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ORIGINAL ARTICLE

# Directly Observed Treatment for Tuberculosis in Primary Health Care: discourses and practices

# Tratamento Diretamente Observado para a Tuberculose na Atenção Primária à Saúde: discursos e práticas

# Tratamiento Directamente Observado para la Tuberculosis en la Atención Primaria de Salud: discursos y prácticas

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## Abstract

**Objective:** To define Directly Observed Treatment for Tuberculosis from the perspective of Primary Health Care professionals in Governador Valadares, Minas Gerais, Brazil, and to present the actions related to this treatment strategy that they implement. **Method:** This is a qualitative and descriptive study based on an action-research approach, conducted with Primary Health Care health professionals in the municipality of Governador Valadares, MG. Data were collected through Google Forms and a virtual forum posted on Google Classroom. Analysis was carried out using Thematic Content Analysis. **Results:** A total of 62 Primary Health Care professionals from different categories and work locations participated in the study. Key thematic contents defining Directly Observed Treatment included professional observation of medication intake by the patient, therapeutic adherence and reduced treatment abandonment, the establishment of a bond between patient and health professional, and multidisciplinary support. Directly Observed Treatment -related actions were associated with supervised medication doses, health education, test requests, and tracing of absentees. **Conclusion**: Definitions of Directly Observed Treatment encompassed not only medication intake supervised by a health professional but also other actions that constitute TB patient care and its limitations within the Primary Health Care setting, as a shared care model with Secondary Care.

**Descriptors:**
Directly Observed Therapy, Tuberculosis, Primary Care.

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**RESUMO**

**Objetivo**: Definir o Tratamento Diretamente Observado para a Tuberculose na perspectiva dos profissionais da Atenção Primária à Saúde de Governador Valadares, MG, e apresentar quais ações relacionadas a esse tipo de estratégia de tratamento são executadas por eles. **Método:** Estudo qualitativo e descritivo, realizado a partir do recorte de uma pesquisa-ação, com profissionais de saúde da Atenção Primária à Saúde do município de Governador Valadares/MG. Os dados foram coletados por meio do Formulário *Google* e do *fórum* virtual, postados no *Google Classroom.* A análise se deu por meio da Análise Temática de Conteúdo. **Resultados:** Participaram do estudo 62 profissionais da APS, de categorias e lotações diferentes. Emergiram como conteúdos temáticos definidores do Tratamento Diretamente Observado: observação profissional da medicação ingerida pelo usuário; adesão terapêutica e diminuição da ocorrência de abandono; criação de vínculo entre usuário e profissional de saúde; apoio multiprofissional. Relacionam ações de Tratamento Diretamente Observado com a própria dose supervisionada, educação em saúde, solicitação de exames, busca de faltosos. **Conclusão:** As definições de Tratamento Diretamente Observado remeteram não só a ingestão medicamentosa por um profissional de saúde, mas também outras ações que compõem o cuidado à pessoa com Tuberculose e suas limitações no âmbito da Atenção Primária à Saúde, enquanto cuidado compartilhado com a Atenção Secundária.



**DESCRITORES:**
Terapia Diretamente Observada, Tuberculose, Atenção Primária à Saúde.



**RESUMEN**

**Objetivo:** Objetivo: Definir el Tratamiento Directamente Observado para la Tuberculosis desde la perspectiva de los profesionales de la Atención Primaria de Salud en Governador Valadares, MG, y presentar las acciones relacionadas con este tipo de estrategia de tratamiento que son ejecutadas por ellos. **Método:** Estudio cualitativo y descriptivo, basado en un recorte de una investigación-acción, realizado con profesionales de salud de la APS del municipio de Governador Valadares, MG. Los datos fueron recolectados mediante un Formulario de *Google* y un foro virtual publicado en *Google Classroom*. El análisis se llevó a cabo mediante el Análisis Temático de Contenido. **Resultados:** Participaron en el estudio 62 profesionales de la Atención Primaria de Salud, pertenecientes a diferentes categorías y ubicaciones. Los contenidos temáticos que definieron el Tratamiento Directamente Observado incluyeron: observación profesional de la medicación ingerida por el usuario; adhesión terapéutica y reducción de la ocurrencia de abandono; creación de un vínculo entre el usuario y el profesional de salud; y apoyo multiprofesional. Las acciones relacionadas con el Tratamiento Directamente Observado incluyen la dosis supervisada, educación en salud, solicitud de exámenes y búsqueda de usuarios ausentes. **Conclusión**: Las definiciones de Tratamiento Directamente Observado no solo remiten a la ingesta de medicamentos bajo la supervisión de un profesional de salud, sino también a otras acciones que componen el cuidado de la persona con Tuberculosis y sus limitaciones en el ámbito de la Atención Primaria de Salud, como cuidado compartido con la Atención Secundaria.



