






PEDAGOGICAL ARTICLE

Scheme to improve learning about Health Situation Analysis

Esquema para mejorar el aprendizaje sobre el Análisis de la Situación de Salud

Esquema para melhorar o aprendizado sobre Análise da Situação de Saúde

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ABSTRACT

Introduction: the analysis of the health situation is a fundamental investigation carried out in the Cuban health system, in which health is studied, the elements that determine it and the ways to improve it. **Objective:** to evaluate the design proposal of a scheme that contributes to the improvement of learning of the analysis of the health situation of the community for the residents of the Comprehensive General Medicine specialty, belonging to the Universidad de Ciencias Médicas de Guantánamo. **Method:** a descriptive pedagogical research was carried out in the aforementioned institution during the period March-July 2022. From a universe of 67 teachers who agreed to participate, 26 were selected by intentional sampling. To obtain primary data, three Likert-type questionnaires were applied to evaluate the scheme, taking into consideration the structure, functionality and contribution to learning. These questionnaires included the responses: Totally

disagree, Disagree, neither agree nor disagree, Agree and totally agree. Data were summarized in absolute numbers and percentages. They were presented in frequency distribution tables. **Results:** the subtotals of Completely Agree and Agree responses on the structural and functional evaluation, as well as the expected influence of this to improve the learning of health situation analysis, were considered adequate when exceeding the standard. **Conclusions:** the proposed scheme is evaluated as adequate in structure and functionality. The influence expected from this to improve learning about the analysis of the community's health situation is considered positive.

Keywords: health situation; scheme; learning; community; Cuba



RESUMEN

Introducción: el análisis de la situación de salud es una investigación primordial que se realiza en el sistema de salud cubano, en el que se estudia la salud, los elementos que la determinan y las formas de mejorarla. **Objetivo:** evaluar la propuesta de diseño de un esquema que contribuya a la mejora del aprendizaje del análisis de la situación de salud de la comunidad para los residentes de la especialidad Medicina General Integral, pertenecientes a la Universidad de Ciencias Médicas de Guantánamo. **Método:** se realizó una investigación pedagógica de tipo descriptiva en la antes mencionada institución durante el período marzo-julio de 2022. De un universo de 67 profesores que aceptaron participar, se seleccionaron 26 por muestreo intencional. Para obtener los datos primarios fueron aplicados tres cuestionarios tipo Likert para evaluar el esquema, en consideración con la estructura, la funcionalidad y el aporte en el aprendizaje. Dichos cuestionarios incluyeron las respuestas: Totalmente en desacuerdo, En desacuerdo, Ni de acuerdo ni en desacuerdo, De acuerdo y Totalmente de acuerdo. Los datos se resumieron en números absolutos y porcentajes. Se presentaron en tablas de distribución de frecuencias. **Resultados:** los subtotales de respuestas Totalmente de acuerdo y De acuerdo sobre la evaluación estructural y funcional, así como la influencia que se espera de este para mejorar el aprendizaje del análisis de situación de salud, se consideraron adecuados al superar el estándar. **Conclusiones:** el esquema propuesto es evaluado como adecuado en estructura y funcionalidad. Se considera positiva la influencia que se espera de este para mejorar el aprendizaje del análisis de situación de salud de la comunidad.

