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Limits and possibilities of the Food and Nutrition Surveillance System for Primary Health Care: a report by nursing professionals

Limites e possibilidades do Sistema de Vigilância Alimentar e Nutricional na Atenção Primária à Saúde: relatos de profissionais de enfermagem

Izabella Cristina Ribeiro Alves[1]
Tiele Ferreira de Souza[1]
Maisa Tavares Souza Leite[2]
Lucinéia de Pinho[1,2]

[1] Faculdade de Saúde Ibituruna. Departamento de Nutrição. Montes Claros, MG, Brasil.

[2] Universidade Estadual de Montes Claros, Programa de Pós-graduação em Cuidado Primário em Saúde. Montes Claros, MG, Brasil.

Correspondence
Lucineia Pinho
Campus Universitário Professor Darcy Ribeiro, Vila Mauriceia. CEP: 39.401-089, Montes Claros, MG, Brasil.
E-mail: lucineiapinho@hotmail.com

Abstract

Introduction: Food and nutrition surveillance is an essential action within the Unified Health System, because health policies can be created while taking into account the nutrition diagnosis of the population. *Objectives:* To discuss limits and possibilities of the Food and Nutrition Surveillance System based on reports from health professionalswho work in Primary Health Care. *Methodology:* This is an exploratory and descriptive study in the municipality of Montes Claros, MG, with interviews conducted with health professionals. *Results and Discussion:* It was found that the health professionals recognize the importance of SISVAN, but its functioning is hampered by infrastructure conditions (difficulty in computerization and connection), human resources (workload of the nursing team and professionals specialized in the field) and logistics (information system handling and lack of user adherence). *Conclusion:* The operational problems are reflected in the functioning of SISVAN; therefore the management system has to invest in strategies in order to expand and qualify food and nutrition surveillance.

Keywords: Primary Health Care. Unified Health System. Public Health Surveillance. Nutrition Surveillance.

Resumo

Introdução: A vigilância alimentar e nutricional constitui ação essencial no âmbito do Sistema Único de Saúde, uma vez que, por meio do diagnóstico nutricional da população, possibilita a criação de políticas de saúde. *Objetivos*: Discutir limites e possibilidades do Sistema de Vigilância Alimentar e Nutricional a partir de relatos de profissionais de enfermagem que atuam na Atenção Primária à Saúde. *Metodologia*: Estudo exploratório e de caráter descritivo, no município de Montes Claros-MG, no qual foram realizadas entrevistas com profissionais de enfermagem. *Resultados e Discussão*: Percebeu-se que os profissionais reconhecem a importância do SISVAN, mas que seu funcionamento encontra obstáculos quanto às condições de infraestrutura (dificuldade na informatização e conexão), recursos humanos (sobrecarga de trabalho da equipe de enfermagem e profissionais especializados na área) e logística (manuseio do sistema de informação e falta de adesão dos usuários). *Considerações finais*: Os problemas operacionais refletem no funcionamento do SISVAN, por isso é necessário que o sistema gestor invista em estratégias com a finalidade de ampliar e qualificar a vigilância alimentar e nutricional.

Palavras-chave: Atenção Primária à Saúde. Sistema Único de Saúde. Vigilância em Saúde Pública. Vigilância Nutricional.

Introduction

Food and nutrition surveillance is a crucial measure in the context of Brazil's Unified Health System (SUS). It integrates several epidemiological surveillance strategies which provide information about the food and nutritional profile of the population with the goal of providing the basis for the creation of policies aimed at improving health care provision. In Primary Health Care (PHC), effective surveillance takes place in a series of activities that support the various information systems available in SUS. The major system is the Food and Nutrition Surveillance System (SISVAN).[1]

SISVAN is a software program whose aim is to promote the fight against nutritional deficiencies in Brazil.[2] Its online version, entitled SISVAN Web, was established in December 2007. Through SISVAN Web, municipalities, through their health departments, sendmonthly reports on the nutritional status of the population.[3]

Food and nutrition surveillance initiatives, undertaken with SUS users, need to be included in medical care routines in the primary health care network. The first step is the early detection of nutritional risk situations and the creation of measures to prevent health problems and restore people's health, when possible. Encouraging the development of food and nutrition activities at all levels of health care provision is part of a set of strategic guidelines for the consolidation of this policy. In this field, extending the coverage of SISVAN for specific population groups, educating professionals, as well as providing nutritional indicators as a basis for the design and implementation of public health policies are some of the main requirements for the fulfilment of this guideline.[4]