**DESCRIPTORES:**
Terapia directamente observada, Tuberculosis, Atención primaria de salud.


## INTRODUCTION

Tuberculosis (TB) is an infectious, communicable and notifiable disease. Its occurrence is related to social vulnerabilities, such as poverty and urban agglomeration[1]. Brazil is among the 20 countries with the highest burden of this disease, being the country with the largest number of reported cases of TB in the Americas[2].

The treatment of TB is highly effective, considerably reducing transmissibility around fifteen days after its onset. In addition, it is offered fully and free of charge by the Brazilian Unified Health System (UHS)[3]. However, the number of new cases in Brazilian states continues to rise[4]. According to the World Health Organization (WHO), in relation to the management of TB, the problem is not in the detection and treatment, but in the way the health services are organized to detect and assist people affected by the disease[5].

Since 1993, WHO has guided the implementation of Direct Supervised Short-term Treatment (DOTS) as a strategy for disease control in health services[5]. In Brazil, only in 1999, made possible by the National Tuberculosis Control Program, this practice was adopted, with the objective of ensuring political adherence of the authorities, the existence of an integrated laboratory network and the availability of drugs so that treatment could be carried out without interruptions, preventing bacilli resistance[6].

According to the Tuberculosis Recommendations and Control Manual, Directly Observed Treatment (DOT) was consolidated in Brazil in 2011, indicating the observation that all people receiving TB treatment were taking medicines by a health professional. In 2019, the observation of ingested medication, also known as supervised dose, was supplemented by the choice of a site favorable to its occurrence, providing another opportunity for rapprochement between health service, user and family[6,7].

Although DOT is considered an easy to implement and proven effective method, and Primary Health Care (PHC) is the main gateway to the UHS and responsible for coordinating care and linking it to the Health Care Network (HCN)[8], it is known that not all professionals linked to this point of health care have updated knowledge about the management of TB and its peculiarities[9].

This situation can be enhanced in municipalities where TB is centralized[9], as is the case of the municipality of Governador Valadares - Minas Gerais, where the TB program has in the Secondary Care, represented by the Reference Center for Endemic Diseases and Special Programs Dr. Alexandre Castelo Branco (CREDEN-PES), the main reporting unit of cases and, consequently, the management of all them[10].

Therefore, there are difficulties that need to be overcome for the advancement of DOT actions in the PHC Health Units of municipalities, such as Governador Valadares, configuring as necessary, in this scenario, actions of Permanent Health Education (PHE) able to prepare health professionals to perform DOT in all its particularities[9].

**OBJECTIVE**

This study aimed to define the DOT for TB from the perspective of professionals in the PHC of Governador Valadares – MG and present what actions related to this type of treatment strategy are performed by them.

## METHODS

### Study design

Qualitative and descriptive study of data collected during an initial and exploratory phase of PHE-to-DOT action research with PHC health professionals, conducted between May and September 2022 in the city of Governador Valadares-MG.

It is therefore a cut of the research entitled "Tuberculosis in Governador Valadares: strengthening the municipal care network", proposed by the Center for Studies, Research and Extension in Tuberculosis (NEPET) in partnership with the Municipal Health Department of Governador Valadares.

### Sample

The participants were 140 professionals belonging and distributed among the teams of Family Health Strategies (FHS): nurses; Street Office (eCR): nurse, social worker, psychologist; Primary Care teams (eAP): nurses; from the Expanded Family Health and Primary Care Center (NASF-AB): nutritionists, pharmacists, social workers, psychologists and the Multiprofessional Residency in Family Health (RMS): nurses, social workers, pharmacists, nutritionists and psychologists), from the municipality.