Palabras clave: situación de salud; esquema; aprendizaje; comunidad; Cuba

RESUMO

Introdução: a análise da situação sanitária é uma investigação fundamental realizada no sistema de saúde cubano, no qual se estuda a saúde, os elementos que a determinam e as formas de melhorá-la. **Objetivo:** avaliar a proposta de desenho de um esquema que contribua para a melhoria da aprendizagem da análise da situação de saúde da comunidade para os residentes da especialidade Medicina Geral Integral, pertencente à Universidade de Ciências Médicas de Guantánamo. **Método:** foi realizada uma pesquisa pedagógica descritiva na referida instituição durante o período de março a julho de 2022. De um universo de 67 professores que aceitaram participar, 26 foram selecionados por amostragem intencional. Para obtenção dos dados primários, foram aplicados três questionários do tipo Likert para avaliação do esquema, levando em consideração a estrutura, funcionalidade e contribuição para a aprendizagem. Esses questionários incluíram as respostas: Discordo totalmente, Discordo, Nem concordo nem discordo, Concordo e Concordo totalmente. Os dados foram resumidos em números absolutos e porcentagens. Eles foram apresentados em tabelas de distribuição de frequência. **Resultados:** os subtotais das respostas Concordo Totalmente e Concordo na avaliação estrutural e funcional, bem como a influência esperada desta para melhorar a aprendizagem da análise da situação de saúde, foram considerados adequados quando excedem o padrão. **Conclusões:** o esquema proposto é avaliado como adequado em estrutura e funcionalidade. A influência que se espera disto para melhorar a aprendizagem sobre a análise da situação de saúde da comunidade é considerada positiva.

Palavras-chave: situação de saúde; esquema; aprendizado; comunidade; Cuba

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INTRODUCTION

For the family physician as a Primary Health Care (PHC) researcher and formal community leader, the health situation analysis (HSA) allows him/her to identify psychosocial problems, social, economic, historical, geographic, cultural and environmental influences that affect the health of individuals, families and the community, in order to develop actions that contribute to the solution of these problems, within the framework of community and intersectoral participation.^(1,2)

The closest precedent of SSA is from the 1970s, when the Cuban health system introduced the model of community medicine and the residents of basic specialties (Internal Medicine, Pediatrics and Gynecobstetrics), made what is known as "health diagnoses", achieved with the participation of community leaders.

Once the specialty in General Comprehensive Medicine (MGI) was initiated, the ASS was developed as a necessary practice at the first level of care and it is necessary to ensure its real and complete execution, so that it can be the starting point for local strategic projection.⁽¹⁾

In this sense, the Ministry of Public Health (Minsap), in accordance with the approved guidelines, has proposed to carry out a series of necessary transformations in the health sector through work objectives and with three main purposes: to continue increasing the health status of people by improving the quality of the service provided, to make the system more efficient and sustainable, and to consolidate the strategies for human resources training, education and research.

For this reason, in the process of carrying out the SSA, a comprehensive review of the data obtained on the community should be carried out, with the application of clinical, epidemiological and social methods.^(3,4)

Accordingly, for the preparation of the SSA, the physician must have skills that allow him/her to obtain and interpret the necessary information and design plans that contribute to promote, together with the social actors, the transformation of the community's health situation as part of the health production process.⁽⁵⁾

To this end, countless possibilities have been proposed for the preparation of the SSA; among the authors, MartínezCalvo,⁽⁶⁾ who in her article Pedagogical option⁽⁶⁾ for the analysis of the undergraduate health situation, collaborates with some results that benefit the understanding of the SSA.

In this sense, she suggests that the development of socio-medical skills in family medicine residents facilitates working on the complexity that should be present in the SSA and prepares them to be able to lead the process of identification and solution of problems with the participation of the community and all sectors of society.



The elaboration of an SSA requires adequate management, an activity that has generated vagueness as to who is or are responsible for conducting it. This responsibility should be based on effective action, for which it is important to have the advice and support of specialists, preferably epidemiologists, especially those working in PHC.^(6,7)

In the Family Physician and Nurse Practitioner Program,⁽⁸⁾ it is considered necessary to continue working on the methods and means to be used to improve the preparation of the SSA, since it is a challenge to continue its improvement.

In the training of the general practitioner to become a specialist in MGI, it has been identified by the teachers of the Basic Working Group (GBT) that there are insufficiencies related to the description in an integrated manner of the elements that are immersed in the SSA, due to the lack of understanding of the objectives of the steps and stages, as well as the scarce mastery of the sequential approach.

In this context, the research is carried out with the objective of evaluating the proposal for the design of a scheme that contributes to the improvement of community SSA learning, for the residents of the specialty Comprehensive General Medicine, belonging to the of Guantánamo, during the period March-July 2022.

METHOD

A descriptive pedagogical research was conducted during the period March - July 2022, at the Medical Sciences University of Guantánamo. It was focused on the evaluation of the structure, functionality and contribution of the scheme in the learning of SSA, in which the links and relationships of the elements immersed in the SSA are reproduced.

