



CONSTRUCTION OF A NURSING FLOWCHART AND PROTOCOL FOR SYPHILIS MANAGEMENT IN PRIMARY HEALTH CARE¹

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ABSTRACT

Introduction: syphilis is an easily treatable disease, even though it is still a public health problem in Brazil. **Objective:** to build a flowchart and a protocol for syphilis management in adults in Primary Health Care. **Method:** quantitative-qualitative study of 42 Primary Health Care nurses from a municipality in western Santa Catarina performed in 2019. In the quantitative stage, a self-administered questionnaire based on the current protocols of the Ministry of Health was applied. The qualitative stage was performed through participatory action research with eight out of 42 nurses. In two focus groups, they collectively produced a flowchart and a protocol for the management of syphilis in adults. After analyzing the constructed material, they validated the documents through content analysis, resulting in 100% agreement. **Results:** the products built describe the best professional practices to be followed. The flowchart presents the steps in the management, and the protocol describes the activities involving the care related to the disease in adults treated in Primary Health Care of the municipality. **Final considerations:** the construction of the flowchart and the protocol met the needs of health professionals in the qualification of care for people with syphilis in the municipality.

Keywords: Nurses. Syphilis. Protocols. Disease Management. Validation Study.

INTRODUCTION

Syphilis is an ancient disease easily treated with low-cost drugs, such as penicillin. However, it becomes a relevant public health problem as, according to the World Health Organization (WHO), about 12 million people are infected with the disease annually⁽¹⁾.

For this reason, although preventable and having prevention, diagnosis and treatment protocols available, syphilis represents a public health problem with prominence in the world scenario among Sexually Transmitted Infections (STIs)⁽²⁾.

In 2018, in the southern region of the country, the state of Santa Catarina had the highest incidence, with 164.1 cases/100,000 inhabitants. Furthermore, the city of Florianópolis, capital of the state where the

study was developed, was the Brazilian capital with the highest rate: 307.1 cases/100 thousand inhabitants⁽³⁾.

In Brazil, this disease is detected in all age groups, although with a more pronounced occurrence between 20 and 29 years old⁽³⁾. Despite advances in the National Health Service (Brazilian SUS) and as a result of the high incidence in this age group, it is a public health challenge, since, according to estimates, 40% of pregnancies with occurrence of the disease end in spontaneous abortion, intrauterine fetal death and perinatal death⁽²⁾. Thus, this is a sentinel event for monitoring quality and primary care⁽⁴⁾.

Given the panorama presented, Primary Health Care (PHC) teams need to organize themselves and include screening, diagnosis, treatment and monitoring of STIs in their

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actions.

The teams must be prepared and incorporate appropriate actions into their practice with regards to the conduct of cases for implementation of effective routines in their work process by coordinating between professionals the ways of stimulating health promotion in these populations, as well as effective actions for disease control⁽⁵⁾.

As nurses are responsible for work management in the team, organization of flows related to diagnosis and treatment, and development of actions to control and monitor positive cases, these professionals must have access to documents that direct their work process in line with the local reality⁽⁶⁾.

In response to this need, over the last decade, many official documents and guidelines from the Ministry of Health have addressed the control and management of syphilis through health programs⁽⁶⁾. However, their application in everyday practice in Basic Health Centers is impaired by the divergence between the literature used by health professionals and the lack of intersectoral policies supporting the comprehensive care of people with the disease.

Considering these issues, the aim of this study was to build a flowchart and a protocol for syphilis management in adults in PHC.

METHOD

This was a quantitative-qualitative study developed in a municipality in the west of the state of Santa Catarina, Brazil, during year 2019. It included 42 nurses working in Family Health teams (Portuguese acronym: eSF) of PHC. Inclusion criterion was being a nurse working in the care of people with syphilis for at least one year. Exclusion criterion was being away from the role in 2018.

The first stage of the study was quantitative. Data collection comprised the application of a self-administered questionnaire prepared based on protocols of the Ministry of Health to 42 nurses.

The questionnaire was prepared based on the syphilis care protocol of the Ministry of Health containing questions about the disease and the work process of nurses in PHC.

