bacilliferous member of the family has a nine-fold increased risk of developing the disease compared to the general population.[27]

Evaluating the knowledge of the population is essential. Based on these results, health education actions can be developed with a view to improving the knowledge of the target population, and the effectiveness of the pedagogical strategy used can be evaluated through new studies.[23,25]

Conclusion

The instruments constructed to evaluate adolescents' knowledge about Hansen's disease and to characterize the studied population were considered valid regarding face, content and semantics. For both instruments, the appearance, comprehension and relevance were considered very good or excellent, and they are applicable to the study population. Thus, the instruments can be used safely by nurses and health professionals for directing health education actions on Hansen's disease at schools.

Collaborations

Soares JEF, N Soares LS, Freitas BHBM and Bortolini J declare they have contributed to the conception and design, analysis and interpretation of data, writing of the article, critical review of intellectual content and final approval of the version to be published.

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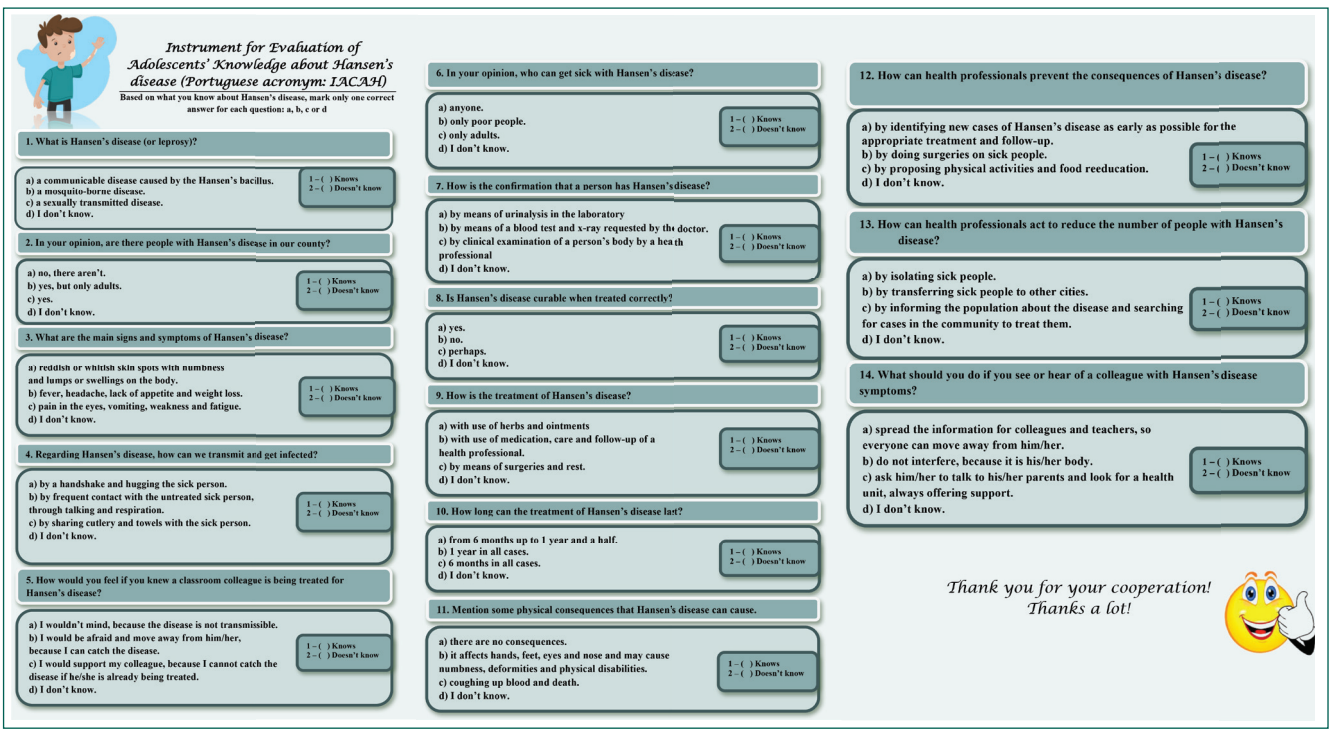
Annex 1. Instrument for evaluation of adolescents' knowledge about Hansen's disease



Instrument for Evaluation of Adolescents' Knowledge about Hansen's disease (Portuguese acronym: IACAH)

Based on what you know about Hansen's disease, mark only one correct answer for each question: a, b, c or d

1. What is Hansen's disease (or leprosy)?
a) a communicable disease caused by the Hansen's bacillus.
b) a mosquito-borne disease.
c) a sexually transmitted disease.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

2. In your opinion, are there people with Hansen's disease in our county?
a) no, there aren't.
b) yes, but only adults.
c) yes.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

3. What are the main signs and symptoms of Hansen's disease?
a) reddish or whitish skin spots with numbness and lumps or swellings on the body.
b) fever, headache, lack of appetite and weight loss.
c) pain in the eyes, vomiting, weakness and fatigue.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

4. Regarding Hansen's disease, how can we transmit and get infected?
a) by a handshake and hugging the sick person.
b) by frequent contact with the untreated sick person, through talking and respiration.
c) by sharing cutlery and towels with the sick person.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

5. How would you feel if you knew a classroom colleague is being treated for Hansen's disease?
a) I wouldn't mind, because the disease is not transmissible.
b) I would be afraid and move away from him/her, because I can catch the disease.
c) I would support my colleague, because I cannot catch the disease if he/she is already being treated.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

6. In your opinion, who can get sick with Hansen's disease?
a) anyone.
b) only poor people.
c) only adults.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