For the development of this research, a group of 5 professors specialized in the subject, with more than 20 years of experience in MGI training, made up of: 1 specialist in Hygiene and Epidemiology, 3 specialists in MGI and 1 in Internal Medicine were organized for the construction of the scheme.

To evaluate the proposed scheme, a group of specialists in the subject was formed, who met the following requirements: to be a professor of GBT as a specialist in Hygiene and Epidemiology, MGI, Pediatrics, Internal Medicine or Obstetrics, and to have more than 20 years of experience in MGI training.

The universe consisted of 67 teachers, of whom 26 (38.80 %) were selected by purposive sampling: 4 working in the Public Health department, 2 in the MGI department and 20 of those working in the teaching polyclinics of the Guantánamo municipality. Two groups of teachers were organized, each with 13 members. All groups received an explanation of the objective of the research. Before applying the instruments to obtain primary data, informed consent was requested.



The research methodology facilitated the use of theoretical methods: historical-logical, used to understand the documents and characterize the dynamics of SSA content; systemic-structural-functional to design the scheme; inductive-deductive and analytical-synthetic to establish the theoretical and methodological assumptions, as well as the evaluation of the results.

Empirical methods were also used: observation, documentary review, interviews, application of Likert-type questionnaires to evaluate the structural and functional design of the scheme and its expected contribution to SSA learning.

To construct the scheme, an adaptation was made based on the methodological procedure described by Sánchez Veloz, et al.⁽⁹⁾ in the article "Conceptual schemes and interdisciplinary relations in the teaching process of school subjects".

In the research process, the following steps were followed:

A. - Selection of the proposal: as a result of the diagnosis, it was possible to define the most appropriate procedure in correspondence with the degree of difficulty of the content to be treated, the cost, copyright protection policy and security policies.

B. - Composition of the proposal: this stage was devoted to the aggregation of the components of the structure in correspondence with the function to be fulfilled by the scheme in order to solve the identified shortcomings.

The main references used were the Work Program of the Family Physician and Nurse⁽⁸⁾ and the Study Plan of the specialty in General Comprehensive Medicine.⁽¹⁰⁾

Topic: Health situation analysis

Learning objectives:

General: to improve the confection of the community's HSA by the residents of the specialty Comprehensive General Medicine.

Specific:

- Interpret the objectives of the stages and steps of the SSA.
- To explain the sequential approach for the preparation of the SSA.
- To identify the qualitative and quantitative techniques to be used according to the stages and steps of the SSA.

The following elements were taken into account:

- a) Structure of the scheme: it concerns the descriptive character of the intervening elements.
- b) Function of the scheme: refers to the dynamics or behavior of the scheme in reality.



C. - Evaluation of the proposal: in this stage, the design of the scheme was evaluated.

For the construction of the questionnaires, GarcíaPrieto, et al.⁽¹¹⁾ in the article Proceso de elaboración y validación de cuestionario Likert (Process of elaboration and validation of Likert questionnaire) was used as a reference.

Three Likert-type questionnaires were elaborated, each with 10 positively elaborated questions:

1. - Likert-type questionnaire to evaluate the structural design of the scheme.
2. - Likert-type questionnaire to evaluate the functionality of the scheme.
3. - Likert-type questionnaire to evaluate the contribution of the scheme in the learning of SSA.

The following sequence was followed: establishment of response options, application of the Likert-type questionnaires with the following scoring to evaluate the criteria of the questionnaires: Strongly disagree (value: 1), Disagree (value: 2), Neither agree nor disagree (value: 3), Agree (value: 4), Strongly agree (value: 5). When there was no response to the statement, the value was 0.

Once the opinion was collected, databases were created in the Excel 2012 statistical processor, with the following criteria and standards (Table 1 and Table 2).

