INTEGRATIVE REVIEW ARTICLE

EVALUATION OF PRIMARY HEALTH CARE SERVICES IN TUBERCULOSIS
AVALIAÇÃO DOS SERVIÇOS DE ATENÇÃO PRIMÁRIA À SAÚDE NA TUBERCULOSE
EVALUACIÓN DE LOS SERVICIOS DE ATENCIÓN PRIMARIA A LA SALUD EN LA TUBERCULOSIS

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ABSTRACT

Objective: to analyze scientific production on the evaluation of Primary Health Care services in the control of tuberculosis. **Method:** this is a bibliographical study, including an integrative review, which included complete articles available in the LILACS, CINAHL, SCOPUS, Web of Science and MEDLINE databases, "published in Brazil between January 2013 and September 2017. The results were presented in the form of figures. **Results:** 12 articles were selected and classified in two thematic categories: "Evaluation of services from the perspective of health professionals" and "Evaluation of services from the perspective of users". **Conclusion:** the synthesis of the studies confirms the weaknesses, suggesting the complementary training to the professionals, besides the rescue of the expanded concept of health, mainly, in relation to the family and the community, contributing to the base of management conduits for the improvement of health interventions. **Descriptors:** Primary health care; Tuberculosis; Research on Health Services; Nursing; Brazil; Basic Health Services.

RESUMO

Objetivo: analisar produções científicas sobre a avaliação dos serviços da Atenção Primária à Saúde no controle da tuberculose. **Método:** trata-se de estudo bibliográfico, tipo revisão integrativa, que incluiu artigos completos disponibilizados nas Bases de Dados LILACS, CINAHL, SCOPUS, Web of Science e MEDLINE, publicados no Brasil entre janeiro de 2013 a setembro de 2017. Apresentaram-se os resultados em forma de figuras. **Resultados:** selecionaram-se e classificaram-se 12 artigos em duas categorias temáticas: "Avaliação dos serviços na perspectiva dos profissionais de saúde" e "Avaliação dos serviços na perspectiva dos usuários". **Conclusão:** ratificam-se, pela síntese dos estudos, as fragilidades, sugerindo a formação complementar aos profissionais, além do resgate do conceito expandido de saúde, principalmente, com relação à família e à comunidade, contribuindo para o embasamento de condutas de gestão para a melhoria das intervenções em saúde. **Descritores:** Atenção Primária à Saúde; Tuberculose; Pesquisa sobre Serviços de Saúde; Enfermagem; Brasil; Serviços Básicos de Saúde.

RESUMEN

Objetivo: analizar producciones científicas sobre la evaluación de los servicios de la Atención Primaria a la Salud en el control de la tuberculosis. **Método:** se trata de un estudio bibliográfico, tipo revisión integrativa, que incluyó artículos completos disponibles en las Bases de Datos LILACS, CINAHL, SCOPUS, Web of Science y MEDLINE, publicados en Brasil entre enero de 2013 a septiembre de 2017. Se presentaron los resultados en forma de figuras. **Resultados:** se seleccionaron y se clasificaron 12 artículos en dos categorías temáticas: "Evaluación de los servicios en la perspectiva de los profesionales de salud" y "Evaluación de los servicios en la perspectiva de los usuarios". **Conclusión:** se ratifican, por la síntesis de los estudios, las fragilidades, sugiriendo la formación complementaria a los profesionales, además del rescate del concepto ampliado de salud, principalmente, con relación a la familia y a la comunidad, contribuyendo para el basamento de conductas de gestión para la mejora de las intervenciones en salud. **Descritores:** Atención Primaria a la Salud; Tuberculosis; Investigación sobre Servicios de Salud; Enfermeira; Brasil; Servicios Básicos de Salud.