Thus, all these professionals were invited to participate in the action-research that took place concomitantly with the PHE. However, although they participated in all the proposed activities, 78 professionals did not sign the ICF, being excluded from the research. Therefore, the study obtained a final sample of 62 professionals.

### Study protocol

In this study, the data presented were only the information obtained in the exploratory phase (Module I) of the action research carried out, partially extracted from a questionnaire sent by the Google Form and a virtual forum. Both form and forum were posted in Google Classroom after the inaugural class on DOT, which took place in person in two stages.

Such data were stored in spreadsheets on Google Drive, following security and confidentiality measures, with access only to the responsible researcher, addressed to the university's domain email, preserving the identity of participants.

Thus, in the pre-analysis stage, a floating reading of the data extracted from the participants' answers was made, based on the questions: "What is Directly Observed Treatment in Tuberculosis? Do you perform any action related to the Directly Observed Treatment-DOT in your Health Unit? ; If you perform, what actions and for how long have you performed it?".

In the exploration of the material, the nuclei of senses were identified, with cutouts and associations of the answers, organized in a chart with similar and different ideas. The data obtained were

arranged in a chart in the Excel program for organization and interpretation.

### Data analysis

The analysis process was carried out from articulations between the data collected and the theoretical references about the DOT theme, which were described in the results and discussion, according to the theoretical reference of the Content Thematic Analysis[11] and its categorization according to the profile of participants.

### Ethical aspects

During the inaugural classes, participants were informed about the research objectives and the willingness to sign the ICF in two copies. To ensure the reliability and anonymity of the answers listed in the questionnaire and in the virtual forum, these were analyzed and presented in the results in a completely literal way.

Moreover, they were renamed at the end by the acronyms of the categories such as NUR, NUTRI and so on, accompanied by a number, according to the ascending order of response highlighted, respectively. The research was evaluated and approved by the Research Ethics Committee of the Vale do Rio Doce University, under opinion N. 5.118.304.

## RESULTS

### Characterization of the participants and their relation with DOT-related activities

Given the 62 members of the research, the professional categories of the participating teams were distributed as follows: 18 (29%) professionals from NASF-AB (three pharmacists, six nutritionists, three psychologists and six social workers); three (4.8%) from eCR (one nurse, one social worker and one psychologist); 12 (19.4%) residents of multidisciplinary areas (three social workers, five nurses, three pharmacists and one nutritionist) and 29 nurses (46.8%), 25 from the FHS and four from the eAP.

Regarding the characteristics of the members, 88.7% were female and the age range varied between 23 and 58 years. Regarding the performance in PHC, most of the participants answered that they were working for a little more than one year in their home Health Units, either as hired, effective or multiprofessional residency.

Regarding the execution of actions related to DOT, 32 (51.6%) health professionals answered that they did not perform any action in the Health Units where they worked; the other 30 (48.3%) said they performed some action related to DOT and were described as: supervised dose, orientation and health education, embracement, matriciation of complex cases, waiting rooms, follow-up of contacts, active search for missing cases, testing for Sexually Transmitted Infections and request for control tests.

For the actions answered as not executed, most professionals justified the non-execution of the DOT due to the disorganization of the work processes of multiprofessional teams to which they belong:

> I do not do it and have not been invited to participate in actions until the present time (ASS 6).
>
> I ordered the book of respiratory symptomatic and did not use it because I felt Self-Team. I assist more the female population: prenatal and healthy woman (NUR 14).

The most prominent professional category among professionals who perform DOT actions was nursing. However, such actions cited as daily execution of activities dialogue with the general attributions of each participating professional category, according to reports:

> Actions to control, prevent and combat Tuberculosis since I started the activities in the team, examples: embracement, risk classification, suspicion of respiratory symptomatic; request for tests of scabies, guidelines on collections; control and monitoring of RS (green book) cases and contacts, DOT; nursing consultations; active patient search; contacts and failures; evaluation of medication effects; conducting rapid tests; scheduling of examinations and appointments in CREDEN-PES; referrals; contact with references; participation in continuing education; carrying out training for the team; social mobilizations; health education, waiting room, PHE; search for partnerships and strategies; matriciation of all cases of TB, , among others, with the aim of ensuring comprehensive care to the patient (NUR 2).
>
> Health education on the theme, embracement and psychological care of patients with Tuberculosis with emotional demands and use of alcohol, tobacco and associated drugs. Matriciation and UTP of patients with Tuberculosis (complex cases) (PSYC 1).
>
> Waiting rooms (NUTRI 2).

