

# Seroprevalence of markers for Hepatitis B in Community Health Workers: scoping review protocol

## Soroprevalência dos marcadores para Hepatite B em Agentes Comunitários de Saúde: protocolo revisão de escopo

## Seroprevalencia de marcadores de hepatitis B en agentes de salud comunitarios: protocolo de revisión de alcance

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# REVISA

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### RESUMO

**Objetivo:** mapear evidências científicas sobre a prevalência do vírus da hepatite B entre agentes comunitários de saúde. **Método:** Este estudo será conduzido seguindo a metodologia do Joanna Briggs Institute para revisões de escopo. Serão pesquisadas as bases de dados Medline via Pubmed, Embase, Scopus e LILACS, sem limitações de data. Será realizada uma busca adicional na base de dados MedRxiv para busca de preprints, também no Google Acadêmico, OpenGrey, Proquest Dissertations and Theses Global, Catálogo de Teses e Dissertações via portal de periódicos Capes e na Biblioteca Digital Brasileira de Teses e Dissertações para consultar a literatura cinzenta. A busca será realizada utilizando os seguintes descritores em inglês, conforme a sigla PCC (Participants: Community Health Agents; Concept: Hepatitis B; Context: Primary Health Care). A extração de dados será realizada por dois revisores para verificar os dados descritos. Uma lista de verificação contendo informações sobre a publicação, características do estudo, participantes do estudo e resultados foi preparada para esta etapa. Registro de revisão: [osf.io/36yrp](https://osf.io/36yrp)  
**Descritores:** Agentes Comunitários de Saúde; Hepatite B; Atenção Primária à Saúde.

### ABSTRACT

**Objective:** to map scientific evidence regarding Hepatitis B virus prevalence among Community Health Workers. **Method:** This study will be conducted following the Joanna Briggs Institute (JBI) methodology for scoping reviews. Medline via Pubmed, Embase, Scopus, and LILACS will be searched, without date limitations. An additional search will be conducted in the MedRxiv database to search for preprints, also in Google Scholar, OpenGrey, Proquest Dissertations and Theses Global, Catalog of Theses and Dissertations via the Capes periodical portal, and the Brazilian Digital Library of Theses and Dissertations for consulting the gray literature. The search will be carried out using the following descriptors in English, according to the acronym PCC (Participants: Community Health Workers; Concept: Hepatitis B; Context: Primary Health Care). Data extraction will be performed by two reviewers will verify the data described. A checklist containing information on the publication, study characteristics, study participants, and results has already been prepared for this step. Review registration: [osf.io/36yrp](https://osf.io/36yrp).  
**Descriptors:** Community Health Workers; Hepatitis B; Primary Health Care.

### RESUMEN

**Objetivo:** mapear la evidencia científica sobre la prevalencia del virus de la hepatitis B entre los trabajadores de salud comunitarios. **Método:** Este estudio se llevará a cabo siguiendo la metodología del Instituto Joanna Briggs para revisiones de alcance. Se buscarán en Medline a través de Pubmed, Embase, Scopus y LILACS, sin limitaciones de fecha. Se realizará una búsqueda adicional en la base de datos MedRxiv para buscar preprints, también en Google Scholar, OpenGrey, Proquest Dissertations and Theses Global, Catálogo de Tesis y Disertaciones a través del portal de periódicos de Capes y la Biblioteca Digital Brasileña de Tesis y Disertaciones para consultar la literatura gris. La búsqueda se realizará utilizando los siguientes descriptores en inglés, según el acrónimo PCC (Participantes: Trabajadores Comunitarios de Salud; Concepto: Hepatitis B; Contexto: Atención Primaria de Salud). La extracción de datos será realizada por dos revisores que verificarán los datos descritos. Ya se ha preparado para este paso una lista de verificación que contiene información sobre la publicación, las características del estudio, los participantes del estudio y los resultados. Registro de revisión: [osf.io/36yrp](https://osf.io/36yrp)  
**Descritores:** Agentes Comunitarios de Salud; Hepatitis B; Atención Primaria de Salud.