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INTRODUCTION

It is known that tuberculosis (TB) is an infectious disease with the etiological agent *Mycobacterium tuberculosis*, isolated by the German doctor Robert Koch, in 1882¹, a fact that proves the old circulation of this bacterium, with historical records dating to approximately 70 thousand years.²

It is reported that in the world there are 30 countries with a high TB burden, which together represent 86.8% of all incidents. Brazil is among the eighth, with 82,676 cases reported, with mortality of 2.6 / 100 thousand inhabitants and incidence of 42/100 thousand inhabitants.³

In Brazil, the implementation of Directly Observed Treatment (DOT), formally made official in 1999 through the National Tuberculosis Control Program (NTCP), was recommended in Brazil by the Emergency Plan for Tuberculosis Control, launched in 1996, where the strategy mainstreaming was the incorporation of TB control actions in Primary Health Care (PHC).⁴

The organization of the PHC services was promoted from the 1980s onwards by the Sanitary Reform movement, in a bid to win the right to health, in an attempt to leverage social justice and citizenship. At the beginning of the 1990s, it was municipalized and developed with the implementation of the Unified Health System (UHS), the PHC through Public Policies and Operational Norms that guaranteed legal, administrative and financial support for the creation of the Family Health Program (FHP). The main objective of this program was to institute a family-centered care practice, which should be understood from its physical and social environment.⁵

It is understood, in this scenario, that PHC summarizes the level of the health system that provides the user's gateway to all needs and problems, providing care (not directed to the person) over time and all conditions.⁶ It should be highlighted that PHC is defined as the communication center of the Health Care Networks (HCN), coordinator of the care and ordering of the actions and services available in the network.⁷

It is described, according to Starfield, the proper qualities of PHC, the so-called Essential Attributes and Derivatives, such as: First Contact Access; Longitudinality; Integrality; Coordination; Family Orientation; Community Orientation and Cultural Competence.⁸

The new strategy, implemented in 2015, called THE END TB, is based on three pillars defined as follows: "integrated care centered on the sick person and prevention"; "Bold policies and health system" and "intensification of research and innovation". This third pillar is fundamental to

breaking the trajectory of the epidemic and achieving global goals. This strategy was developed in relation to the previous ones in order to meet the new challenges, with a 90% reduction in incidence and a 95% reduction in mortality for the year 2035.⁹

In this context, it is important to highlight the importance of the evaluation of the PHC Health Services in the control of TB, since evaluating consists mainly of judging the value of an intervention or of any of its components with the objective of assisting in decision-making.¹⁰ Three important components of structure, process and outcome are considered to be important in health care quality. It is explained that the structure refers to the stable elements (material, human and organizational resources), while the process refers to the practices themselves, associated to the professional-user relationship, and the result refers to changes in health status of individuals.¹¹⁻¹²

OBJECTIVE

- To analyze scientific production on the evaluation of Primary Health Care services in the control of tuberculosis.

METHOD

This is a bibliographical study, an integrative literature review (ILR), whose guiding question was: "What is the scientific production on the evaluation of PHC services in TB control in Brazil?".

The integrative literature review is used as a tool in the field of health, as it synthesizes the available research on a given theme and directs the practice, based on scientific knowledge. It is known that it is a rigorous method in the selection of articles, with well-defined inclusion and exclusion criteria.¹³

The following steps were followed: formulation of the problem; selection of the sample to be reviewed; evaluation of data; analysis of information; analysis and interpretation of results and presentation of the review.¹⁴

For this study, the PubMed databases of the National Library of Medicine of the United States were consulted; Latin American and Caribbean Literature in Health Sciences (LILACS); The Cumulative Index to Nursing and Allied Health Literature (CINAHL); SCOPUS, of the Elsevier publishing house; Web of Science and Medical Literature Analysis and Online Retrieval System (MEDLINE). The Health Sciences Descriptors (DeCS) and the Medical Subject Headings (MeSH) were used for the search: Tuberculosis; Primary Health Care; Health Services Evaluation, using the Boolean operator "AND" to perform the search strategies between them.

For the selection of articles, criteria for inclusion were established: original primary studies published in Brazil in the last five years; articles available in full and in the Portuguese, English and Spanish languages, to assess PHC in TB control in Brazil, excluding secondary publications.

585 articles were identified in MEDLINE; two, in LILACS; three in CINAHL; 228 at SCOPUS; 78 in the Web of Science. These, in turn, were submitted to the eligibility stage, in which the reading of the

abstracts was decisive, resulting in 12 publications. Figure 1 shows the flowchart of the selection process of the articles that compose the study. It should be noted that the information was extracted by means of a validated script for the systematic organization and, later, the classification in thematic categories.¹³ The ethical aspects in the research were respected as well as the copyright.