Data analysis consisted of the absolute and

relative frequency of information collected. Note that the information collected in the quantitative stage was the support for discussions held in the qualitative stage during focus groups.

By considering that the understanding of complex factors about the disease that make it so difficult to control, the qualitative stage of the study was structured following the assumptions of action research⁽⁷⁾. At this point, the construction of the flowchart and protocol was structured.

In accordance with prerogatives of Resolution number 466/2012 of the National Health Council, the project was approved by the Research Ethics Committee under opinion number 2.907.143/2018, CAAE process number 94128718.2.0000.0118. In the two stages of the study, participants were informed about its content, risks and benefits by means of an Informed Consent form.

Construction of the flowchart and protocol

The documents were created by researchers together with eight nurses working in the management and treatment of people with syphilis in PHC of the municipality where the study was performed.

Nurses were selected based on their knowledge of the Clinical Protocol and Therapeutic Guidelines for Comprehensive Care for People with Sexually Transmitted Infections of the Ministry of Health, as demonstrated by their responses to the questionnaire. Those with deeper knowledge of the protocol content were invited to join the qualitative stage, that is, to participate in two focus groups of the action research.

The action research method occurred in four adapted steps⁽⁷⁾: 1) exploratory step; 2) seminars and data collection; 3) learning step, 4) action plan and dissemination of results to the Municipal Health Council. Note that the first three steps were developed through two focus groups and the fourth step by the researcher with the Health Department of the municipality.

The exploratory step consisted of analyzing the results of the application of the questionnaire to 42 nurses. The second step was characterized by seminars in which the focus

group technique was used for data collection. This data collection strategy has been spreading in health research, as it is anchored in the participatory dialogue between the study subjects for problem solving⁽⁸⁾.

In the execution of focus groups, the

triggering questions and problematizing situations used were intended to define the content and guidelines for composing the flowchart and protocol for the management of people with syphilis (Chart 1).

Table 1. Structure of the focus groups and data collection methodology performed by the nurse. Chapecó, SC, Brazil, 2019.

Focus group	Goal	Strategy	Data achievement	Method
1	Flowchart construction	Use of cards and problematization	Speeches	Pre-established questionnaire script
2	Protocol guidelines	Problematization and discussion (conversation wheel)	Speeches	Evidenced strengths and document construction

In the first focus group, the group of participants was proposed to build a care flowchart for cases of syphilis based on their prior knowledge and analysis of materials available in the municipality and those provided by the Ministry of Health. During this meeting, critical points in the management and treatment of people with syphilis were discussed. The work process in the diagnosis and treatment of syphilis by PHC nurses was also identified.

The second focus group met the assumptions of action research for seminars, as the group proposed to “examine, discuss and make decisions about an investigation process”. At this moment, information was collected, interpretations of the theme were discussed, and theoretical material could be produced from theoretical or empirical bases⁽⁹⁾.

The idea of building a flowchart was to understand what the best practices to structure the work process would be like, describing, step by step, the therapeutic itinerary and the user’s trajectory within the health service.

The third step of action research (learning step) took place in the intervals between focus groups, as the researcher and the group of eight nurses individually studied protocols and other scientific materials made available by the researcher to produce a new protocol in the second focus group.

This step was essential for the production of the protocol, since the discussions generated in these groups stimulate the exchange of experiences and construction of new ideas on the topic in focus, enabling a better

understanding of the group process⁽⁹⁾.

In the second focus group, the contents/guidelines were chosen by the eight participating nurses based on the concept of best practices identified in the exploratory step and on the work process.

In the second focus group, the contents/guidelines were chosen based on the concept of best practices identified in the exploratory step and in the work process by the eight participating nurses, among which we can mention: anamnesis, physical examination, duties of the nurse, the nursing assistant and technician, and the flow of care for users with suspected disease in health services, recommended conducts and guidelines.

After the focus groups, data generated were transcribed and treated using the MAXQDA software (Software for Qualitative and Mixed Methods Research) so they could be better evaluated by researchers. The principles of content analysis were followed in the analysis⁽¹⁰⁾.

During pre-analysis, all reports generated by the software were read exhaustively and grouped by homogeneity, relevance and representativeness. Then, the categories and subcategories were organized in order to facilitate the thematic analysis.