Table 1 Criteria and standards for qualitative evaluation according to types of answers

• Σ of total responses	Standard %	Evaluation criteria according to percentage of responses	
		Suitable	Unsuitable
		%	%
Strongly Disagree	≤ 10	≤ 10	> 10
Disagree	≤ 10	≤ 10	> 10
Neither agree nor disagree	≤ 10	≤ 10	> 10
Agree	≤ 20	≤ 20	> 20
Strongly Agree	≥ 50	≥ 50	< 50

Table 2 Criteria and standards for qualitative evaluation according to response subtotals

Σ of subtotal responses	Standard %	Evaluation criteria according to the percentage of subtotal responses	
		Suitable	Unsuitable
		%	%
Strongly Disagree +Disagree, +Neither Agree nor Disagree	≤ 30	≤ 30	> 30
Agree + Strongly agree	≥ 70	≥ 70	< 70



RESULTS

In the training of general practitioners to become specialists in MGI, it was identified, in the initial diagnosis by the GBT teachers, that there are insufficiencies related to the description in an integrated manner of the elements that are immersed in the SSA, lack of understanding of the objectives of the steps and stages, as well as poor mastery of the sequential approach, insufficiencies that were found in the documentary review.

Figure 1 below shows the outline for improving community SSA learning.

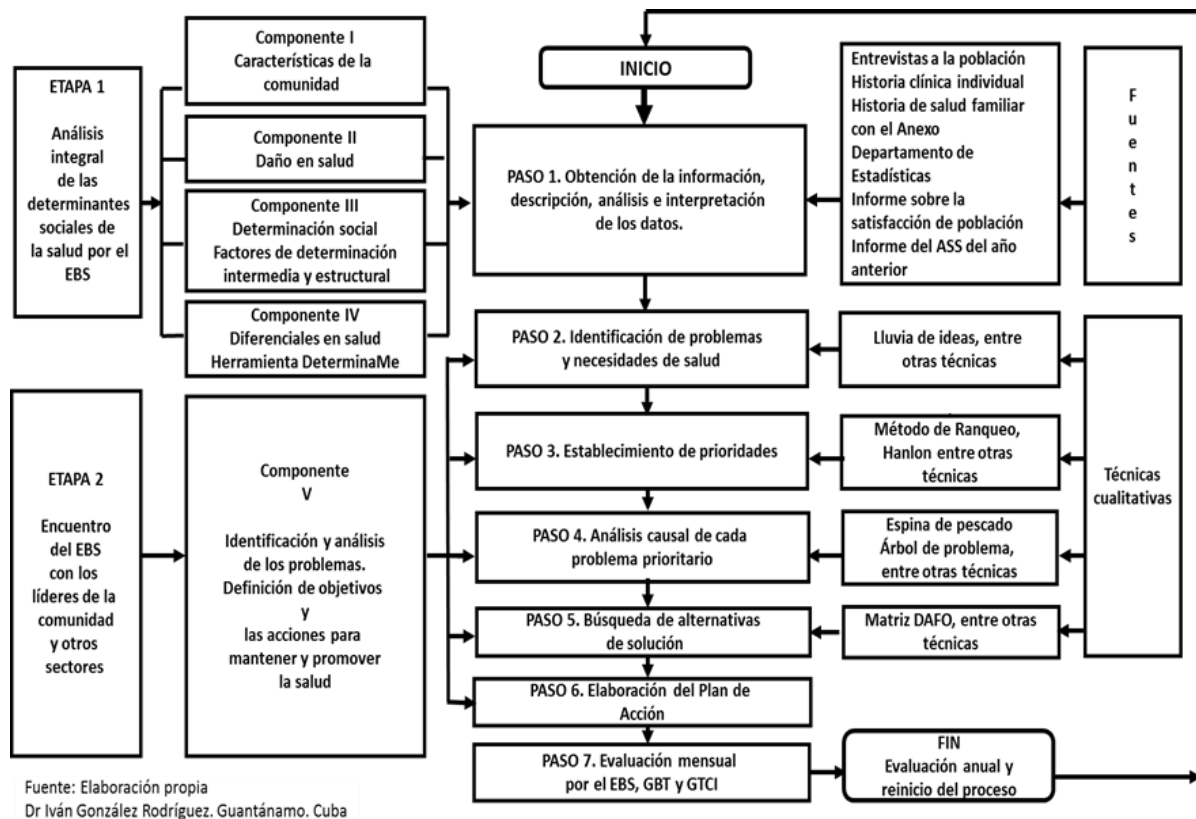


Fig. 1. Scheme to improve community SSA learning

Legend: EBS (Basic Health Team). GBT (Basic Work Group). GTCI (Integrated Community Work Group), CMF (Family Doctor's Office), SWOT Matrix (balance of forces matrix).