Figure 1. Flowchart of the article selection process. Manaus (AM), Brazil, 2017.

The articles were classified as level of evidence: level 1 - systematic reviews or meta-analysis of relevant clinical trials; level 2 - evidence derived from at least one well-delineated randomized controlled trial; level 3 - well-delineated clinical trials without randomization; level 4 - well-delineated cohort and case-control studies; level 5 - systematic review of descriptive and qualitative studies; level 6 - evidence derived from a single descriptive or qualitative study and level 7 - opinion of authorities or report of expert committees.¹⁶

RESULTS

The final sample was composed by 12 articles. From these, 67% of the studies (eight) of the PubMed database were extracted; Scopus, 17% (two); 8% (one), CINAHL and 8% (one), from the Web of Science. 75% of the studies (nine) in Portuguese and 25% (three) were published in English. The largest number of studies in the South region (42% = five), followed by the Southeast region, with 25% (three); Northeast region, with

17% (two) and Central West, with 8% (one). It is emphasized that 8% (one) were performed in three concomitant regions (Northeast, South and Southeast).

In the organization of the selected articles, the construction of two thematic categories was possible: "Evaluation of services from the perspective of health professionals" and "Evaluation of services from the perspective of users". The studies with the corresponding sequential number preceded by the letter E were identified.

All studies were classified at level VI of evidence, since they are descriptive or qualitative studies.¹⁴

The articles included in these categories, as well as the specifications concerning the publication period/year, title, authors, method, main conclusions and level of evidence are described in figure 2.

Study code	Authors, year	Title	Journals	Methodology	Main conclusions	Level of evidence
E1	Silva-Sobrinho RA, Wysocki AD, Scatena LM, Simone E, Pinto G, Beraldo AA, et al., 2017	Assessment of Primary Health Care in the Treatment of Tuberculosis in a Brazilian Locality of the International Triple Frontier	The Open Nursing Journal	Evaluative, cross-sectional and quantitative	Potentialities in relation to the structure of the units and access to inputs; weaknesses related to the Process, home visits and educational activities directed to the community.	VI
E2	Silva DM, Nogueira JA, Sá LD, Wysocki AD, Scatena LM, Villa TCS, 2014	Performance evaluation of primary care services for the treatment of tuberculosis.	USP Nursing School Journal	Evaluative, cross-sectional and quantitative	Fragilities related to structure, availability of input; weaknesses in the process related to information on the disease, reference flow discontinuity and counter-referral, limited patient participation in the care process and restricted participation of home visiting services and educational activities in the community.	VI
E3	Wysocki AD, Ponce MAZ, Brunello MEF, Beraldo AA, Vendramini SHF, Scatena LM, et al., 2017	Primary Health Care and tuberculosis: services evaluation	Brazilian Journal of Epidemiology	Evaluative, cross-sectional and quantitative	Process related to "professional qualification" had the worst performance in both BHU and BFHU and the item "reference and counterreference" was the best evaluated indicator.	VI
E4	Cecílio, Higarashi, Marcon, 2015	Health professionals' opinion about services for tuberculosis control	Acta Paulista of Nursing	Cross-sectional and quantitative	Performance of community-oriented actions was unsatisfactory.	VI
E5	Reis SP, Harter J, Lima LM, Vieira DA, Palha PF, Gonzales RIC, 2017	Geographical and organizational aspects of primary health care services in the detection of tuberculosis cases in Pelotas, Rio Grande do Sul, Brazil, 2012	Epidemiology and Health Services	Evaluative and descriptive	It is classified as regular the average of the use of motorized transport by SR for the displacement to the unit and the time destined to the consultations and of waiting for the medical consultation. Regarding the items regarding human resources turnover and time compliance, they were evaluated as unsatisfactory	VI
E6	Härte J, Andrade RLP, Villa TCS, Arcêncio RA, Russo-Gonçalves E, Cardozo-Gonzales RI, 2015	Tuberculosis in primary health care: identifying priority cases in a municipality in southern Brazil	Acta Scientiarum. Health Sciences	Quantitative and descriptive	It was evidenced that both units (BHU and BFHU) had weaknesses related to the actions to detect cases of TB. The BHU do not take actions to recognize / understand the problem, neither individual nor collective, management action, and did not present an organization to develop such activities. The BFHU, on the other hand, had	VI