As a tool to support health promotion activities, SISVAN is offered to health professionals and managers of SUS, with a view to improving the quality of health care provided to the population. The goal of SISVAN is to generate information about the food and nutrition situation of the population, helping to clarify the nature and magnitude of nutrition-related problems, identifying territories, social segments and population groups at risk.[5]

Food and nutrition, as basic requirements for the promotion and protection of health, ensure full potential for human growth and development, with quality of life and citizenship. In addition, they help health professionals cope with Brazil's current epidemiological situation, represented by a triple burden of ill health: first, the unfinished agenda of infections, malnutrition and reproductive health problems; second, the challenges posed by chronic diseases and their risk factors; and third, the increase of external causes. For these reasons, food and nutrition initiatives are crucial in the context of PHC and, in particular, in the Family Health Strategy (FHS).[4]

Nurses play a key role in making SISVAN operative. Nurses have new tasks and competencies within basic care; their participation is very important for the implementation of health policies.[6] According to the *Family Health Strategy Handbook,*[7] a nurse performs many tasks in this service, including epidemiological surveillance activities, training of community health workers (CHWs) and nursing assistants, and health promotion.[8]

In the FHS, the information generated for SISVAN is produced mainly by CHWs, who, among other activities, make anthropometric measurements (weight and height) to diagnose the nutritional profile of the people who come to the health unit in search of health care. For this diagnosis to be reliable both at the individual and the population levels, it is vital to ensure that the anthropometric measurements are made efficiently. However, if the basic technical procedures are not met during data collection, the indicators in use will not faithfully represent the nutritional status of the population.[9]

In this sense, the objective of this study was to discuss the limits and possibilities of the Food and Nutrition Surveillance System (SISVAN) based on reports of nurses who work in Primary Health Care.

Method

It is descriptive exploratory study, conducted in the municipality of Montes Claros, MG. The municipality, in the north of the state of Minas Gerais, has an estimated population of 370,216 inhabitants[10] and represents the main regional hub. It is a reference in the field of health for the whole north of Minas Gerais, Jequitinhonha and Mucuri valleys and the south of Bahia State. In the period during which the research was conducted, the municipal health network had 77 FHS units in the urban area, with a coverage of approximately 68% of the total population of the municipality.

The target population of this study were nurses and community health workers (CHWs) of 12 FHS (Family Health Strategy) units in the municipality. These units were chosen by considering the criterion of heterogeneity, through different regions of the city - regional hubs. The inclusion criteria to participate in the research were: being a nurse or an active CHW in the FHS staff for at least a year; and not be on vacation or leave during the data collection period. The exclusion criterion was non-acceptance to participate in the research.

As regards the number of subjects for the research, we used the parameter of information saturation, which indicates repetition after transcription of responses, thus signaling that the object of study was addressed. This criterion is based on the idea that there is a limited number of versions of reality, because although experiences have aspects of uniqueness for each subject, the representations are shaped in social processes.[11]

The data were collected from February to March 2014, through semi-structured interviews, conducted by means of the following guiding questions: "How important is SISVAN?" and "How does SISVAN work at your health unit?"

The interviews were conducted individually with health professionals, at times scheduled according to the availability of the interviewees. They lasted for approximately 30 minutes. The professionals were interviewed at the basic health units where they worked. Prior to the interviews, they signed an Informed Consent Form. The interviews were recorded and then transcribed in full to ensure the anonymity of the participants, and then identified with numeric codes in chronological order of completion.

Based on the collected data, content analysis was made according to the theme. Thematic analysis is a technique that seeks to discover the cores of meaning, with the purpose of creating a communication which has a meaning for the analytic objective that is to be researched. The analysis began by reading the content of the interviews; subsequently, the material was read further in order to understand the core of the text in depth; finally, data from the relevant themes were classified and compiled.[11]

This research followed the ethical standards contained in the CNS Resolution no. 466/2012 according to the technical opinion no. 237.928/2013..

Results and Discussion

The participants in this study were 16 health professionals who work in eight basic health units in the city of Montes Claros, MG. In the professional categories, there was a predominance of women: 100% of CHWs were females; and 62.5% of nurses were females while 37.5% were males. Regarding length of employment in the health care team (in months), five professionals had been working for less than 20 months; five had been working for a period between 20 and 60 months and six of them had been working for more than 60 months.