The material was explored by analyzing the most frequent units of record and recurring expressions in order to obtain the core concept of the text. The categories established for development of the study were: work process; difficulties; suggestions; and positive points.

After data analysis, researchers prepared a proposal for a “Nursing Protocol for syphilis management in adults”, containing the representation of the aforementioned categories.

Validation

Once the protocol was completed, it was semantically validated by the same eight nurses participating in the focus groups. The Content Validation Index (CVI) was adopted for validation using a Likert scale⁽¹¹⁾. The concordance criteria established were: 1) inappropriate; 2) partially appropriate; 3) appropriate; and 4) totally appropriate.

The calculation was done by adding the answers “3” and “4” (appropriate and totally appropriate) of each participant in each item of the questionnaire, then dividing this sum by the total number of answers.

Items with a score “1” or “2” had to undergo a review process or be eliminated, and the concordance rate among validation participants had to be greater than 0.90 or 90%⁽¹¹⁾.

The constructs evaluated using this scale were the nursing duties, guidelines, treatment flowchart, workflow and nursing care prescriptions for patients with syphilis, presented in Table 1.

The fourth step of action research, the action plan and dissemination of results, took place through protocol submission for approval by the Municipal Health Council. After the protocol was approved, external dissemination occurred by training 80 nurses of the municipal health network to use it.

RESULTS

The results of the quantitative research revealed the need for a structured document, because 95.5% (n=40) of the 42 participating nurses reported that in the routine at the Basic Health Center, users who mention the need for a consultation suggesting some type of STI are directed to care with the nurse.

However, when asked about the protocol they used, answers were different; 77.3% (n=34) referred the use of the municipal protocol of Nursing for Women’s Health, containing a table for the treatment of syphilis,

and 22.7% (n=10) reported using the protocol of the Ministry of Health in force at the time.

In the qualitative stage, complementing the information previously collected, nurses reported difficulty in using the protocols of the Ministry of Health available at the time the study was performed, since they were not aligned with the local reality with regard to nurses’ work process in PHC.

During the qualitative stage of the study, as a result of the first focus group, discussions were related to the work process. Participants were asked about the way users are received in the health center from the moment of their arrival until the time they leave, after the diagnosis and/or prescribed treatment.

The collective construction of a service flowchart (Figure 1) was performed during the discussion about the work process in the Basic Health Center. To this end, the demands brought by the group based on professional practice, were considered.

The importance of the way of providing user embracement for those with suspected syphilis was also highlighted. At the end of the first focus group, the group decided the flowchart could be an integral part of the management and treatment protocol for people with syphilis. Then, goals and objectives for the second focus group were defined.

During discussions in the second focus group, there was an indication of elements about the work routine at the Basic Health Center, diagnosis and treatment of syphilis, monitoring of cases, knowledge of professionals about the Protocol of Guidelines of the Ministry of Health and the “Form for the Communication of Sexual Partners” and the service flow.

In addition to the duties of professionals, the following topics were included: the description of the disease and its stages; elements to be evaluated in laboratory tests and rapid testing; treatment; guidelines that need to be provided to users; the routine of referral and counter-referral to other professionals and specialized services; the routine for notification; investigation; prevention; routine for active search; nursing prescription, according to the International Classification of Nursing Practices; post-treatment follow-up, what

should be the orientation to the user; proposals for screening new cases; and, also, intersectoral

work to strengthen actions to combat syphilis.