					better resources and favorable actions to detect cases.	
E7	Silva-Sobrinho RA, Ponce MAZ, Andrade RLP, Beraldo AA, Pinto ESG, Scatena LM, et al., 2013	Effectiveness in the diagnosis of tuberculosis in Foz do Iguaçu, the triple-border area of Brazil, Paraguay and Argentina.	USP Nursing School Journal	Evaluative, epidemiological, cross-sectional and qualitative	The SS sought as the first option were BP followed by PC, however, the occurrence of the diagnosis was low in relation to specialized services; with regard to effectiveness indicators; option for PHC as the first health service sought for the diagnosis of TB, a greater number of returns (5) and a longer time (15 days) were determined until the diagnosis was received.	VI
E8	Loureiro RB, Villa TCS, Ruffino-Netto A, Peres RL, Braga JU, Zandonade E, et al., 2014	Access to the diagnosis of tuberculosis in health services in the city of Vitória, ES, Brazil	Science & Collective Health	Cross-sectional, exploratory and quantitative	It was evidenced that, in relation to the entrance door, the most wanted health service was PHC; that most of the diagnoses occurred in URPCT; of the patients who sought the URPCT, most were consulted immediately, while those who sought the services of the PC were consulted between one and seven days; the BP; was one of the SS who diagnosed fewer searchers; low frequency of bacilloscopy observed by the PC services and especially of the BP, it is noteworthy that expressive part of the patients who had the bacilloscopy request was referred to other services for the accomplishment of these.	VI
E9	Villa TCS, Ponce MAZ, Wysocki AD, Andrade RLP, Arakawa T, Scatolin BE, et al., 2013	Early diagnosis of tuberculosis in the health services in different regions of Brazil	Latin American Journal of Nursing (Online)	Cross-sectional and quantitative	It was evidenced that PHC presented longer time and lower proportion of diagnoses; the services associated with diagnosis in the first consultation were the specialized services and the TB Control Programs, which offer on-site consultation and examination.	VI
E10	Paiva RCG, Nogueira JA, Sá LD, Nóbrega RG, Trigueiro DRSG, Villa TCS, 2014	Accessibility to the diagnosis of tuberculosis in a municipality in the Northeast of Brazil: primary care challenge	Electronic Nursing Journal	Epidemiological, sectional and quantitative	It showed that Primary Health Care (PHC) services were chosen as the gateway, however, the Tuberculosis Control Program was responsible for the majority of diagnosed cases; and regarding the time to diagnosis, most were diagnosed in the time interval less than or equal to 30 days.	VI
E11	Sasaki NSGMS, Santos MSLSG, Vendramini SHF, Ruffino-Netto A, Villa TCS, Chiaravalloti-Neto	Delays in tuberculosis suspicion and diagnosis and related factors	Brazilian Journal of Epidemiology	Cross-sectional and quantitative	Regarding patient suspicion and operational aspects (diagnosis), in this study, both medians were 15 days. The time and the factors that contributed to the increase of these delays were, in the case of the suspicion, the patient travels a greater distance than the ideal (difference of the	VI

Costa TC da, Santos FL dos, Bruce ATI, et al.

Evaluation of primary health care services...

F, 2015					distances covered relative to the first care) and, in the case of the diagnosis, the patient has sought more than once and have extrapulmonary TB, with gaps in TB control actions related to patients and to the organization of services being revealed.	
E12	Lemos EF, Alves AMS, Oliveira GC, Rodrigues MP, Martins NDG, Croda J, 2014	Health-service performance of TB treatment for indigenous and non-indigenous populations in Brazil a cross-sectional study	BMC health Services Research	Cross-sectional and quantitative	PHC was the first contact for most patients at the onset of symptoms and diagnoses were typically performed by specialized services; many patients experienced delayed TB diagnoses requiring more than three medical visits. Despite the differences between indigenous and non-indigenous groups, the time for diagnosis was unsatisfactory in both groups. In particular, rapid HIV / AIDS testing should be offered through primary health care, especially in indigenous communities. For non-indigenous persons, improvements in access to diagnosis and treatment are needed, especially as regards increased coverage of DOT.	VI

Figure 2. Characterization of included publications. Manaus (AM), Brazil 2017.

