









Sexual and reproductive health in riverine communities: integrative review*

Saúde sexual e saúde reprodutiva da população ribeirinha: revisão integrativa
Salud sexual y salud reproductiva de la población ribereña: revisión integradora

How to cite this article:

Parmejani EP, Queiroz ABA, Pinheiro AS, Cordeiro EM, Moura MAV, Paula MBM. Sexual and reproductive health in riverine communities: integrative review. Rev Esc Enferm USP. 2021;55:e03664. doi: <https://doi.org/10.1590/S1980-220X2019033103664>

-  Elen Petean Parmejiani¹
-  Ana Beatriz Azevedo Queiroz
-  Aldrin de Souza Pinheiro²
-  Edilene Macedo Cordeiro¹
-  Maria Aparecida Vasconcelos Moura¹
-  Michelle Barbosa Moratório de Paula¹

* Extracted from the thesis: "Representações sociais sobre saúde reprodutiva por mulheres e homens de uma comunidade ribeirinha no baixo madeira, Porto Velho-RO", Programa de Pós-Graduação em Enfermagem, Escola de Enfermagem Anna Nery, Universidade Federal do Rio de Janeiro, 2020.

¹ Universidade Federal do Rio de Janeiro, Escola de Enfermagem Anna Nery, Rio de Janeiro, RJ, Brazil.

² Fundação Universidade Federal de Rondônia, Departamento de Enfermagem, Porto Velho, RO, Brazil.

ABSTRACT

Objective: To analyze the scientific evidence available on the sexual and reproductive health of riverine communities. **Method:** Integrative review, conducted on the databases LILACS, MEDLINE; WEB OF SCIENCE and SCOPUS, including publications in Portuguese, English or Spanish, without an initial time limit and published until 2018. **Results:** 11 studies were selected. The studies included are from the period 1993-2017. The results originated four analytical categories: sexual component, which gathered findings about sexually transmitted infections; reproductive component, which included family planning/fertility control, abortion and problems with pregnancy; environmental component, which presented issues with environmental contaminants and its reproductive implications; and the sociocultural component, which discussed gender, beliefs and social indicators. **Conclusion:** In this review, studies with a quantitative approach, from a female point of view and a biological perspective predominated. No study investigated the meanings and representations of SRH for the riverine communities. In addition, the findings show little evidence of thoughts and practices of people living in riverine communities regarding SRH issues, providing limited evidence.

DESCRIPTORS

Sexual Health; Reproductive Health; Population Groups; Review.

Corresponding author:

Elen Petean Parmejiani
Av. Farquar, 3430, Edifício Arpoador, Apto. 402
CEP 76801-432 – Porto Velho, RO, Brazil
elenpetean@yahoo.com.br

Received: 10/15/2019
Approved: 04/23/2020

INTRODUCTION

The conceptualization of reproductive health was marked by the International Conference on Population and Development, held by the United Nations in 1994, in Cairo, and the Fourth World Conference on Women, in Beijing, in 1995⁽¹⁾. Reproductive health is understood as “a state of complete physical, mental, and social well-being and not merely the absence of disease or health condition, in all matters relating to the reproductive system, its functions and processes”⁽²⁾. Thus, men and women must be able to “have a satisfying and safe sex life and have the capability to reproduce and the freedom to decide if, when and how often to do so”⁽²⁾.

This notion of reproductive health includes sexual health, which is presented as a possibility of enhancing the quality of life and personal relations, independently of reproduction and sexually transmitted infections (STIs)⁽²⁾. It encompasses sexual expression, autonomy, and freedom, with no violence, discrimination or risk of unwanted diseases or pregnancies. This implies a positive approach to human sexuality, capable of providing pleasure and stimulating relationships⁽³⁾.

These definitions of sexual and reproductive health (SRH) sought to dispel the idea of reproduction as a duty or destiny of women, to explicitly incorporate men in reproductive issues, to disassociate sexuality from reproduction and to abandon birth planning goals, consolidating the notions of reproductive rights and sexual rights^(1,4).

These ideas broaden the understanding of SRH, seeing it as an issue of citizenship and a responsibility of women, men, family, society, and State. Therefore, it is not limited to a biological state independent of social and political issues. In this perspective, the different possibilities of experiencing sexuality, the different family arrangements, and the different contexts of vulnerability of certain population groups in the context of sexual and reproductive life are recognized⁽⁵⁾.

SRH care requires understanding the complexity of caring for individuals and the plurality of lives and contexts of different communities, including those that are more excluded and vulnerable, as is the case of people living in non-urban spaces, such as the riverside.

The term “riverine community” is not limited to people who live on the banks of a river or stream; it refers to a population that has a peculiar way of being and living, that is shaped by the presence of the river and is different from other urban or rural populations⁽⁶⁾. This is due to the use of the territory and management of local resources, work relationships, education, religion, eating habits, family relationships and health care practices guided by their knowledge, maintained as standard of social organization in this traditional population⁽⁷⁾.

The health situation of riverine communities is marked by scarce offer and use of health services in their different levels of complexity, especially due to socioeconomic issues which compromise people’s quality of life, geographic distance, lack of health professionals to work in these locations and use of resources created through external and internal actions to cope with health problems⁽⁸⁾. Therefore, life on the riverside and under the influence of geographic and climate conditions has adversities and restrictions⁽⁹⁾

that can affect SRH and possibilities of care for riverine communities.

SRH is a priority issue in different levels of care within the scope of the Unified Health System (SUS), which in turn is essential for the implementation of guidelines that guarantee sexual and reproductive rights and, consequently, can contribute to a better quality of life and health⁽¹⁰⁾. Given the above, it is necessary to expand scientific knowledge on the SRH of the riverside population, with the objective of supporting and providing evidence for nursing care in this area and for this population. To this end, the objective of this study was to analyze the scientific evidence available on the SRH of riverine communities.

METHOD

STUDY TYPE

This is an integrative literature review, which is a design that allows gathering and synthesizing research results on a given topic, deepening knowledge and identifying gaps, which, in turn, contributes to the qualification of care practice in the theme investigated⁽¹¹⁾.