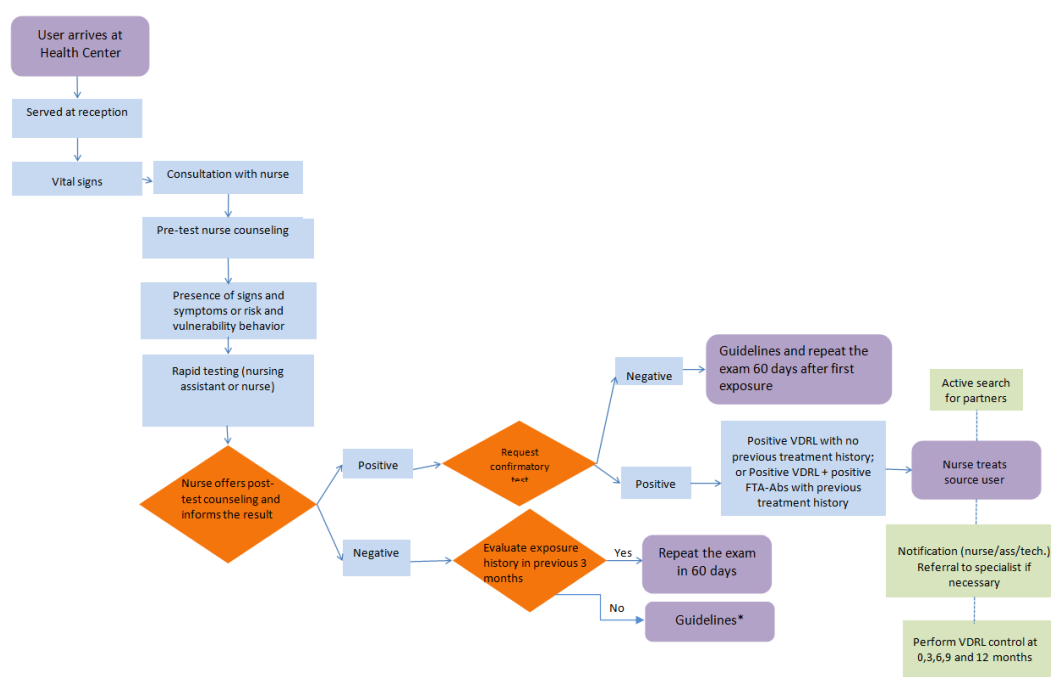


Figure 1. Service flowchart for users exposed and/or vulnerable to syphilis. Chapecó, SC, Brazil, 2019.

Four categories emerged from data collected in the focus groups: “work process”; “difficulties”; “suggestions”; and “positive points”.

The more relevant findings among the codings concern the “work process” with 42.08%. The category “difficulties” represented 41.58% of transcripts, which was attributed to the diagnosis of the disease, establishment of treatment, user self-care, work in the Health Care Network, establishment of flow in the work process, user adherence and communication of sexual partners in positive cases.

As for the **work process** category, one of participants pointed the issues of nursing records and the active search.

We always have to go after it there, doing an active search. We have a notebook to record when the patient was notified, when he was treated. Sometimes, the active search begins to complete the treatment. Then, the half-yearly follow-up also follows this line of active search (Nurse 1).

With regard to difficulties mentioned by

nurses, one pointed a lack of technical capacity for diagnosis and identification of stages of the disease. He stated feeling insecure, as he had been working in PHC for few years, and that skill was not required when working in the hospital service.

So, my difficulty, as I always worked in a hospital setting, I didn’t have much contact with syphilis [...]. I have difficulty identifying whether it is secondary or tertiary. I never know how many doses to give, if I give two or three [...]. The primary ok, there will be an injury, we know it is primary. But between secondary and tertiary, I have difficulty with the treatment. Honestly, my difficulty is with the identification of secondary and tertiary in the diagnosis (Nurse 5).

Another difficulty presented by most nursing professionals in the municipality was the poor adherence to treatment and follow-up.

Then, a person who goes for their treatment regularly in our reality there, is different. We don’t find that much patient adherence, including the part of not completing the treatment. Completing the scheme, let alone taking the partner, it is even more difficult (Nurse 1).

The category **suggestions** corresponded to 9.72% of the content of speeches. During the second focus group, when structuring the topics for inclusion in the protocol, nurse 8 raised the need to strengthen intersectoral work, as well as rapid testing.

I think we need to include a topic for intersectoral work, and also for the strengthening of rapid testing as an internal and external routine of the health service. And maybe that's a very important moment for us to make the person commit to come, because we'll control it. [...] and this should be a consensus among all. That there is an adequate and correct way to make the person adhere to it [...] (Nurse 8).