### Thematic contents identified about the definition of DOT

#### *Professional observation of the drug ingested by the user*

According to the participants, the basic understanding of the definition of DOT is exactly, in its majority, about the supervision of drug doses by a qualified professional:

> DOT consists of the supervised administration of medication, remembering that it can be done by any professional of higher level who is able to do. The commitment of all staff is important for the success of treatment (NUR 24).
>
> DOT treatment for tuberculosis consists of taking medication daily under the supervision of a health professional (PSYC 2).
>
> DOT is when a FHS professional assists the patient's dose (NUTRI 5).

> DOT consists of observing the person with tuberculosis taking the drug under the observation of a health professional or other qualified professionals, such as social assistance professionals, among others, provided that they are supervised by health professionals (ASS 3).

***Therapeutic adherence and reduction in the occurrence of abandonment***

In the context of seeking a favorable clinical outcome, the supervision of doses by a health professional was seen by participants as a strategy to ensure continuity of treatment:

> DOT includes and sensitizes a whole team, creates territorial bond between patient and staff, opens a look of equity. When treatment is initiated, transmission is interrupted, giving adherence assurance to the continuity of treatment to the patient and their contacts (NUR 21).

> I think it is the daily intake of the drug by a health professional to improve adherence to treatment and prevent patient abandonment to treatment, as often occurs (PHAR 1).

> Directly Observed Treatment (DOT) is the supervised administration of drugs in patients undergoing tuberculosis treatment. This supervision is performed by a health professional, with the objective of ensuring adherence to treatment (NUTRI 3).

***Creation of a bond between user and health professional***

Some professionals cited the creation of a bond to define DOT and even expanded the idea that it is a fundamental situation for treatment adherence and the possibility of intervention in cases of greater risk of abandonment, linked to other concepts:

> DOT consists of observation when taking the drug for the treatment of tuberculosis, and it can be done by any health professional who is oriented, preferably every day in the attack phase or at least three times a week in the maintenance phase of the treatment. It is important to note that DOT goes far beyond just taking medication, it is an opportunity to bring professionals closer to the social context of the individual, creating bonds, with a view to adherence until the end of treatment (NUR 7).

> DOT - directly observed treatment - consists of the daily intake of medicines by the patient under observation of a health professional. It goes beyond just taking the medication, it is an opportunity to create bonds, strengthening treatment adherence (NUR INTERN 5).

> DOT is to administer, follow up, create a bond with the patient and family with TB diagnosis. Having this follow-up allows the verification that the patient is making use and care of the drugs and treatment correctly (ASS 4).

***Multiprofessional support***

Cited only by nurses in the forum, multidisciplinary support emerged alongside the DOT's common actions:

> When the patient attends the unit to take the medication, at this time, I weigh the patient, provide the medication for the next days, observe adverse reactions, finally, nursing consultation and referral to another professional of the multidisciplinary team when necessary (NUR 3).

> DOT consists of the observation of medication taking by a patient with tuberculosis under the care and monitoring of a health professional or any professional from the multidisciplinary team, among others, provided that supervised by a health professional (NUR 15).

***Occasional thematic contents***

In addition to the recurring thematic content already highlighted in some answers, occasional relevant content was identified for such a discussion, such as the limitations found by health professionals in the performance of DOT, the evaluation of the success of the treatment through observation of physical parameters, identification of symptoms that may indicate adverse effects of medications, evaluation of contacts and increase in the likelihood of cure.

The importance of identifying possible limitations of professionals was posed by a nurse:

> DOT can be defined as the administration and observation of medication intake by the user/patient in order to reduce the abandonment and/or irregular intake of the drug. To be efficient, it is important to identify the difficulties of the user and limitations of the professionals to improve adherence to treatment and strengthen the relationship between professional and user (NUR 26).