The following steps were taken in the development of this study: 1. Elaboration of the research question followed by the definition of the descriptors and the search strategy in the databases; 2. Definition of the inclusion and exclusion criteria of the studies; 3. Categorization; 4. Evaluation of the studies included; 5. Interpretation of results; and 6. Synthesis of knowledge⁽¹¹⁾.

SEARCH STRATEGIES

The research question was established according to the PICO strategy, in which “P” is for participants (Men and Women), “I” is for phenomenon of interest (SRH) and “Co” is for context of the study (Riverine Communities)⁽¹²⁾. The research question was: “What scientific evidence is available in national and international literature about sexual and reproductive health of riverine communities?”

The descriptors used are found in the Health Sciences Descriptors Database (*Mulheres, Homem, População, Grupos Populacionais, Saúde Sexual e Reprodutiva, Saúde Sexual, Saúde Reprodutiva, Comportamento Reprodutivo, Comportamento Sexual, Coito, Reprodução, Sexo*) and in the Medical Subject Headings (Women, Men, Population, Population groups, Reproductive Health, Sexual Health, Reproductive Behavior, Sexual Behavior, Coitus, Reproduction, Sex). The keywords in Portuguese and English were: Ribeirinho, Ribeirinha, Ribeirinhos, Ribeirinhas, Riverside, Riverine, Riparian, Riversides, Riverines and Riparians.

DATA COLLECTION

Data was collected in February/2019 in the databases: Latin American & Caribbean Health Sciences Literature (LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE), Science Citation Index, Social Science Citation Index, Arts and Humanities Citation Index (WEB OF SCIENCE) and SciVerse Scopus (SCOPUS).

The Boolean operators “OR” and “AND” and the truncation symbol “*” were used in data collection. Different search

strategies were used, considering the different characteristics of the databases for the construction of the strategies (Chart 1).

Chart 1 – Search strategies used in the databases.

DATABASE	SEARCH SYNTAX
LILACS	tw:(tw:(mulher OR homem OR população OR “Grupos Populacionais”) AND (tw:(ribeirinh*)) AND (tw:(“Saúde Sexual e Reprodutiva” OR “Saúde Sexual” OR “Saúde Reprodutiva” OR “Comportamento Reprodutivo” OR “Comportamento Sexual” OR coito OR reprodu* OR sex*))) AND (instance:“regional”) AND (db:(“LILACS”))) AND (instance:“regional”)
MEDLINE/ PubMed	((Women[MeSH Terms]) OR (Men[MeSH Terms]) OR (Population[MeSH Terms]) OR (“Population Groups”[MeSH Terms])) AND ((Rive*) OR (Riparia*)) AND (“Reproductive Health”[MeSH Terms]) OR (“Sexual Health”[MeSH Terms]) OR (“Reproductive Behavior”[MeSH Terms]) OR (“Sexual Behavior”[MeSH Terms]) OR (Coitus[MeSH Terms]) OR (Reproduction[MeSH Terms]) OR (Sex))
SCOPUS	INDEXTERMS(Women OR Men OR Population OR “Population Groups”) AND TITLE-ABS-KEY(Rive* OR Riparia*) AND INDEXTERMS(“Reproductive Health” OR “Sexual Health” OR “Reproductive Behavior” OR “Sexual Behavior” OR Coitus OR Reproduction)
WEB OF SCIENCE	TS=(“Women” OR “Men” OR “Population” OR “Population Groups”) AND TS=(“Riverside” OR “Riverine” OR “Riparian” OR “Riversides” OR “Riverines” OR “Riparians”) AND TS=(“Reproductive Health” OR “Sexual Health” OR “Reproductive Behavior” OR “Sexual Behavior” OR “Coitus” OR “Reproduction”)

INCLUSION AND EXCLUSION CRITERIA

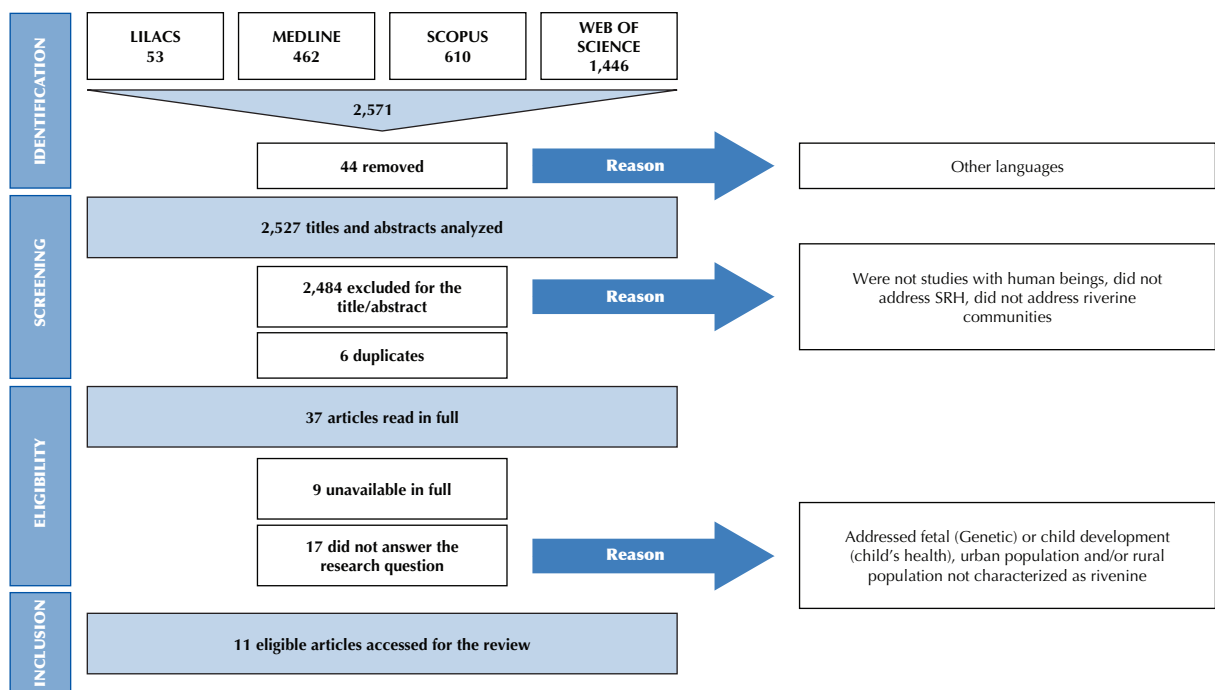
The inclusion criteria were: national and international articles that addressed the SRH of riverine communities, with full texts available on the “Portal de Periódicos CAPES” (CAPES Journal Portal), of all study types/approaches, in English, Portuguese or Spanish, with no initial time limitation and published until 2018. An initial time limit was not established with the objective of expanding the possibilities of results, as the intention was to get the largest number of studies that answered the research question. Duplicate articles and those that did not directly address the proposed theme, the SRH of riverine communities, were excluded.