In the **positive points** category, evidence of the best practices in nurses' work process was discussed, representing 7.52% of the speech content. The discussions attributed to these categories, although less frequent during the transcripts, brought very strong elements of the potential found in the teams' work process, thus, were extremely important during the preparation of the protocol. What they perceived as more consistent in their professional practice and what could be applied in other health spaces was extracted.

One of the points raised in the study was the theoretical training for performing the collection of rapid tests, which was organized

by some nurses who took the initiative to give practical training in rapid testing collection. An example considered in the construction of the protocol was:

We have already established this flow, he arrives at reception, requests rapid testing, is passed on to the nurse [...] we offer user embracement and he shows interest in doing it, we ask an assistant to perform the technique. We have already put a reference [nursing assistant] [...] also to avoid exposing the patient [...] we assigned two assistants, when one cannot do it, the other does. [...] there is a room we use, while the nurse is doing the bureaucratic part, he {the nursing assistant} performs the collection [...] and goes back to the nurse to give the result. If necessary, he makes the appropriate referrals. It is working very well (Nurse 5).

During focus groups, numerous ways of the teams recording positive cases were identified, as well as different cut-off points established by each health center for decision-making regarding the choice of active search for users.

For validation, the finalized protocol was sent to the eight nurses participating in the focus groups along with a validation instrument. Since all participants responded this instrument, the concordance criterion was reached, as shown in Table 1 with the summaries of scores given by them.

Table 1. Summary of validation opinions using the Likert Scale applied to the eight nurses participating in the focus groups. Chapecó, SC, Brazil, 2019

Construct	Inappropriate	Partially appropriate	Appropriate	Totally appropriate
Nursing duties	n=0	n=0	n=1	n=7
Guidelines	n=0	n=0	n=0	n=8
Treatment flowchart	n=0	n=0	n=2	n=6
Workflow	n=0	n=0	n=0	n=8
Nursing care prescriptions for patients with syphilis	n=0	n=0	n=1	n=7

Source: Prepared by the authors (2019).

According to Table 1, concordance 3 and 4 was obtained for all five constructs, that is, 100% concordance in the first submission, considering that the proposal for the study would be 90%. In the opinion, a space for suggestions for changes was provided. The suggestions were accepted and incorporated into the protocol without need for a new validation.

In addition to validation by experts, the protocol was submitted for approval by the Municipal Health Council, registered under number 146, February 18, 2019, for implementation in the Health Care Network.

DISCUSSION

The use of participatory action research

showed great potential to promote integration and reflection among nurses working in PHC and, in this case, in the care for people with syphilis.

The results of the qualitative stage enabled the creation of a flowchart and a protocol. The themes emerging in the categories allowed participants to reflect on their professional practice.

Note that the suggestions and positive points were of particular relevance to reorganize the work process regarding management and treatment of people with syphilis.

The focus groups gave participants the opportunity to review and re-signify their practice, even though they all demonstrated knowing and even indicating the causes of weaknesses in the health care of people with syphilis.

The collective construction of these two instruments (flowchart and protocol) represented an opportunity to qualify the work process. During data collection, even though more statements about difficulties emerged, researchers could observe greater emphasis on the strengths in professional practice and use them in favor of the construction of documents.

In this sense, the choice of action research for this stage of the study was decisive for the quality and relevance of data collected and the involvement and commitment of participants, which is peculiar in participatory research.

One of the characteristics of this method is that the study development is based on participants' empirical knowledge for understanding problems that are difficult to understand using conventional methods⁽⁷⁾. Action research presupposes the search for an understanding of the work process by those involved, of how they understand the user within this process in order to effectively assume the treatment for disease control⁽⁶⁾.

In this study, the understanding that

participants identify the difficulties faced in PHC in the control of syphilis was crucial. This allowed that they recognized themselves as protagonists of their work process and capable to care for people with syphilis in a resolute and effective way, taking into account all interfaces related to access and adherence to treatment.

However, the need for interventions in the work process was observed, as the protocol developed suggested the insertion of new interprofessional and intersectoral workflows⁽¹²⁾. Likewise, it is necessary to invest in educational actions, aiming to collaborate with the improvement of user management, transcending the disease-focused individual care⁽¹²⁾.