## Introduction

International organizations recognize that Primary Health Care (PHC) is an essential tool for achieving Universal Health Coverage and the Sustainable Development Goals, as it has the capacity to reduce expenses, present better health outcomes and reach the most remote and disadvantaged population<sup>1</sup>.

Conceptually, PHC is defined as an equitable provision of health and well-being according to the needs of the individual and the community, through promotion, prevention, treatment, rehabilitation, and palliative care<sup>2</sup>. And for the performance of these tasks, PHC is formed by a multidisciplinary team, among these professionals, Alma Ata ratifies the need to have a worker inserted in the community, in this perspective the figure of Community Health Agents (CHA) emerges as a key actor in the policy<sup>3-4</sup>.

The literature points to divergences in CHA programs worldwide and, to date, there is no concept of the definition of CHAs and their specific attributions, which leads each country and even regions of the same country to institute specific functions for these workers according to the needs of the population<sup>5</sup>. In addition, the CHAs lack care policies, as they often go unnoticed or there is a lack of knowledge of the perception of occupational risk within the communities<sup>1,6</sup>. Several studies confirm that CHAs are extremely vulnerable to occupational diseases, such as hepatitis B<sup>7</sup>.

Although there has been vaccination against hepatitis B since the 80s, and even several countries with free vaccination, such as Brazil, there is still low vaccination coverage in these individuals and few know their serological status<sup>8</sup>. Vaccination against hepatitis b is important, as these individuals are exposed to contaminated body fluids and are still mostly young with an active sexual life.

In this context of vulnerability and considering that the WHO strongly encourages research with all health workers, the need for this scoping review emerged. A preliminary search in PROSPERO, Open Science Framework, Figshare, MEDLINE via Pubmed, JBI Evidence Synthesis, Cochrane Database was carried out and no systematic and scoping review was found on the subject, nor narrative and integrative. This article aims to map the scientific evidence on the prevalence of the hepatitis B virus in Community Health Agents.

## Research question

What is the global prevalence of the hepatitis B virus in Community Health Agents? What percentage of these workers are immunized?

## Eligibility criteria

## Participants

This review will consider studies that include Community Health Workers as workers who provide health promotion, prevention, and education care to the individual and family through home visits and support in primary care health services<sup>9</sup>.

Concept

Serological markers and vaccination will be considered in the analysis to identify the status of CHAs against the hepatitis virus<sup>10-12</sup>:

- Individuals infected with the hepatitis B virus: HBsAg and/or total anti-HBc positivity
- Immunized individuals: anti-HBs ≥ 10 mIU/ml
- Vaccinated individuals: vaccination report or verification of the vaccination card with three doses of the vaccine against the virus.

Context

This review will consider studies carried out in establishments that provide primary health care, defined as the provision of health actions and services according to the needs of the local population, based on scientific evidence, at low cost and considered the first step towards the individual's contact with other health care systems<sup>3</sup>.

Types of Evidence Sources

Primary articles in full published in any language with quantitative, qualitative, or mixed study designs will be considered. Preprints, dissertations, theses and grey literature will also be consulted. Reviews will be excluded from the study. A manual search of reference lists will be performed in the records eligible for reading the full text in order to survey additional articles.

Methodology

This study will be conducted according to the Joanna Briggs Institute (JBI) methodology for scoping review<sup>13</sup>. To report the results of the scoping review, the PRISMA extension for Scoping Reviews (PRISMA-ScR) will be employed<sup>14</sup>.

Research strategy

A preliminary search of the keywords "Community Health Workers" and "hepatitis B" was conducted in MEDLINE via Pubmed to identify whether there were eligible studies on the study topic. After this stage, we chose the databases that would compose this review. The search strategy will take place in the Latin American and Caribbean Literature on Health Sciences (LILACS), Medline via pubmed, Embase and Scopus (Chart 1). PRISMA-S will be used for transparent reporting of findings<sup>15</sup>.