To guarantee the rigor of the research and the reliability of the results, the search for studies was carried out by

two independent researchers, avoiding probable errors or bias in the steps of this review. The articles in the sample were selected through the steps: reading the title-abstract and reading the full text. In cases of disagreement, the two reviewers discussed to reach a consensus; there was no need for evaluation by a third researcher.

SELECTION AND EVALUATION OF ARTICLES

Initially, 53 articles were selected in LILACS, 462 in MEDLINE, 610 in SCOPUS and 1446 in WEB OF SCIENCE, totaling 2571 articles. After applying the inclusion and exclusion criteria, a final sample of 11 articles was obtained, which were read and analyzed in full (Figure 1).



Source: Adapted from PRISMA recommendation⁽¹³⁾.

Figure 1 – Flowchart of the selection of articles on sexual and reproductive health of riverine communities.

A validated instrument⁽¹⁴⁾, adapted for the reality of the present study was used for data collection. The instrument contained: identification data (title of the article and journal, authors [names and professional category], country, year of publication and language), context of the study (location) and methodological characteristics (type of publication, objective, sample, techniques and instruments, stages of data collection, data analysis, main results, implications and level of evidence).

The following classification of levels of evidence was considered⁽¹⁵⁾: level I- Evidence from a systematic review or meta-analysis of all relevant randomized controlled trials or evidence-based clinical practice guidelines based on systematic reviews of randomized controlled trials; level II- Evidence obtained from at least one well-designed randomized controlled trial; level III- Evidence obtained from well-designed controlled trials without randomization; level IV- Evidence from well-designed case-control or cohort studies; level V- Evidence from systematic reviews of descriptive and qualitative studies; level VI- Evidence from a single descriptive or qualitative study; level VII- Evidence from the opinion of authorities and/or the report of expert committees.

DATA ANALYSIS AND TREATMENT

The analysis began with bibliometrics, and the study database was organized using Microsoft Office Excel 2010[®]. Subsequently, a descriptive qualitative synthesis of the studies included was carried out, originating four analytical categories that characterize the scientific production on the SRH of riverine communities. The results were discussed in the light of the available literature on the subject.

RESULTS

The studies were characterized according to the identification data: title, year of publication, title of the journal, database and language, location/country where the study was carried out, type of publication, design, sample, study period, data collection and level of evidence (Chart 2).

Among the studies included, 64% (7) were published in international journals and 36% (4) in national journals (Chart 2). The studies included were published between 1993 and 2017, and the decade of 2010 had the highest concentration of publications, with 54.5% (6) (Chart 2).

Chart 2 shows that most studies (6 studies) were carried out in Latin America, with 64% (7) primarily in Brazil, with the riverside populations of the Amazon region: four in the state of Pará, one in Rondônia and one in Acre. The other study was conducted in the region of Loreto, in Peru. As for language, 73% (8) of the publications were in English.

According to information retrieved from the studies, the main areas of study of the authors were sociology, biology, and medicine, with two articles from each of these categories. Nursing, social work, zoology and biomedicine had only one study each, and one study did not provide this data.

It was found that 72.7% (8) were original studies, among which 75% (6) were quantitative, 12.5% (1) were qualitative and 12.5% (1) had a mixed design (quanti-qualitative). In addition, there were two reflection articles (18.2%) and one experience report (9.1%) (Chart 2).

Chart 2 – Characterization of the included studies according to identification data, methodological aspects, and level of evidence.

Title/year	Title of the journal	Database/language	Context	Design/Level of evidence	Information of the sample - participants	Study period	Data collection
Life at the River is a Living Hell:” a qualitative study of trauma, mental health, substance use and HIV risk behavior among female fish traders from the Kafue Flatlands in Zambia 2017 ⁽¹⁶⁾	Bmc Women’s Health	SCOPUS/English	Kafue, Zambia	Qualitative, descriptive (VI)	32 women, from 23 to 63 years old (interview), and from 17 to 55 years old (focus group)	August 2014 and January 2015	Semi-structured interviews and focus group
Knowledge and awareness of genital involvement and reproductive health consequences of urogenital schistosomiasis in endemic communities in Ghana: a cross-sectional study 2017 ⁽¹⁷⁾	Reproductive Health	WEB OF SCIENCE/English	Gana	Quanti-qualitative, cross-sectional (VI)	2,585 participants from 30 riverine communities, both genders - 1,295 men and 1,290 women, 18 to 49 years old	Not informed	Questionnaire and focus groups (205 participants), 10 groups with men and 14 groups with women
A comprehensive study of family planning among muslims of Assam 2017 ⁽¹⁸⁾	Journal of Evolution of Medical and Dental Sciences	WEB OF SCIENCE/English	Assam, India	Experience Report (VII)	Riverine muslims, gender is not clear	Not informed	Does not apply

continuing...