7. How is the confirmation that a person has Hansen's disease?
a) by means of urinalysis in the laboratory
b) by means of a blood test and x-ray requested by the doctor.
c) by clinical examination of a person's body by a health professional
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

8. Is Hansen's disease curable when treated correctly?
a) yes.
b) no.
c) perhaps.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

9. How is the treatment of Hansen's disease?
a) with use of herbs and ointments
b) with use of medication, care and follow-up of a health professional.
c) by means of surgeries and rest.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

10. How long can the treatment of Hansen's disease last?
a) from 6 months up to 1 year and a half.
b) 1 year in all cases.
c) 6 months in all cases.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

11. Mention some physical consequences that Hansen's disease can cause.
a) there are no consequences.
b) it affects hands, feet, eyes and nose and may cause numbness, deformities and physical disabilities.
c) coughing up blood and death.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

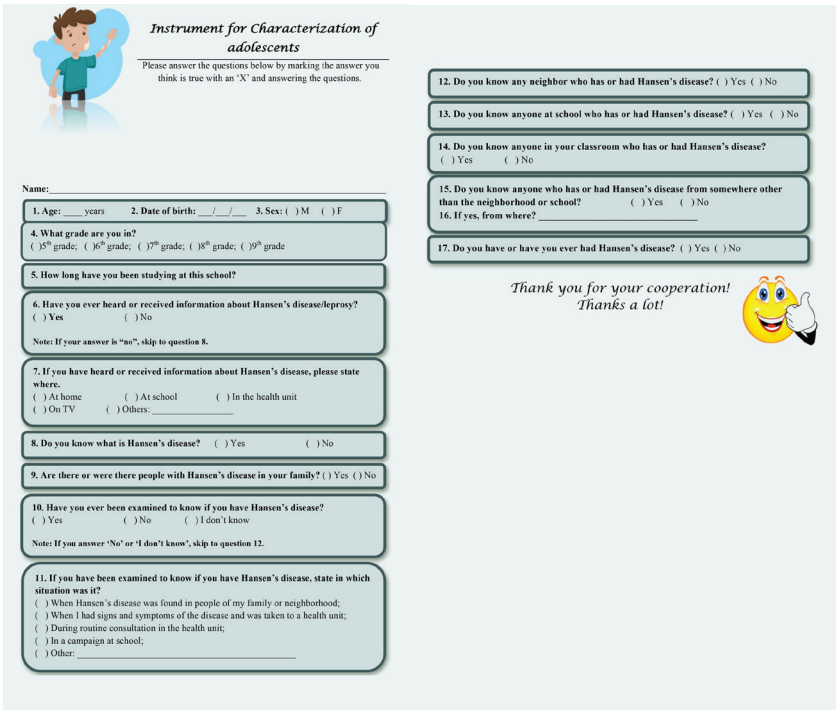
12. How can health professionals prevent the consequences of Hansen's disease?
a) by identifying new cases of Hansen's disease as early as possible for the appropriate treatment and follow-up.
b) by doing surgeries on sick people.
c) by proposing physical activities and food reeducation.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

13. How can health professionals act to reduce the number of people with Hansen's disease?
a) by isolating sick people.
b) by transferring sick people to other cities.
c) by informing the population about the disease and searching for cases in the community to treat them.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

14. What should you do if you see or hear of a colleague with Hansen's disease symptoms?
a) spread the information for colleagues and teachers, so everyone can move away from him/her.
b) do not interfere, because it is his/her body.
c) ask him/her to talk to his/her parents and look for a health unit, always offering support.
d) I don't know.
1 – ( ) Knows 2 – ( ) Doesn't know

Thank you for your cooperation!
Thanks a lot!

Annex 2. Instrument for characterization of adolescents



Instrument for Characterization of adolescents

Please answer the questions below by marking the answer you think is true with an 'X' and answering the questions.

Name:_____

1. Age: ____ years **2. Date of birth:** ___/___/___ **3. Sex:** ( ) M ( ) F

4. What grade are you in?
( )5th grade; ( )6th grade; ( )7th grade; ( )8th grade; ( )9th grade

5. How long have you been studying at this school?

6. Have you ever heard or received information about Hansen's disease/leprosy?
( ) **Yes** ( ) No

Note: If your answer is "no", skip to question 8.

7. If you have heard or received information about Hansen's disease, please state where.
( ) At home ( ) At school ( ) In the health unit
( ) On TV ( ) Others: _____

8. Do you know what is Hansen's disease? ( ) Yes ( ) No

9. Are there or were there people with Hansen's disease in your family? ( ) Yes ( ) No

10. Have you ever been examined to know if you have Hansen's disease?
( ) Yes ( ) No ( ) I don't know

Note: If you answer 'No' or 'I don't know', skip to question 12.

11. If you have been examined to know if you have Hansen's disease, state in which situation was it?
( ) When Hansen's disease was found in people of my family or neighborhood;
( ) When I had signs and symptoms of the disease and was taken to a health unit;
( ) During routine consultation in the health unit;
( ) In a campaign at school;
( ) Other: _____

12. Do you know any neighbor who has or had Hansen's disease? ( ) Yes ( ) No

13. Do you know anyone at school who has or had Hansen's disease? ( ) Yes ( ) No

14. Do you know anyone in your classroom who has or had Hansen's disease?
( ) Yes ( ) No

15. Do you know anyone who has or had Hansen's disease from somewhere other than the neighborhood or school? ( ) Yes ( ) No
16. If yes, from where? _____

17. Do you have or have you ever had Hansen's disease? ( ) Yes ( ) No

Thank you for your cooperation!
Thanks a lot!