After data analysis, the researchers identified three categories: the importance of SISVAN in Primary Health Care; barriers and facilitators and their respective subcategories, which will be discussed below..

Theme 1. The Importance of SISVAN in Primary Health Care

SISVAN, in the perception of the nurses interviewed, is an essential tool to identify the nutritional profile of the population. It characterizes social groups at risk and supports the formulation of intervention initiatives at the health unit. An advantage of SISVAN is to systematize the data on nutritional status of the population, ensuring the flow of information for nutrition surveillance.

> [...] and it is a very important tool, actually, if you have it, you can monitor nutrition [...] there is a product in it, a system that will provide resources for the team to develop initiatives, for example, a group with low molecular weight, a pregnant woman who is overweight or obese... [N2].

> It helps us to keep [...] the report is what I find interesting, because when you open it, it shows the names of all pregnant women, then in a particular record you can see how much she weighs, how she is doing, so it's easier for everyone to keep track of her. [N6].

> The software is used to diagnose the nutritional status of the population. [CHW10].

The responses of the interviewees express their perception of the importance of SISVAN for monitoring the nutritional status of the population, as well as for the preparation of food and nutrition initiatives. In addition, they highlight the software as a tool for diagnosing the nutritional situation of SUS users.

Data from surveillance systems, when compared to large population surveys in the field of nutrition, offer information more quickly at a lower cost. The objective of SISVAN is to collect, process and analyze, in a continuous manner, the data of a population, which enables an updated diagnosis of nutritional status, its temporal trends and also its determining factors.[12]

A study conducted in 65 municipalities of São Paulo state was aimed at estimating the population coverage of SISVAN at different stages of life and assessing its functioning. Estimation of the coverage of SISVAN was based on data on nutritional status monitoring, available in public reports, and on the number of people who use public health services. The researchers came to the conclusion that, despite the efforts undertaken by the government to expand and qualify SISVAN, nutritional monitoring in São Paulo state is still insufficient, which compromises the use of SISVAN for developing effective policies in the field of food and nutrition.[13]

A similar study was conducted in the state of Rio Grande do Sul. In addition to evaluating coverage, it described the percentage of use of SISVAN Web in Regional Health Offices and checked its correlation with socioeconomic, demographic, and organizational variables of the health care system. The results of the study showed lower percentage of use and coverage of SISVAN Web in that state in the year 2010.[14]

Theme 2. Facilitators in the operationalization of SISVAN at the health unit

The analysis of the responses showed aspects which are relevant to the operationalization of SISVAN in PHC, and they are thought to improve the working process of professionals.

In the operationalization of SISVAN, one facilitator is the possibility of integrating it with the routine activities of the nursing staff in health services.

> All users who come to the health unit to for blood pressure measurement also have their data on weight and height recorded in a notebook which is kept at reception. Thesedata are used to register information in the system. [N1].
>
> People don't to go to the unit to have their weight checked very often, so we use the data from pre-natal care, on growth and development, to feed the system and register information. [N2].
>
> When CHWs go on home visits, they take a tape measure and a scale, they weigh people and then we enter the data in the database... [N3].

The responses show that, in daily practice, it is easy to perform the data collection activities to feed the system. For surveillance of nutritional status, the anthropometric method is recommended. Anthropometry is a procedure of research in nutrition based on measurement of physical variations

and overall body composition. It is applicable to all stages of the life cycle and allows the classification of individuals and groups according to their nutritional status. This method has the advantage of being inexpensive, simple, easy to apply and standardized; also, it is hardly invasive.[15]

In addition, the Ministry of Health has reported that the duty of nursing professionals, mainly CHWs, is to monitor the nutritional status of SUS users by measuring their weight and height and providing general nutrition guidelines for the whole population. In this context, it is essential to understand the role of these professionals in the operationalization of Food and Nutrition Surveillance.[16]

The professionals interviewed reported that the presence of other people at the health unit, especially interns and undergraduate students, is a positive point for feeding the system.

> [...] the person who helped us the most was an undergraduate who came to the unit in the past year [...] she had a great skill in dealing with SISVAN, with the computer... [N1]

> Then, with SISVAN today, we have an intern to help us, and we achieved our goals, the targets that had been proposed to us. [N3]

In their responses, the professionals mentioned the importance of having a multi-professional team, people with technical knowledge about food and nutrition. Integrating undergraduates to the routine of the FHS is beneficial both for them and for the health service, because experiencing this integration at work allows them to understand and feel prepared to cope with different aspects of problems, to recognize risk areas and consequently, develop a plan of assistance focused on the local reality.[17]

The responses also highlighted the experience of the nutritionist working at the health unit, which made their activities more effective.