An additional search will be performed in the MedRxiv database to search for preprints; and on Google Scholar, OpenGrey, Proquest Dissertations and Theses Global, Catalog of Theses and Dissertations via Capes periodicals portal and Brazilian Digital Library of Theses and Dissertations (BDTD) for consultation of gray literature.

Table 1. Search strategy, conducted on January 28, 2025.

| Database       | Search Strategy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Articles Found |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Pubmed/Medline | ("Community Health Workers" OR "Barefoot Doctor" OR "Barefoot Doctors" OR "Community Health Aide" OR "Community Health Aides" OR "Community Health Worker" OR "Family Planning Personnel" OR "Family Planning Personnel Characteristics" OR "Village Health Worker" OR "Village Health Workers" OR "health auxiliary" OR "asha" OR "accredited social health activist" OR "asha workers" OR "auxiliary health worker" OR "community health officers" OR "community health practitioner" OR "Lay health worker" OR "lay health advisor" OR "lay health advisors" OR "lay health promoter" OR "lay health promoters" OR "lay health workers" OR "lay healthworker") AND ("Hepatitis B" OR "Hepatitis B Virus Infection" OR "hbv infection" OR "hepatitis b infection" OR "hepatitis b viral infection" OR "hepatitis b virus infection" OR "infection by hbv" OR "infection by hepatitis b virus" OR "serum hepatitis" OR "type b hepatitis" OR "viral hepatitis b" OR "viral hepatitis type b" OR "virus hepatitis type b")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 53             |
| Embase         | ('community health workers'/exp OR 'community health workers':ti,kw OR 'barefoot doctor'/exp OR 'barefoot doctor':ti,kw OR 'barefoot doctors'/exp OR 'barefoot doctors':ti,kw OR 'community health aide':ti,kw OR 'community health aides'/exp OR 'community health aides':ti,kw OR 'community health worker'/exp OR 'community health worker':ti,kw OR 'family planning personnel'/exp OR 'family planning personnel':ti,kw OR 'family planning personnel characteristics'/exp OR 'family planning personnel characteristics':ti,kw OR 'village health worker'/exp OR 'village health worker':ti,kw OR 'village health workers':ti,kw OR 'health auxiliary'/exp OR 'health auxiliary':ti,kw OR 'asha':ti,kw OR 'accredited social health activist'/exp OR 'accredited social health activist':ti,kw OR 'asha workers'/exp OR 'asha workers':ti,kw OR 'auxiliary health worker'/exp OR 'auxiliary health worker':ti,kw OR 'community health officers'/exp OR 'community health officers':ti,kw OR 'community health practitioner'/exp OR 'community health practitioner':ti,kw OR 'lay health worker'/exp OR 'lay health worker':ti,kw OR 'lay health advisor'/exp OR 'lay health advisor':ti,kw OR 'lay health advisors'/exp OR 'lay health advisors':ti,kw OR 'lay health promoter'/exp OR 'lay health promoter':ti,kw OR 'lay health promoters'/exp OR 'lay health promoters':ti,kw OR 'lay health workers'/exp OR 'lay health workers':ti,kw OR 'lay healthworker'/exp OR 'lay healthworker':ti,kw) AND ('hepatitis b'/mj OR 'hbv infection'/mj OR 'hepatitis b infection'/mj OR 'hepatitis b viral infection'/mj OR 'hepatitis b virus infection'/mj OR 'infection by hbv'/mj OR 'infection by hepatitis b virus'/mj OR 'serum hepatitis'/mj OR 'type b hepatitis'/mj OR 'viral hepatitis b'/mj OR 'viral hepatitis type b'/mj) | 21             |