FINAL CONSIDERATIONS

The research method allowed researchers to meet a real need for the construction of work instruments applied to the daily life of nurses working in PHC. The flowchart was predictive to guide the discussions that led to the identification of topics that should be contained in the protocol.

For those surveyed, participating in the collective construction of these instruments applied to the reality of the place where they work represented an opportunity to re-signify and qualify their professional practice in the management and treatment of people with syphilis.

The product is expected to offer nurses greater safety in handling patients with syphilis and improve coordination with other sectors with the aim to encourage the prevention of new cases of the disease. Furthermore, that the protocol provides conditions to equip the teams for embracement of this population in the municipality and the region, considering this is a health referral center for the west region of Santa Catarina.

CONSTRUÇÃO DE FLUXOGRAMA E PROTOCOLO DE ENFERMAGEM PARA MANEJO DA SÍFILIS NA ATENÇÃO PRIMÁRIA EM SAÚDE

RESUMO

Introdução: a sífilis é uma doença facilmente tratável, porém, no Brasil, ainda é um problema de saúde pública. **Objetivo:** construir um fluxograma e um protocolo para manejo da sífilis em adultos na Atenção Primária à Saúde. **Método:** pesquisa quanti-qualitativa, desenvolvida em 2019, realizada com 42 enfermeiros da Atenção Primária à Saúde de um município no oeste catarinense. Para a etapa quantitativa aplicou-se um questionário autoaplicado, embasado nos protocolos vigentes do Ministério da Saúde. A etapa qualitativa ocorreu por meio de

uma pesquisa participativa do tipo pesquisa-ação com oito dos 42 enfermeiros. Estes, em dois grupos focais, produziram coletivamente um fluxograma e um protocolo de manejo da sífilis em adultos e, posteriormente, após análise do material construído, validaram os documentos, por meio de análise de conteúdo, resultando em 100% de concordância. **Resultados:** os produtos construídos representam a descrição das melhores práticas profissionais a serem seguidas. O fluxograma apresenta as etapas no manejo, e o protocolo descreve as atividades que envolvem o atendimento relacionado à doença nos adultos atendidos na Atenção Primária à Saúde do município. **Considerações finais:** a construção do fluxograma e do protocolo atenderam as necessidades dos profissionais da saúde, na qualificação do atendimento às pessoas com sífilis no município.

Palavras-chave: Enfermeiro. Sífilis. Protocolos. Manejo. Estudo de validação.

CONSTRUCCIÓN DE FLUJOGRAMA Y PROTOCOLO DE ENFERMERÍA PARA EL MANEJO DE LA SÍFILIS EN LA ATENCIÓN PRIMARIA DE SALUD

RESUMEN

Introducción: la sífilis es una enfermedad fácilmente tratable, sin embargo, en Brasil, todavía es un problema de salud pública. **Objetivo:** construir un flujograma y un protocolo para el manejo de la sífilis en adultos en la Atención Primaria de Salud. **Método:** investigación cuanti-cualitativa, desarrollada en 2019, realizada con 42 enfermeros de la Atención Primaria de Salud de un municipio en el oeste catarinense, Brasil. Para la etapa cuantitativa se aplicó un cuestionario autoaplicado, basado en los protocolos vigentes del Ministerio de Salud. La etapa cualitativa ocurrió por medio de una investigación del tipo acción participativa con ocho de los 42 enfermeros. Estos, en dos grupos focales, produjeron colectivamente un flujograma y un protocolo de manejo de la sífilis en adultos y, posteriormente, tras el análisis del material construido, validaron los documentos, por medio de análisis de contenido, resultando en un 100% de concordancia. **Resultados:** los productos construidos representan la descripción de las mejores prácticas profesionales a seguir. El flujograma presenta las etapas en el manejo, y el protocolo describe las actividades que involucran la atención relacionada con la enfermedad en los adultos atendidos en la Atención Primaria de Salud del municipio. **Consideraciones finales:** la construcción del flujograma y del protocolo atendieron las necesidades de los profesionales de la salud, en la calificación de la atención a las personas con sífilis en el municipio.

Palabras clave: Enfermero. Sífilis. Protocolos. Manejo. Estudio de validación.

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