...continuation

Title/year	Title of the journal	Database/language	Context	Design/Level of evidence	Information of the sample - participants	Study period	Data collection
Monitoring mercury exposure in reproductive aged women inhabiting the Tapajós river basin, Amazon 2014 ⁽¹⁹⁾	Bulletin of Environmental Contamination and Toxicology	WEB OF SCIENCE/ English	Pará, Brazil	Quantitative, cross-sectional (VI)	519 women, from 12 to 46 years old	1999 to 2012	Questionnaire and hair samples
<i>Dos fetos engolidos e escondidos: um comentário sobre o apoio de parteiras ribeirinhas ao aborto</i> 2012 ⁽²⁰⁾	<i>Ciência e Saúde Coletiva</i>	LILACS/ Portuguese	Pará, Brazil	Reflection study (VII)	22 midwives, age not informed	2004-2005	Reflection based on ethnographic data
Hepatitis B and C virus infection among Brazilian Amazon riparians 2011 ⁽²¹⁾	<i>Revista da Sociedade Brasileira de Medicina Tropical</i>	LILACS/ English	Pará, Brazil	Quantitative, cross-sectional (VI)	181 participants, both genders - 115 women and 66 men, age group 32 years old	February 15-16, 2010	Individual questionnaire, peripheral blood sample
Ethnic spirituality, gender and health care in the Peruvian Amazon 2009 ⁽²²⁾	Ethnicity and Health	MEDLINE/ English	Loreto, Peru	Reflection study (VII)	24 families, both genders - 37 men and 37 women, age ranging from 21 to 52, with most participants between 35 and 50	1996-1997	Reflection (ethnographic data), participant observation, unstructured interviews, mapping and focus groups
Secular Trends in Age at Menarche Among Caboclo Populations From Pará, Amazonia, Brazil: 1930-1980 2006 ⁽²³⁾	American Journal of Human Biology	SCOPUS/ English	Pará/ Brazil	Quantitative, cross-sectional (VI)	322 - 164 teenagers and 158 adult women, 8 to 92 years old	1996-1997	Questionnaire
<i>Inquérito do preservativo em ribeirinhos do Rio Acre: porte, acondicionamento, uso e risco de infecção pelas DST</i> 2005 ⁽²⁴⁾	<i>Revista Brasileira de Enfermagem (Reben)</i>	LILACS/ Portuguese	Acre/ Brazil	Quantitative, exploratory-descriptive (VI)	168 participants, both genders - 108 men and 60 women, 17 to 71 years old	Not informed	Form with closed-ended questions
Pregnancy outcome and early health status of children born to the Techa river population 1994 ⁽²⁵⁾	The Science of the Total Environment	SCOPUS/ English	Techa River, Russia	Case-control (V)	4,546 children of irradiated parents and 35,607 in the control population; 426 exposed pregnant women and 426 unexposed pregnant women	1985 to 1989	No. of children born; causes of death of children > 1 year old; intrauterine fetal losses and interviews
<i>Exposição ao Mercúrio Orgânico em Populações Ribeirinhas do Alto Madeira, Rondônia, 1991: Resultados Preliminares</i> 1993 ⁽²⁶⁾	<i>Cadernos de Saúde Pública</i>	LILACS/ Portuguese	Rondônia, Brazil	Quantitative, descriptive (VI)	311 riverines, both genders - quantity of each gender not specified, age from less than 24 months to more than 49 years	Not informed	Hair sample, interviews, and anthropometric measurements

As for the sample of the participants, approximately half of the studies, 45.4% (5), investigated the SRH of both genders, while 36.4% (4) only addressed women and 9.1% (1) included women and their newborns. However, one study did not specify the gender of the sample (Chart 2).

Regarding the data collection process, most studies, 81.8% (9), used triangulation techniques; the association of a questionnaire and the collection of biological material was the most used, with two studies. As for the level of

evidence, it was observed that 64% (7) of the studies had a level of evidence of VI, 27% (3) level VII and 9% (1) level IV, this being a case-control study (Chart 2).

As for the contents (Figure 2), after reading and organizing the information from the studies selected, it was possible to group them into four thematic categories: 1) Sexual component; 2) Reproductive component; 3) Environmental component; and 4) Sociocultural component.