Furthermore, the criteria for evaluating contacts, weight gain, identification of adverse effects and increased likelihood of cure were identified in some answers:

> DOT is to administer and follow the dose of the patient under tuberculosis treatment in the health unit, this drug can be performed by any health professional guided to do the dose, be attentive to the adverse effects, weight gain and evaluation of contacts (NUR 27).

> DOT is a specialized care to follow-up the user with TB in the use of the prescribed drug, in addition to creating bonds, following up contacts, always embracing the demands brought by this patient (ASS 5).

> DOT is daily supervising the drug use by the patient for certain treatment, performed

by a trained health professional, aiming to strengthen the adherence, reduce the abandonment rates, consequently increasing the likelihood of cure (NUTRI 4).

## DISCUSSION

Considering the thematic contents presented, it is noteworthy that the strategy devised by WHO in 1993, with the creation of DOTS, was the supervision of drug intake by a health professional for individuals undergoing treatment for TB[5], which was defined by some participating health professionals.

However, with the update of this strategy for DOT, there was the implementation of new actions that integrate treatment with the purpose of increasing adherence and cure, such as the creation of bond and risk stratification; but still, the method still consists in, as a priority, observe the medication taken by the user, ideally on all working days[7].

In addition, it is important to note that for the registration of follow-up in the Information System on Notifiable Diseases (SINAN), it is necessary that the observation of the taking of the prescribed drugs occurs at least three times a week in the intensive phase and twice a week in the maintenance phase, in cases of standardized treatment for six months. The medications should be self-administered only on weekends and holidays, besides the supervision performed by friends or family being no longer considered DOT[6,7], which reinforces the importance of the health professional for its implementation.

In 1993, TB was declared a worldwide state of emergency. Since then, countries with higher incidence of the disease, such as Brazil, have adopted strategic plans for its control and treatment. Nevertheless, even with all progress towards a favorable clinical outcome, the disease remains a major problem related to public health in the world, because its incidence is proportional to the increase of vulnerabilities, such as the precariousness of living conditions[12].

Factors such as low education, poverty, alcohol and other drug consumption, for example, hinder the execution of treatment-related actions and increase the occurrence of abandonment, because information is not effectively understood, causing avoidable deaths[13] within the scope of TB.

In fact, it is expected that PHC health professionals, besides observing the taking of doses, are able to evaluate the territory and operationalize the DOT in order to adapt to the local-regional characteristics, basing it on the needs of the person, family and community, to create a bond and specific interventions based on risk stratification, in order to guarantee the completion of treatment and all its outcomes, as recommended by the Ministry of Health[7].

DOT is a strategy of adherence and creation of bonds that, in addition to changing the way medicines are administered, enables the sharing of responsibility for healing between the person undergoing treatment, health teams and the community[7]. Additionally, it facilitates the identification of situations that may compromise adherence, such as alcohol and drug abuse, social vulnerability and fragility of the social/family network[13].

PHC is a privileged space for the development of actions that expand the strategies to maintain the management of TB and optimize DOT, according to its promotion, prevention, treatment, rehabilitation and embracement; moreover, it has a reference to specialized health services and greater complexity, according to the risk stratification and community health needs, providing integrality in its services through the bond between health professionals, users and community[14,8].

Precisely by the bond established between user and professional in PHC, telemonitoring is added to the discussion, which consists of health professionals watching the taking of doses, even if virtually, so that the DOT is effectively fulfilled[15]; situation occurred during the covid-19 pandemic and that should be discussed and implemented further.

It is observed in the literature and formal guidelines that the management of TB cases in PHC is mostly performed by nurses. But it is essential that there is the involvement of all other health professionals of multidisciplinary teams, in which the contribution of each one is an indispensable part for the success of the actions, from the deepening on each stage of care to the person with TB and their singularities[16,9].

Therefore, DOT training for the multidisciplinary team can signal the first step in the process of decentralization of TB management from a reference service to PHC. Decentralization is an important process for DOT, since the strategy should be offered to the user in the place closest to their residence or of easier access, to facilitate their adhesion[7].