> Well, the system is very important and it is going to work well. We happen to have a nutritionist here, she organizes the system and she has brought an undergraduate who enters the data in the system. [N2].

A positive point highlighted by one of the responses was the presence of the nutritionist at the unit, which optimized their work. Nutritionists are health care professionals whose education and training enables them to work in the Unified Health System (SUS). They can perform tasks aimed at food security and dietary care in any field in which food and nutrition are fundamental for promotion, maintenance and recovery of health and prevention of diseases of individuals or population groups. Assuming that the goal of nutrition education is to enable professionals to work for SUS, their inclusion is a relevant politico-social necessity.[18,19]

Theme 3. Barriers in the operationalization of SISVAN at the health unit

The analysis of the responses showed negative points that pose obstacles to the functioning of SISVAN in PHC. Subcategories emerged from this category, and they are presented below.

The majority of the nurses mentioned the excess of activities in their roles as a barrier for the operationalization of SISVAN, which is indicative of the work overload of the nursing team. Their responses showed a high workload and the high demand experienced by these professionals in primary health care.

> Nowadays, I see that SISVAN is going to work well, what happens is that we had too many tasks, I'm not moaning about it... Nurses in charge of management, health care provision...they provide pre-natal care, GD (growth and development of children), they are supposed to manage the unit and, at the same time, they have to feed the systems, including SISVAN, and it amounts to a lot of systems to work with. [N2].

> It doesn't work well, we have too many duties and little time and we're unappreciated. [CHW7].

> [...] because we go to great lengths to register data, edit data, because of our [...] we have to go to the office or do it from home, so we work overtime...not to mention that we have to be able to do other activities as well. [N5].

The viability of a current proposal, such as the FHS, is linked to working conditions, including qualified and enough staff and adequate workload.[20] Work overload was the major barrier. Corroborating this study, Kanno[21] mentions that the productivity required, the large number of families that need to receive health care, and scarce time can prevent other demands of users from being satisfied, as expressed in the statements above. They stated that the lack of some types of professionals is also a reason for overload.

A study conducted by Gonçalves et al.[22] in Montes Claros, Minas Gerais, concluded that human resources are an essential factor for the organization and performance of any social structure. However, professionals need recognition by managers, so that the former can have guarantees and proper working conditions in order to achieve excellence in health service provision.

For the nurses and CHWs, the lack of other specialized professionals in the staff, e.g., typist and nutritionist, jeopardize the effective implementation of SISVAN at the health unit.
The interviewees stated that monitoring activitiesare carried out, but the sequence of information flow isjeopardized because there is a shortage of nurses in the current staff.

> The patients' nutritional status is monitored, but the difficulty lies in entering the data into the system because there is no staff member to accomplishthis task. Ideally, there should be a professional typist at the health unit only to do this task. [N1].

> This system is of paramount importance for the health service, but it should be managed by a professional, namely, a nutritionist. [N6].
>
> We try to do everything we can to register all the service, we collect the information required, but the lack of other professionals prevents us from doing a better job. [CHW9].

Currently, FHS is the main strategy of Primary Health Care (PHC) in Brazil. It is seen as a tool for transformation of the system as a whole. However, although the creation of Family Health Support Centers (FHSC) has enabled nutritionists to participate in PHC, the shortage of these professionals in FHS still occurs.[18]

In a study on the organizational structure of food and nutrition surveillance activities in municipalities of Minas Gerais State, Brazil, it was found that the number of professionals available in health services is not sufficient to accomplish food and nutrition surveillance activities, which may compromise the quality of suchactivities.[23]

The deficiency of computer and internet resources at the health unit, which implies difficulty of computerization and connection, was pointed out as a bottleneck for SISVAN.

> The municipality does not provide Internet connection for us to register these data, and this stops us from doing a good job, it is very difficult. [N5].
>
> Our biggest problem is the lack of Internet access. [CHW7].
>
> At the unit, I don't have a computer, so how can I feed the system? [N7].