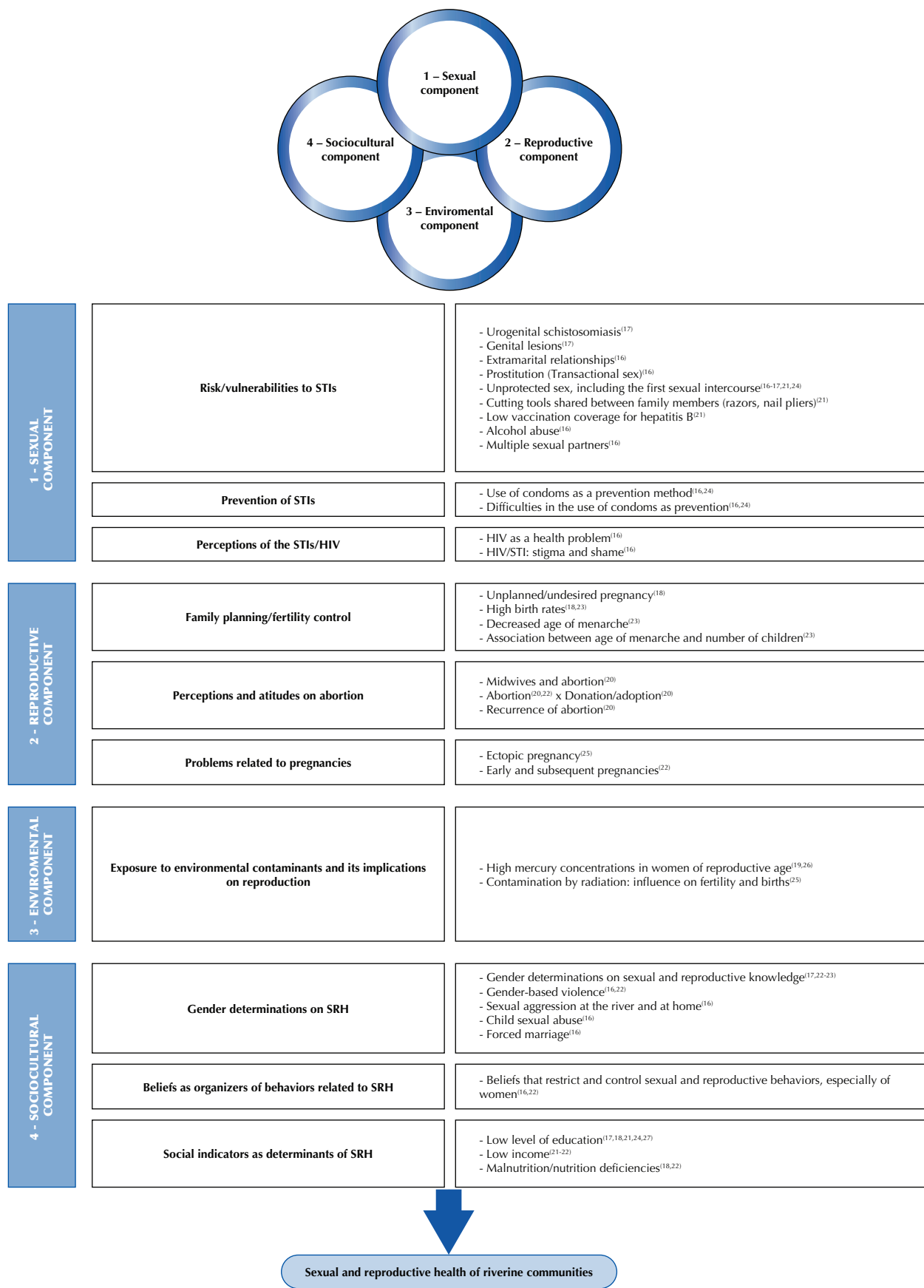


Figure 2 – Synthesis of the content of the studies in the integrative review on sexual and reproductive health of riverine communities.

DISCUSSION

The results of this integrative review show that, despite of the several scientific studies addressing riverine communities, studies on the SRH of these populations are limited, as there was a very different proportion of studies identified (2,571) and studies included (11). There has been an increase in the number of studies over the decades, but studies focused on SRH are still scarce, which shows that it is necessary to produce more knowledge that gives visibility to the needs and expectations of care of this social group.

Another deficiency identified was in relation to the qualitative approach, as the results showed that only one study focused on the perceptions and knowledge of this population on SRH. Quantitative approaches contribute by testing hypotheses and measuring phenomena, analyzing them from the perspective of cause and effect. However, considering the complexity of this area of health, it is also necessary to understand the multiple subjective realities, which can only be done through qualitative approaches⁽²⁸⁾.

Most of the studies were developed by health professionals, but it has been a topic of interest in different fields of knowledge. It is possible to observe that there was no concentration of studies in a single professional category, and this diversity was included in the findings. This result goes hand in hand with the recognized need for interdisciplinary work when addressing SRH in different populations⁽⁴⁾.

In the field of health, only one study was in the nursing area. This professional category is recognized for its potential to act competently in SRH; however, this theme has been ignored in care and in professional training^(27,29). Thus, professionals in this area must develop their skills to better deal with the sexual and reproductive concerns of individuals, including the riverine population. Special attention should be given to the production of scientific knowledge, so that evidence can support education and care practices in this domain.

Another aspect that can be highlighted refers to the samples. It is noted that no study has addressed only men, corroborating that themes related to SRH are still mainly focused on women^(1,30).

However, the presence of research with mixed samples stands out, mainly in studies developed after the year 2000. This may suggest a process of change towards the inclusion of men, as already proposed in the expanded concept of SRH presented in 1994 and 1995, in Cairo and Beijing, respectively⁽¹⁾. The inclusion of men in research involving this theme contributes to improving their quality of life, as they are recognized as subjects with a right to health, and not only assistants in the care and health promotion of women and children⁽³¹⁾.

The male perspective must be taken into account in order to provide advances in this field, going beyond predetermined gender norms, which tend to direct actions related to reproduction exclusively to women and, at the same time, exclude women from issues related to sexual health, which is aimed at men^(5,30-31).

There was no study that investigated the meanings of SRH for the riverine communities. Their behaviors and practices were highlighted, with a focus on those considered as risk factors for exposure to diseases, especially sexually transmitted infections. Although some authors have discussed issues such as gender norms, level of education, income and beliefs as factors related to this risk, a biological perspective on SRH still predominates. Therefore, it is important to expand the scope of investigations on the subject with this population to address aspects beyond anatomy, hygiene, and procreation⁽³²⁾.

The findings of this review were grouped into categories to present all the content related to the sexual and reproductive health of the riverine population, according to the studies included. It should be noted that the same study can be explored in more than one category, as presented below.

SEXUAL COMPONENT

The scientific evidence of the sexual component is related to the risks/vulnerabilities to STIs, the means of prevention and the perceptions of the riverine population on STIs, as verified in four studies^(16-17,21,24).

Studies that focused on factors related to risk/vulnerability pointed to urogenital schistosomiasis as a facilitator of infection by the human immunodeficiency virus (HIV), especially due to the lesions in the genitalia caused by the disease⁽¹⁷⁾.

In addition, there are also factors such as extramarital relationships and prostitution, which is part of the fish trade and is defined in the study by the term transactional sex, as sexual practice is used by riverine women to facilitate purchase/sale negotiations⁽¹⁶⁾. These practices commonly include unprotected sex, that is, no condom is used since the first sexual intercourse^(16-17,21,24). However, in two studies, riverine inhabitants demonstrated knowledge about the risks of this practice^(16,24). Alcohol abuse and sex with multiple partners were also presented as factors associated with HIV⁽¹⁶⁾.

A study carried out with people from a community on the Pacuí Island, in the state of Pará, Brazil, pointed as other risk factors the shared use of cutting instruments, such as razors and nail pliers, between family members and low vaccination coverage for hepatitis B and C⁽²¹⁾.

The evidence on STI prevention showed that condoms, especially the male condom, were the most common means of prevention in the four studies of this component^(16-17,21,24). However, two studies developed in Africa and one in Brazil highlighted that riverine communities have difficulties using the preservative^(16-17,24). These difficulties are related to the fact that there are usually no condoms available at the moment of sexual intercourse, especially for women⁽²⁴⁾. The low acceptance of this method is associated to fact that the population thinks it makes the sexual intercourse unnatural and consider it bad, uncomfortable and pleasure-reducing^(16,24). Another factor discussed in one of the studies was the representation of condom use as a sign of infidelity or lack of trust⁽¹⁶⁾, which shows women have difficulty negotiating condom use, even when their partner has HIV⁽¹⁶⁾.