Instructions for use

The entrance to the scheme is indicated by the start arrow and the sequence is oriented towards the execution of the steps that are complemented by the information provided by the components or qualitative techniques to be used.

It can be observed that the scheme is organized in two stages as proposed by the researchers, in order to synthesize the elements contained in the SSA.



In the execution of the stages, the following approaches should be taken into account: premises of the social determination of health and social determinants.⁽⁸⁾

A. - Stage 1. Comprehensive analysis of the social determinants of health: it is directly related to Step 1 of the SSA, which aims at obtaining information, analyzing and interpreting data and identifying the health problems present in the community once the technical analysis has been carried out by the EBS, with the collaboration of the GBT.

This stage has as sources: interviews with the population, individual clinical history, family health history with the annex, Statistics department, report on the population's satisfaction with health services, provided by the GBT psychologist and the previous year's ASS report.

It should be carried out with a multidisciplinary and intersectoral approach. The first four components of the SSA are analyzed:

Component I: community characteristics: geographical, historical, political, social characteristics of the territory.

Component II: health damage. Description and analysis through tables and graphs of the variables of mortality, disability, morbidity and health risk, including information on dispensarization.

Component III: social determination. Description and analysis of the premises conditions and factors of intermediate and structural determination of health (material circumstances of life, behavior or lifestyles, access and use of health services and human biology) and their social stratifies (demographic, cultural, social and economic)

Component IV: health differentials. Description and analysis of the differentials present in the community in terms of health events, territories, population groups and over time, including the use of the DeterminaMe tool.

B. - Step 2. Meeting with community leaders and other sectors: this is related in consecutive order to Steps 2, 3, 4, 5 and 6. Component V of the SSA is analyzed at this stage.

Component V: aims to identify and analyze problems, define objectives and actions to maintain and promote health.

Step 7 aims to evaluate compliance with the action plan, which will be performed by the EBS, GBT and GTCI (monthly and finally annually to restart the process).

The results of the evaluation of the scheme from the structural and functional point of view, as well as its contribution to the learning process are described below.



The results on the total composition of the responses to evaluate the structure are described in Table 3. It was observed that there were 185 Strongly Agree and 63 Agree responses, representing 71.15% and 24.23%, respectively. When analyzing the subtotal of the responses in terms of Agree and Strongly Agree, 248 responses were obtained (95.38%). The responses were evaluated as adequate when compared to the standard.

Table 3 Total composition of responses on the structural design of the scheme

Responses	No	%	Standard %	Evaluation
Strongly Disagree	3	1,15	≤ 10	Suitable
Disagree	3	1,15	≤ 10	Suitable
Neither agree nor disagree	6	2,30	≤ 10	Suitable
Subtotal	12	4,61	≤ 30	Suitable
Agree	63	24,23	≤ 20	Suitable
Strongly agree	185	71,15	≥ 50	Suitable
Subtotal	248	95,38	≥ 70	Suitable
Total	260	100,00		

Table 4 shows the result in relation to the total composition of the responses to evaluate the scheme according to functionality. There were 221 responses strongly agree (85.0 %) and 25 Agree (9.61 %). In relation to the subtotal of Agree and Strongly Agree, there were 246 responses (94.61 %). All the answers obtained an evaluation of adequate when compared with the established standard.