It can be seen that the lack of Internet access for entering data into SISVAN is a negative point in the work process. The use of this tool is essential for receiving the data, transforming them into information and disseminating them to society, seeking to give answers to the results found through initiatives for health promotion, and prevention and cure of diseases. With these activities, the system enables the discovery of biologically vulnerable groups and uses the results to monitor the health and nutritional status of the population.[15]

In order to operationalize SISVAN, material resources are necessary. By using computers with Internet access, staff can feed theonline system.Vitorino et al.[23] found that, in Minas Gerais,approximately 50% of the municipalities do not have such equipment in a sufficient quantity for the entire volume of data produced not only by SISVAN, but by other information systems of PHC. In addition, connectivity has low quality in 20.6% of municipalities, which affects the proper submission of data via SISVAN Web.

The difficulties in qualifying and training staff for work with the information system emerged as a theme for the interviewees. Their responses highlight the difficulty in using the main tool, SISVAN, in addition to doubt about the completion and use of records.

> The most difficult thing about SISVAN is to enter the data [...] the follow-up of children, the elderly, pregnant women, we always monitored their status, but we just didn't feed the system... [N1].
>
> A couple of years ago we began to register all the population, we went into every household and registered people [...] butthese data were left aside because no one knew how to type. [CHW1].
>
> SISVAN is a system that we find the most difficult to handle, to feed data into [...]. Our greatest difficulty was not in monitoring, but rather in the system, we viability were always in doubt about how to fill in some items. [N4].

Based on the responses above, it can be seen that the lack of qualification for using the online system (SISVAN Web) is an obstacle to improvingthe operationalization of the program. In addition, it interferes in the organization of Information. In this context, it is crucial to offer training to the CHWs involved in surveillance activities, because it enables the construction of knowledge by developing skills that ensure the quality and effectiveness of the health care which is provided, thereby promoting health.[24]

In the point of view of these professionals, the unfavorable feelings and experiences regarding the participation of users in the activities of SISVAN demotivate them and create a barrier to the internal organization of the service. The reports below, about the lack of adherence of users, offer insights to this analysis.

> [...] it has many flaws, starting by the population itself, they do not come to the unit to have their height and weight measured. We even have sought to encourage them to return to the unit by telling them that if they did not come for the nutritional assessment, the government would suspend their allowance of the Bolsa Família Program, but the families did not come anyway. [N8].
>
> For the program to be effective, I think we need more adherence of the population itself. Because people do not appear... for follow-up. [CHW3].
>
> We, at least, try to fulfill what we are supposed to do, but it is difficult, people do not come to the unit and we cannot feed the systemwithout data. [CHW10].

In view of the relations with users, family and community, it can be seen that the problems are significant and lead to dissatisfaction at work. Health care depends on the collective work of several professionals and also on the contribution and good relationship between subjects who are members of staff and between the latter and the patients/users of the service. One of the stages

of nutritional diagnosis of the population is the collection of data which, after being transformed into information, enable target actions to be planned and scheduled.[20]

Final remarks

Recognizing people's nutritional status, as well as using SISVAN efficiently, can validate the importance of nutrition as complementary to basic health care activities. The results of the present study reveal that the professionals, nurses and CHWs, understand the system and recognize its importance for the service.

However, the operation of the system faces challenges regarding conditions of infrastructure, human resources and logistics. These are weaknesses which need to be strengthened with a view to consolidating SISVAN as a potential tool in PHC for the diagnosis of health conditions and appropriate interventions in the field.

Even though the government has used strategies with the aim of expanding and qualifying food and nutrition surveillance, they were not sufficient to actually ensure the performance of SISVAN in practical terms. Operational problems, added to the lack of political interest of some managers, have consequences for the functioning of the software program. In view of the fact that since 2007 the computerized system is already available, the government should make managers and health professionals aware of the importance of data on nutritional statusmonitoring, in order to support the formulation of policies and programs for the purposes of health promotion and nutrition.

The present work may encourage further research on similar topics or even in a different field, so that the information can serve as the foundation for the improvement of SISVAN. The results of this study are also expected to sensitize health professionals to an attitude of surveillance. Thus, there is a need to conduct further research on SISVAN, especially qualitative studies, since this methodology will shed light on the factors that hinder the implementation of the software program.

Contributors

Alves ICR and Souza TF participated in the conception, study design, data collection in the field, the analysis and interpretation of data and drafting of the article; Leite MTS participated in the critical revision of the article; and Pinho L participated in the conception, design of the study, analysis and interpretation of data, drafting of the article and writing of its final version.

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