Another important factor is the difficulty to acquire condoms, either through purchase or distribution by the government⁽²⁴⁾. However, the findings of this review did not indicate the reasons or barriers that this population faces to get preservatives. In this context, studies on this theme require further investigation to find which paths can be taken to guarantee the right to this means of prevention.

Poor storage of condoms was also pointed out as one of the reasons that interfere in the prevention of STIs, since most riverine inhabitants use their wallet and travel bag to store condoms. This represents a serious risk of wear and tear or damage to the package, which may lead to accidents during sexual intercourse⁽²⁴⁾.

The scientific evidence on perceptions of STIs/HIV indicates that riverine communities in the African continent, on Lake Volta, Ghana and Zambia, recognize that virus infection is a problem and a threat to public health⁽¹⁷⁾, especially if it occurs during pregnancy⁽¹⁶⁾, and it is also seen as a reason of stigma and shame before the community⁽¹⁶⁾.

These findings show that the sexual component of the SRH of the riverine population has been investigated, emphasizing the need to reduce exposure to STIs. Therefore, the results reveal the predominant presence of a medical-biological perspective, still hegemonic in disease-centered health⁽³²⁾.

In this regard, the scientific evidence on the sexual health of riverine communities still convey a negative and fragmented perspective of sexuality, failing to value other important aspects of this human feature, as there were no studies on autonomy, sexual freedom, pleasure, discrimination, reception and ways for women and men to enjoy a satisfactory and safe sexual life. Given the above, it is necessary to conduct studies that can address these factors, which are paramount to what has been proposed as sexual health⁽³⁾. The importance of prevention in the context of sexual health is recognized; however, health care actions in this field cannot be restricted to this aspect if they mean to guarantee the sexual rights of the riverine population.

REPRODUCTIVE COMPONENT

The scientific evidence on the reproductive component were extracted from five articles^(18,20,22-23,25) and point to themes related to family planning/fertility control, perceptions and attitudes towards abortion and problems related to pregnancy.

On issues related to family planning/fertility control, studies suggest that different riverine communities – such as the inhabitants of Assam, in India, and of the region of Melgaço, in the state of Pará, Brazil – wish to control their fertility to build smaller families, as big families can cause several difficulties and suffering for their members. However, a high birth rate and unplanned/undesired pregnancies are present in the reproductive life of these populations^(18,20).

Another factor that is part of reproductive planning/fertility control, as pointed out in a study carried out with the riverine population in Caxiuanã, in the Central Amazon region, in the State of Pará, Brazil, is the age of menarche. A decrease from 14 to 12 years did not result in changes in

the number of children, which is a result different from that expected by the authors, since this association was present in other locations⁽²³⁾.

The thematic grouping of research related to perceptions and attitudes towards abortion emphasize its occurrence^(20,22) and recurrence⁽²⁰⁾ among riverine women. The findings also indicate that midwives know how to care for and do care for the women who abort, even though their speeches reveal a moral opposition to this practice⁽²⁰⁾.

The actions conducted by Brazilian midwives in the Melgaço region, in the archipelago Marajoara of Pará, with women seeking abortion have the objective of protecting their lives and include counseling for not going through with abortion or for putting the baby up for adoption. In addition, these professionals provide guidance, offer teas to stop bleeding, suggest medications and accompany these women to the hospital⁽²⁰⁾.

Problems during pregnancy were addressed in two studies, carried out with inhabitants of the Techa River, in Russia⁽²⁵⁾, and of the region of Loreto, in Peru⁽²²⁾. The first addressed the issue of ectopic pregnancy and proved that this event was not associated with radiation, since there was a high incidence of this phenomenon in both groups (exposed and control)⁽²⁵⁾. The second study, developed in Peru, highlights the issue of early pregnancy and subsequent pregnancies still in adolescence as recurrent situations experienced by riverine families⁽²²⁾.

These findings show a deficiency in the sexual and reproductive rights in the riverine context, as these communities encounter barriers to disassociate sexuality from reproduction. With these difficulties, this population fails to control fertility, and must resort to methods to terminate pregnancy, which put the lives of riverine women at risk. In addition, considering that some communities are located far from urban centers⁽⁷⁾, the distance and geographical isolation aggravate the risks for women who resort to unsafe abortion.

It is also worth noting that the term used in the studies^(18,25) was family planning, which goes against the expanded understanding of SRH, which point that the use of the term reproductive planning includes all individuals, regardless of whether or not they are in a family. Thus, these population should have the right to access information and methods of fertility control, with no relation to economic demography^(1,4). The findings of this review do not indicate the sources of information/knowledge and the fertility control means of the different riverine communities.

Therefore, it is necessary to better understand the reproductive health of riverine communities and their perceptions and practices, especially those that refer to reproductive planning, in order to give greater visibility to their care needs and find possibilities to guarantee their sexual and reproductive rights.

ENVIRONMENTAL COMPONENT

The scientific evidence of the environmental component were extracted from three studies, which address exposure to environmental contaminants and its implications on reproduction^(19,25-26).

The analysis of contamination by radioactive material, carried out on a riverine population exposed to radiation on the Techa River, in Russia, did not show any decrease in fertility and birth rates. There were also no significant differences in the incidence of spontaneous and stillborn abortions between the exposed and the control group⁽²⁵⁾.

Studies on the concentrations of mercury were carried out in Brazil, in the states of Rondônia⁽²⁶⁾ and Pará⁽¹⁹⁾. The analyzes carried out with the riverine inhabitants of Rondônia show that the total mercury concentration was above the safety levels recommended by the World Health Organization (WHO), that is, above 10 µg/g in 51% of the participants investigated. Also, 53% of women of reproductive age had mercury concentrations above this value, and 24% of them had a concentration above 15µg/g⁽²⁶⁾.

In contrast, in Pará, over the years 1999 to 2012, there was a significant decrease in people with levels higher than recommended, from 61% to 22%. However, the mean mercury concentration was still above the recommended limit in a significant proportion of women of reproductive age (22%), with a potential risk of fetal exposure if these women became pregnant⁽¹⁹⁾.