In decentralization, the participation of all staff in the work process related to DOT is justified, in an organized and systematic way, not only by the specific attributions of each professional category, actions that can and should be developed by all members of the various teams[9] that coexist in PHC.

In this sense, the demand of health units, the lack of trained personnel, the absence of community health agents (CHA) working in the micro-areas, the lack of resources and the disorganization of daily tasks are difficult points for adherence of professionals to new requests; especially when it concerns actions to control diseases such as TB, effective management of DOT, the search for RS, active search of missed contacts and the evaluation of contacts, for example, are actions that demand the exit of health professionals from their daily schedules, causing interference in the schedule and overload of work[16].

The physical parameters of patients, identification of adverse drug effects and evaluation of contacts are very relevant factors for treatment success, reduction of the risk of abandonment and interruption of transmissibility. Such criteria, when taken into account by professionals during treatment, increase the chances of cure, the achievement of individual and collective goals, as well as the reduction of drug resistance[3].

DOT brings professionals closer to the social context of individuals and this approach facilitates critical reflection on vulnerability factors, as well as positive and negative events during treatment[3].

This strategy is appropriate while carried out by PHC, since the services of this point of health care aims to, as described in the National Policy of Primary Care (PNAB), positively impact the health situation of the community through care strategies and analysis of the determinants and conditions of each locality, acting in a multiprofessional way[8].

### Study limitations

It is noteworthy that the 140 health professionals participating in the PHE did not adhere to the proposed objective, which does not allow for a more thorough survey. Furthermore, the development of a cross-sectional study has, by itself, limitations regarding the difficulty of interpreting associations and presenting causalities.

### Contributions for nursing, health or public policy

The findings of this study corroborate the local-regional policies of TB, and contribute to the expansion of partnerships made by municipal management, especially universities, towards the investment of a consistent strategy of PHE.

It is believed that such a strategy extends the conscious, technical, updated, creative and multiprofessional exercise within health teams, which will feel prepared to deal with institutional and individual weaknesses, complex situations involving the execution of DOT.

## CONCLUSION

The definitions of DOT were passed by professional observation of medication taken by the user during TB treatment, but also as a strategy capable of combining the increase in therapeutic adherence and reduction of abandonment, the creation of a link between user and health professional and multiprofessional support, related to health guidelines, embracement and matriciation, monitoring contacts, search for missing persons and requests for examinations.

The limitations found by health professionals in performing DOT in PHC were also cited, and not all professionals participating in the research perform any activity related to treatment: or the amplitude and flow of daily actions developed daily or the lack of ability to perform tasks related to this strategy for monitoring TB treatment, but still, the potential of this point of attention in its management should be considered.

Finally, the study was important both for having achieved its objective and for bringing to light actions that should be expanded in Governador Valadares-MG, such as updating and training of professionals, especially in relation to TB, still in the context of shared care, such as the current format of municipal TB in the municipality of Governador Valadares, but also the effective decentralization of

management for PHC, inserting all professional categories in this care process to the person with the disease.

## REFERENCES

1. Maciel MS, Mendes PD, Gomes AP, Siqueira-Batista R. A história da tuberculose no Brasil: os muitos tons (de cinza) da miséria. Rev Bras Clin Med [Internet]. 2012 [citado em 2023 dez 14];10(3):226-30. Disponível em: http://files.bvs.br/upload/S/1679-1010/2012/v10n3/a2886.pdf.

2. Organização Pan-Americana da Saúde [Internet]. Dia Mundial de Combate à Tuberculose: Brasil reforça ações para eliminação da doença como problema de saúde pública - OPAS/OMS [Internet]. 2023 [citado em 2023 dez 14]. Disponível em: https://www.paho.org/pt/noticias/24-3-2023-dia-mundial-combate-tuberculose-brasil-reforca-acoes-para-eliminacao-da-doenca.

3. Távora MM, Rodrigues ILA, Nogueira LMV, Silva FO. Perceptions of nurses and patients on adherence to the directly observed treatment in tuberculosis. Cogitare Enferm [Internet]. 2021 [citado em 2024 dez 14]; 26:e69930. doi: http://dx.doi.org/10.5380/ce.v26i0.69930.