DISCUSSION

Included in the category "Evaluation of services from the perspective of health professionals" were six studies (50%); in the studies E1, E2 and E3, the subjects of the research were health professionals (physicians, nurses, nursing technicians and community health agents) working in PHC, composed of Basic Health Units (BHU) and Basic Family Health Units (BFHU). In these studies, the performance of the PHC services for the treatment of TB with "structure" and "process" referent was evaluated, with E3 adding the "result".

They refer to the partial potentialities pointed out by E1 to the professionals' access to instruments and materials, however, the items with the worst performance were related to the process component, suggesting deficiencies in the clinical management of home visits and educational activities directed to the community.¹⁵

In E2, unsatisfactory performance in the availability of inputs, in information related to the disease, discontinuity of reference flow and counter-referral, limited participation of the patient in the care process and restricted participation of services in the production of external actions such as home visits and community education activities.⁵

Efficiencies were pointed out in E3 regarding the qualification of professionals with worse performance in both BHU and BFHU, and the reference and counter-reference item was the best evaluation indicator.¹⁶

It can be observed that all three studies shared the same process-related weakness related to the training of professionals to perform the activities inherent in TB care.

The training and the Permanent Education in Health (PEH), in the National Primary Care Policy (NPCP), are contemplated as part of the work process of the teams that work in the PHC. It is important, in this context, that PEH be developed essentially in institutionalized spaces that contemplate the daily life of the teams, should have space guaranteed in the workload of the workers and include the qualification of all the members of the multiprofessional team in the TB theme, as well as managers. In this way, an effective human resources policy must be developed and implemented to guarantee the continuous training and qualification of professionals.⁷

E4 was performed with doctors and nurses who worked on TB control under the PHC and reference outpatient clinics in the family focus and community orientation, corroborating the E1 and E2 studies, as it affirmed that the performance of the orientation actions for the community is unsatisfactory.¹⁷

It is suggested, through these results, that professionals are struggling to assume their role as facilitators of the educational process, harming the promotion of a health education that fosters the autonomy of users, to deal with the health-disease-care process, a fact that may be related to the persistence of the hegemony of the biomedical model of health care and the conservative (or traditional) and authoritarian posture of practicing health education aimed at patients with TB.¹⁸

The strengthening of the link between the professionals, the SS and the TB patient is encouraged, the production of care in the perspective of co-management through a relationship of trust and sharing of commitments. The link has a close relationship with the care practices, since both promote harmony, exchange of affections and coexistence potentially reconstructive of autonomies.¹⁹

It is revealed that, in order to evaluate the performance of the PHC services in the detection of TB cases, E5 and E6 had the participation of doctors, nurses and nursing technicians. It is specified that study E6 added the evaluation of the capacity of the services for attention to respiratory symptomatics (RS) and community health agents (PHC).

The geographical and organizational aspects of PHC services in the detection of TB cases were evaluated by E5; with respect to the geographical aspects, the average of the use of motorized transport by RS for the displacement to the SS and the time allocated to the visits and waiting for the medical consultation were evaluated as unsatisfactory; with regard to organizational issues, the items human resources turnover and time compliance were also evaluated as unsatisfactory.²⁰

It was evidenced in E6 that both units (BHU and BFHU) obtained weaknesses related to the actions to detect the cases of TB, however, the BHU do not take actions to recognize or understand the problem, neither in the individual aspect nor in the collective, and did not present an organization to carry out such activities. With regard to the actions for the detection of TB cases, the BFHU presented better resources and favorable results.²¹

It was observed that the studies obtained compatible conclusions, mainly regarding the process item, regarding the fragility in the qualification of health professionals and the bond with family and community, which impacts on the early detection of TB cases and also on the success of the treatment. It is known that it is the responsibility of municipal management and the Ministry of Health (MH) to stimulate and enable the specific qualification of professionals and, in addition, we also have the importance of building a multidisciplinary knowledge that potentiates the

exchange of knowledge and the development of educational activities. Thus, it is essential for educational practices that generate change to occur, for health professionals to be based on the intersection of knowledge.²²

Six studies (50%) were included in the "user evaluation" category, of which the first five studies (E7 to E11) were related to the evaluation of PHC services for diagnosis of TB. E12 specifically addressed TB control.