There is a worldwide concern with exposure to mercury, especially in riverine communities where high amounts of contaminated fish are consumed, as this chemical element has adverse health effects. And if women of reproductive age are contaminated, it can also affect reproduction⁽³³⁻³⁶⁾. Studies point to possible problems related to reproduction: increased risk of reduced fertility, spontaneous abortion, congenital deficiencies and/or abnormalities⁽³³⁻³⁵⁾.

Considering this problem, studies recommend monitoring the levels of mercury in riverine women of reproductive age, since children under 24 months of age, who still do not eat fish, already have concentrations of mercury above the safety level, suggesting intrauterine contamination and/or contamination by breast milk^(19,26,33-36).

The relevance of the exposure of riverine communities to environmental contaminants demonstrates that reproductive health, in this context, goes beyond the pragmatic concept proposed at the United Nations conferences and adopted by WHO to direct assistance actions and guidelines. Thus, this review points to a singular issue of this population, which is also a need of attention specific to riverine population which needs further clarification.

Furthermore, one questions if there are other relationships between the environment and the SRH of this population, seeing that there is a symbiosis between land, forest, water and the human being in the riverine socio-cultural context⁽⁶⁻⁷⁾ and the findings of this review are limited to environmental contaminants.

SOCIOCULTURAL COMPONENT

This component presents scientific evidence found in seven articles^(16-18,21-23,27), which point to the following aspects of the SRH of riverine populations: the presence of gender norms, beliefs as organizers of behaviors and social indicators as its determinants.

The evidence referring to gender norms and SRH indicate that knowledge about sexual and reproductive issues is determined by gender relations and differences observed between men and women, especially with regard to the influences of other social contexts in the way of life of these communities^(17,22).

In this perspective, the culturally constructed roles for organizing daily activities based on gender norms put men in leadership roles and as the ones responsible for activities in the forest and rivers and for sale and purchase activities that take place outside the community. Women, on the other hand, are restricted to the private environment of the home and domestic chores, and when married, they need the husband's permission to have contact with the external environment, even for seeking health care⁽²²⁾.

It is observed that marriage is a valued practice among riverine communities, as, according to the studies, most of the participants were married^(16,21,23-24).

This evidence is relevant since, in the context of marriage, riverine women are exposed to verbal, physical and sexual domestic violence^(16,22). Child sexual abuse, forced marriage and sexual assault are also frequent experiences in the lives of these women, which are seen as natural due to the gender relations that organize and regulate social life in riverine communities⁽¹⁶⁾.

Scientific investigations on how beliefs organize behaviors in the context of SRH show that these beliefs restrict and regulate relationships with nature, communications, access to information, eating habits and care, including sexual and reproductive issues^(18,22).

In the region of Loreto, in Peru⁽²²⁾, regulations, taboos and restrictions affect women more than men, especially with regard to their reproductive cycle⁽²²⁾. The menstrual period, pregnancy and the fact of having had sexual intercourse make women impure and impede them from collecting medicinal plants and administering medication to patients in their families, limiting the performance of care that is normally their responsibility⁽²²⁾.

Riverine women of Loreto, Peru also face prejudice from health professionals. It appears that, when in contact with nurses, who work in modern Western contexts, these women find no space to negotiate their beliefs and are labeled as irresponsible, excluded from activities and prohibited to make decisions about their health or their families' health⁽²²⁾.

Thus, different knowledge and rationalities coexist in the context of SRH care, constructing sets of meanings and practices that affect the interactions between professionals and riverine communities, which consequently influences health and SRH interventions⁽²²⁾.

Religious beliefs are also considered coping mechanism for the inequalities and traumas experienced throughout life, and can be a protective factor for risky sexual behaviors⁽¹⁶⁾.

Regarding the social indicators as determinants of SRH, the studies highlight a low level of education^(17-18,21,27) and low income⁽²¹⁻²²⁾ in the riverine communities investigated. Women have an even lower level of education^(17,21) when compared to men, which means that the activities reserved

to them have little social prestige and financial return and they face difficulties to guarantee their subsistence⁽¹⁶⁾. In addition, research indicates that malnutrition/nutritional deficiency are present in some riverine communities^(18,22).

The findings on the sociocultural component demonstrate how cultural and social aspects influence the SRH of riverine communities, illustrating elements pertaining to their physical, mental and social condition⁽²⁾, which are sometimes not considered in the actions of SRH care, especially when dealing with marginalized populations⁽⁴⁾. Thus, interventions in this area need to address not only biological issues related to sexual and reproductive health, but also provide opportunities of inclusion for women and men from riverine communities, contributing to the exercise of their sexual and reproductive rights.

One of the limitations of this review was not including databases such as SciELO and Social Sciences Index and Abstracts, which could provide more studies in the field of social sciences that could have presented new evidence based on a comprehensive approach to riverside communities. Another issue that otherwise could have expanded the findings of this review was the non-inclusion of publications such as thesis, dissertations or scientific articles published in journals with a low impact factor and not indexed in large databases, such as those that were consulted.

RESUMO

Objetivo: Analisar as evidências científicas disponíveis sobre a saúde sexual e saúde reprodutiva de populações ribeirinhas. **Método:** Revisão integrativa, realizada nas bases LILACS, MEDLINE; WEB OF SCIENCE e SCOPUS, incluindo publicações em português, inglês ou espanhol, sem uma limitação temporal inicial, publicados até 2018. **Resultados:** Foram selecionados 11 artigos. Os estudos incluídos são do período de 1993-2017, o conteúdo originou quatro categorias analíticas: componente sexual que reuniu achados sobre as infecções sexualmente transmissíveis; componente reprodutivo que constou o planejamento familiar/controla da fecundidade, o aborto e problemas acerca da gestação; componente ambiental que agrupou os contaminantes ambientais e implicações reprodutivas; e o componente sociocultural que integrou gênero, crenças e indicadores sociais. **Conclusão:** Predominou, nesta revisão, estudos com abordagem quantitativa, em uma perspectiva feminina e com uma visão biologicista. Nenhum estudo incluído investigou os significados e representações da saúde sexual e saúde reprodutiva para a população ribeirinha. Além disso, os achados pouco evidenciam o pensamento sobre os assuntos que integram a saúde sexual e saúde reprodutiva com as práticas de pessoas que vivem no contexto ribeirinho, proporcionando evidências limitadas.