4. Brasil. Ministério da Saúde. Boletim Epidemiológico Tuberculose. Secretaria de Vigilância em Saúde e Ambiente [Internet]. 2023. Disponível em: https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/boletins/epidemiologicos/especiais/2023/boletim-epidemiologico-de-tuberculose-numero-especial-mar.2023.

5. World Health Organization. Tuberculosis control: surveillance, planning, financing: WHO Report 2007 [Internet]. Geneva; 2007. Disponível em: https://www.who.int/publications/i/item/9789241563141

6. Brasil. Ministério da Saúde. Manual de Recomendações para o Controle da Tuberculose no Brasil. Secretaria de Vigilância em Saúde [Internet]. 2011 [citado em 2023 dez 14]. Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/manual_recomendacoes_controle_tuberculose_brasil.pdf.

7. Brasil. Ministério da Saúde. Manual de Recomendações para o Controle da Tuberculose no Brasil. Secretaria de Vigilância em Saúde [Internet]. 2019 [citado em 2023 dez 14]. Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/manual_recomendacoes_controle_tuberculose_brasil_2_ed.pdf.

8. Batista CLF, Fernandes LH, Júnior RHG, Lopes AR, Mombelli MA. Atributos da atenção primária à saúde: a teoria e a prática em uma unidade de saúde da família na perspectiva de acadêmicos de medicina. Arquivos de Ciências da Saúde da UNIPAR [Internet]. 2023 [citado em 2023 dez 14]; 27(2):829-842. Disponível em: https://doi.org/10.25110/arqsaude.v27i2.2023-018.

9. Santana S, Teixeira CFS, Rodrigues AS, Skalinski LM. Dificuldades, caminhos e potencialidades da descentralização do atendimento à tuberculose. J Health Biol Sci [Internet]. 2020 [citado em 2023 dez 14];8(1):1-5. Disponível em: http://dx.doi.org/10.12662/2317-3076jhbs.v8i1.2582.p1-5.2020

.

10. Governador Valadares. Hoje (24) é dia mundial de combate à tuberculose [Internet]. 2022. Prefeitura Municipal de Governador Valadares [citado em 2023 dez 14]. Disponível em: https://www.valadares.mg.gov.br/detalhe-da-materia/info/hoje-24-e-dia-mundial-de-combate-a-tuberculose/169399.

11. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. 14. ed. São Paulo: HUCITEC editora; 2014.

12. Brasil. Nações Unidas. Mortes por tuberculose aumentam pela primeira vez em uma década [Internet]. Brasília; 2021 [citado em 2023 dez 14]. Disponível em: https://brasil.un.org/pt-br/151808-mortes-por-tuberculose-aumentam-pela-primeira-vez-em-uma-decada

13. Freitas GL de, França GEM, Souza TR de, Macário V de M, Camargo AF, Protti-Zanatta S, et al. Diagnóstico e acompanhamento da tuberculose – diferenças entre população geral e populações vulnerabilizadas. Cogitare Enferm [Internet]. 2022 [citado em 2023 dez 14];27. Disponível em: http://dx.doi.org/10.5380/ce.v27i0.83607.

14. Silva CF, Caldeira PHP, Rodrigues KC, Pereira, FR. Tuberculose: educação permanente em saúde para profissionais das instituições de privação de liberdade. Rev Cien FACS [Internet]. 2021 [citado em 2023 dez 14]; 21(27):100-8. Disponível em: https://periodicos.univale.br/index.php/revcientfacs/article/view/247/212.

15. Brasil. Ministério da Saúde. Tuberculose na atenção primária: protocolo de enfermagem [Internet]. Secretaria de Vigilância em Saúde. 2022 [citado em 2023 dez 14]. Disponível em: https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/publicacoes-svs/tuberculose/tuberculose-na-atencao-primaria-a-saude-protocolo-de-enfermagem.pdf.

16. Melo LSO, Oliveira EN, Neto FRGX, Viana LS, Prado FA, Costa JBC. Passos e descompassos no processo de cuidado aos portadores de tuberculose na atenção primária. Enferm. Foco [Internet]. 2020 [citado em 2023 dez 14]; 11(1): 136-141. Disponível em: https://doi.org/10.21675/2357-707X.2020.v11.n2.2917.

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