Table 4 Total composition of responses regarding the functionality of the scheme

Responses	No	%	Standard %	Evaluation
Strongly Disagree	6	2,30	≤ 10	Suitable
Disagree	4	1,53	≤ 10	Suitable
Neither agree nor disagree	4	1,53	≤ 10	Suitable
Subtotal	14	5,38	≤ 30	Suitable
Agree	25	9,61	≤ 20	Suitable
Strongly agree	221	85,0	≥ 50	Suitable
Subtotal	246	94,61	≥ 70	Suitable
Total	260	100,00		

The evaluation of the total composition of the answers to specify the contribution of the scheme to the teachers' learning showed the following results (Table 5). There were 220 Strongly Agree (84.6 %) and Agree (10.38 %) with 27 responses. The subtotal of responses Agree and Strongly Agree reached 95.0 % with 247 responses. All the responses were evaluated as adequate.



Tab.5 Total composition of the responses on the positive contribution of the scheme to learning

Responses	No	%	Standard %	Evaluation
Strongly agree	9	3,46	≤ 10	Suitable
Disagree	2	0,76	≤ 10	Suitable
Neither agree nor disagree	2	0,76	≤ 10	Suitable
Subtotal	13	5,00	≤ 30	Suitable
Agree	27	10,38	≤ 20	Suitable
Strongly agree	220	84,60	≥ 50	Suitable
Subtotal	247	95,00	≥ 70	Suitable
Total	260	100,00		

DISCUSSION

The scheme presented for evaluation contains the basic elements that are immersed in the SSA.⁽⁸⁾ It integrates, in sequential order, the stages, steps and components for the realization of the SSA.

Achieving the integration of the contents during the teaching-learning process is fundamental, since in practice the future specialist requires knowledge and skills to be able to respond to complex and pressing problems specific to the object of his/her profession.^(9,12)

Caamaño Zambrano emphasizes the role of didactic resources as support material for teaching and learning methods in the achievement of the proposed objectives. This is related to the virtues of didactic materials: they offer the opportunity to reproduce or simulate real events and scientific experiments, develop observation, analysis and reflection skills, promote the recall of information and the ability to position oneself temporally and spatially.^(9,13)

Didactic resources are responsible for facilitating learning, while motivating learners, which is why they are defined as an important pedagogical tool.^(9,14)

The resident's training process is a complex task and, in this sense, the use of didactic resources, the promotion of interest in the novelty of science and technology, accompanied by a system of values that will guide them to become an active creator of the society that is being built, must be a priority.

From a philosophical point of view, there are several reasons that support and explain the role of didactic resources in learning, one of them is that the process of knowledge follows a path that goes from the concrete sensitive image to an abstract thought and, from there, to a deeper, comprehensive and versatile image of an object, as a thought image.⁽⁹⁾

Didactic resources make possible the materialization of the object of knowledge, which affects the subject's sensory-perceptual-rational system, through the mediation of the assimilation process arising in learning, guided in this case by the teacher's work.



In this sense, research based on the psychological aspect describes the important role of didactic resources in the process of motivation of the emotional sphere, retention of knowledge, concentration of attention and relaxation. Among other things, they contribute to creating a fruitful learning environment.^(9,15)

In relation to the design of the scheme, the available literature was taken into account, which is abundant, especially that referring to the types, classification and use of didactic resources, but there are limitations related to the description in an integrated manner of the elements that are immersed in the SSA; as well as few studies on the evaluation of the design of schemes to improve the learning of the SSA of the community and its use in medical education.

Hence, the evaluation of the proposal is necessary to know if it is coherent and adapted to the complex context of medical education. In this way, the results obtained respond to the structure and functionality of the scheme, so that by making it available to teachers, it satisfies this felt need.

CONCLUSIONS

The proposed scheme is evaluated as adequate in its structure and functionality. It was also evaluated as positive the expected influence on the learning of the analysis of the community health situation by the residents of the specialty of General Comprehensive Medicine.

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Conflicts of interest:

The authors declare that there are no conflicts of interest.

Author contributions:

Iván González Rodríguez: conceptualization, data curation, formal analysis, research, methodology, project management, visualization, writing original draft, writing-revising and editing.

María Mercedes Delgado Delgado: data curation, formal analysis, writing-revision and editing.

Carlos Salvador Hernández Faure: methodology, resources, writing-revising and editing.

Rafael de la Cruz Vázquez: research, methodology, writing-revising and editing.

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