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| VHL/Lilacs     | ("Community Health Workers" OR "Barefoot Doctor" OR "Barefoot Doctors" OR "Community Health Aide" OR "Community Health Aides" OR "Community Health Worker" OR "Family Planning Personnel" OR "Family Planning Personnel Characteristics" OR "Village Health Worker" OR "Village Health Workers" OR "health auxiliary" OR "asha" OR "accredited social health activist" OR "asha workers" OR "auxiliary health worker" OR "community health officers" OR "community health practitioner" OR "Lay health worker" OR "lay health advisor" OR " lay health advisors" OR "lay health promoter" OR "lay health promoters" OR "lay health workers" OR "lay healthworker") AND ("Hepatitis B" OR "Hepatitis B Virus Infection" OR "hbv infection" OR "hepatitis b infection" OR "hepatitis b viral infection" OR "hepatitis b virus infection" OR "infection by hbv" OR "infection by hepatitis b virus" OR "serum hepatitis" OR "type b hepatitis" OR "viral hepatitis b" OR "viral hepatitis type b" OR "virus hepatitis type b")         | 2  |
| Web of Science | (TS=("Community Health Workers" OR "Barefoot Doctor" OR "Barefoot Doctors" OR "Community Health Aide" OR "Community Health Aides" OR "Community Health Worker" OR "Family Planning Personnel" OR "Family Planning Personnel Characteristics" OR "Village Health Worker" OR "Village Health Workers" OR "health auxiliary" OR "asha" OR "accredited social health activist" OR "asha workers" OR "auxiliary health worker" OR "community health officers" OR "community health practitioner" OR "Lay health worker" OR "lay health advisor" OR " lay health advisors" OR "lay health promoter" OR "lay health promoters" OR "lay health workers" OR "lay healthworker")) AND TS=("Hepatitis B" OR "Hepatitis B Virus Infection" OR "hbv infection" OR "hepatitis b infection" OR "hepatitis b viral infection" OR "hepatitis b virus infection" OR "infection by hbv" OR "infection by hepatitis b virus" OR "serum hepatitis" OR "type b hepatitis" OR "viral hepatitis b" OR "viral hepatitis type b" OR "virus hepatitis type b") | 41 |

The search will be carried out using the following descriptors in English, according to the acronym PCC (Participants: Community Health Workers, Concept: hepatitis B, Context: Primary Health Care). As there are different concepts of CHAs in the literature, keywords will be used to broaden the search<sup>16-18</sup>. Due to the restriction of articles in the preliminary search when we use the context, it will not be used in the search. There will be no language and year restriction for the selection of articles.

### Selection of studies

The identified citations will be combined and uploaded to EndNote Online (Clarivate Analytics, PA, USA) for the removal of duplicates. A pilot test using six references will be previously performed by two reviewers for the agreement of the eligibility of the studies. Then, the studies will be entered into the Rayyan software for two-step screening. In step 1, two reviewers (TSA and SOS) will independently read the titles and abstracts and select those who possibly meet the inclusion criteria, while in step 2, the full text will be

examined. The two reviewers will hold a consensus meeting at each stage, and any disagreements in the selection of records that arise will be resolved through discussion or with a third reviewer (MAM). The results of the literature search and the study inclusion process will be reported in full in the final scoping review, and a flowchart will be included to present the study selection step.

## Data extraction

Data extraction will be performed by TSA and the SOS reviewer will verify the data described. An instrument containing information about the publication, study characteristics, study participants, and results was developed for this phase according to the suggestions of the JBI (Chart 2). Previously, a pilot test will be conducted by the reviewers to verify the suitability of the instrument. In case there is an additional adjustment or modification, this will be detailed in the review.

**Table 2** - Data Extraction Tool.

|                                        |  |
|----------------------------------------|--|
| Citation (Author, Year)                |  |
| State/Country                          |  |
| Objetivo do estudo                     |  |
| Type and period of the study           |  |
| Population (n)                         |  |
| Sample of Healthcare Workers (n)       |  |
| Sample of Community Health Workers (n) |  |
| Tests/Strategies                       |  |
| Serological Markers                    |  |
| HBV Prevalence                         |  |
| Vaccination Prevalence                 |  |
| Immunization Prevalence                |  |
| Associated Factors                     |  |

## Data analysis and presentation of results

The results of the search will be presented in a table that will contain a descriptive numerical summary of the characteristics of the studies. Other forms of visual presentation of data will also be explored after data extraction and analysis have been completed<sup>19</sup>.

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