In the E7, E8, E9 and E12 studies, the Primary Care Assessment Tool (PCATool) was developed and validated to evaluate the critical aspects of PHC, and it was adapted and validated for assessing TB care.

When classifying the SS at the three levels of attention, Primary, Secondary and Tertiary, E7 identified that the SS sought by the users as the first option were the Emergency Care (PA), followed by the APS, but the rate of diagnosis was lower in relation to specialized services. It is inferred that the suspected TB in the first SS sought was less than 47%, sputum examination was requested for approximately 50% of patients. It is noteworthy that PHC performed the highest number of referrals for imaging tests at another health facility. It should be noted, however, that the option of PHC as a gateway to the SS, evidenced a greater number of returns and a longer time until the diagnosis was received, which shows the fragility of PHC in the time spent to diagnose this disease.²³

It is verified, by grouping the SS in the three levels of attention, by the E8 that, in relation to the entrance door, the most sought SS was the PHC, but the highest rate of TB diagnoses occurred in the Reference Units (RU); of the users who sought RU, the majority obtained immediate consultation, while those who sought the services of the APS obtained the consultation between one and seven days of waiting. It is pointed out that BP was one of the SS that presented a diagnostic rate lower than the number of users who sought it, a low request for sputum smear microscopy observed by PHC services and, mainly, BP services. It should be emphasized that an expressive part of the users who received the diagnostic examination request was referred to other services.²⁴

It was demonstrated, with coverage of six municipalities in the Southeast, South and Northeastern Regions of Brazil, classifying the SS in three levels by E9, that the PHC presented a longer time and a lower proportion of the diagnoses. The specialized services and RUs presented better results with diagnosis at the first visit, offering on-site consultations and exams.²⁵

In the classification of SS at two levels of primary and secondary care by E10, three indicators of performance of HCN services in the diagnosis of TB were analyzed: the performance of

the first SS sought by the user with TB, the performance of the services of diagnosis and diagnosis time. It was shown that PHC services were chosen as the gateway, however, RU was responsible for most of the diagnosed cases and, in relation to the time to diagnosis, the users were diagnosed in the time interval less than or equal to 30 days.²⁶

The aim of E11 was to measure the delays in suspicion, the diagnosis of TB, and to identify related factors. It is indicated, in relation to the user's suspicion and operational aspects (diagnosis) in this study, that both median times were 15 days. It is added that the time and the factors that contributed to the increase of these delays were, in the case of the suspicion, the user to cover a distance greater than the ideal (difference of the distances covered with the first service) and, in the case of diagnosis, the patient had sought SS more than once and had extrapulmonary TB, with gaps in disease control actions related to patients and the organization of services revealed.²⁷

In assessing the performance of indigenous and non-indigenous health services in relation to TB control, E12, PCATool, was used as the result, and PHC was the first access to treatment for most users at the beginning of the symptoms and diagnoses were typically performed by a RU. It is reported that many users received late TB diagnoses that required more than three medical appointments. The time for unsatisfactory diagnosis in both was shown, despite differences between indigenous and non-indigenous groups. Other strategies for improving access to diagnosis and treatment are needed for non-indigenous people, especially with regard to increased DOT coverage.²⁸

It is observed that the studies demonstrated the fragility of PHC in the diagnosis of TB, even though it was chosen as the main access of the users. It should be emphasized that suspected cases of TB should be welcomed through active search, assisted and linked to PHC, strengthening it as the main gateway to UHS.⁷ A broader view of the health-disease process and of the relationships between team members and between the health services themselves needs to be redeployed, requiring the incorporation of HCN components management mechanisms so that all care locations explore their potential of TB diagnosis according to the available technological density and the complexity of the cases.²⁹⁻³⁰

CONCLUSION

The results confirm the need for improvements in the actions developed in the scope of PHC for the detection and control of TB, mainly in relation to the work process in the development of the actions of PHC health teams, in the sensitivity to the detection of and community-based actions. It

is important to highlight the need for greater coordination between PCT coordination and PHC services, allocating resources for the complementary training of health professionals, providing an expanded capacity for resolution and rescuing the expanded concept of health and disease, which encompasses both the family and the community.

The importance of evaluative health studies is emphasized, as they contribute to robust information, aiming at the foundation of management conduits for the improvement of health interventions.

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