DESCRITORES

Saúde Sexual; Saúde Reprodutiva; Grupos Populacionais; Revisão.

RESUMEN

Objetivo: Analizar las evidencias científicas disponibles sobre salud sexual y salud reproductiva de poblaciones ribereñas. **Método:** Se trata de una revisión integradora, realizada en las bases LILACS, MEDLINE; WEB OF SCIENCE y SCOPUS, que incluye escritos en portugués, inglés y español, sin limitación temporal inicial, publicados hasta 2018. **Resultados:** Se seleccionaron 11 artículos; los estudios incluidos pertenecen al período de 1993-2017, cuyo contenido originó cuatro categorías analíticas: componente sexual, que reunía hallazgos sobre enfermedades de transmisión sexual; componente reproductivo, que incluía la planificación familiar/control de la fecundidad, aborto y problemas de embarazo; componente ambiental, que agrupaba los contaminantes ambientales y las implicaciones reproductivas, y componente sociocultural, que integraba el género, las creencias y los indicadores sociales. **Conclusión:** En esta revisión predominaron aquellos estudios con enfoque cuantitativo, a partir de una perspectiva femenina y con visión biologicista. Ninguno de dichos estudios investigó los significados y las representaciones de la salud sexual y reproductiva de la población ribereña. Además, los resultados demuestran que es escaso el pensamiento sobre las cuestiones de salud sexual y reproductiva relativas a las prácticas de las personas que viven en el contexto ribereño, razón por la cual, las evidencias son limitadas.

DESCRIPTORES

Salud Sexual; Salud Reprodutiva; Grupos de Población; Revisión.

REFERENCES

1. Brasil. Ministério da Saúde; Secretaria de Atenção à Saúde, Departamento de Atenção Básica. Saúde sexual e saúde reprodutiva [Internet]. Brasília; 2013 [citado 2020 fev. 10]. Disponível em: http://bvmsms.saude.gov.br/bvs/publicacoes/saude_sexual_saude_reprodutiva.pdf
2. Nations Unies. Rapport de la Conference International sur la Population et le Developpement [Internet]. New York; 1995 [cited 2020 Feb 10]. Available from: https://www.unfpa.org/sites/default/files/pub-pdf/icpd_fre.pdf

CONCLUSION

The present study showed that the SRH of women and men living in riverine communities is a theme with limited evidence, requiring further investigation.

In this review, studies with a quantitative approach, from a female point of view and a biological perspective predominated. No study investigated the meanings and representations of SRH for the riverine communities. In addition, the findings show little evidence of thoughts and practices of people living in riverine communities regarding SRH issues.

Therefore, it is necessary to better understand how these communities build knowledge on SRH and how this knowledge manifests in their daily practices to give greater visibility to their cultural and social identity. This could provide a rapprochement between the professional health care system and the logic of the people in these communities, as the findings of this review provided limited evidence regarding the SRH concepts, and revealed elements that extrapolate them, such as the environmental issue.

Finally, the studies included in this review refer to a long period of time and provided evidence capable of supporting new investigations based on the synthesis of the findings already produced.

3. International Women's Health Coalition. Health, Empowerment, Rights, and Accountability (HERA) [Internet]. New York; 1999 [cited 2020 Feb 10]. Available from: <https://iwhc.org/resources/hera-action-sheets/>
4. Telo SV, Witt RR. Saúde sexual e reprodutiva: competências da equipe na Atenção Primária à Saúde. *Ciênc Saúde Coletiva*. 2018;23(11):3481-90. doi: <https://doi.org/10.1590/1413-812320182311.20962016>
5. Félix J. Sexualidade, saúde sexual e saúde reprodutiva: questões para a formação de professoras/es. *Interface (Porto Nacional)*. 2017;(13):6-20.
6. Alves AD, Justo JS. Espaço e subjetividade: estudo com ribeirinhos. *Psicol Soc*. 2011;23(1):181-9. doi: <https://doi.org/10.1590/S0102-71822011000100020>
7. Lira TM, Chaves MPSR. Comunidades ribeirinhas na Amazônia: organização sociocultural e política. *Integrações*. 2016;17(1):66-76. doi: <http://dx.doi.org/10.20435/1518-70122016107>
8. Vilas Bôas LMS, Oliveira DC. Saúde nas comunidades ribeirinhas da Região Norte brasileira: revisão sistemática da literatura [Internet]. Porto; 2016 [citado 2020 10]. Disponível em: <http://proceedings.ciaiq.org/index.php/ciaiq2016/article/view/896/880>
9. Gama ASM, Fernandes TG, Parente RCP, Secoli SR. Inquérito de saúde em comunidades ribeirinhas do Amazonas, Brasil. *Cad Saúde Pública*. 2018;34(2):e00002817. doi: <http://dx.doi.org/10.1590/0102-311x00002817>
10. Nasser MA. Assessment in the primary care of the State of São Paulo, Brazil: incipient actions in sexual and reproductive health. *Rev Saúde Pública*. 2017;51(7):1-12. doi: <https://doi.org/10.11606/S1518-8787.2017051006711>
11. Mendes KDS, Silveira RCCP, Galvão CM. Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde e na enfermagem. *Texto Contexto Enferm*. 2008;17(4):758-64. doi: <http://dx.doi.org/10.1590/S0104-07072008000400018>
12. Karino ME, Felli VE. A. Evidence-based nursing, joanna briggs institute, systematic review: advances and innovations. *Ciênc Cuid Saúde*. 2012;11(5):11-5. doi: <https://doi.org/10.4025/ciencucuidsaude.v11i5.17048>
13. Moher D, Liberati A, Tetzlaff J, Altman DG; The PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med*. 2009;6(7):e1000097. doi: <https://doi.org/10.1371/journal.pmed.1000097>
14. Ursi ES, Galvão CM. Prevenção de lesões de pele no perioperatório: revisão integrativa da literatura. *Rev Latino Am Enfermagem*. 2006;14(1):124-31. doi: <https://doi.org/10.1590/S0104-11692006000100017>
15. Melnyk BM, Fineout-Overholt E. Evidence-based practice in nursing & healthcare: a guide to best practice. Philadelphia: Lippincott; 2011. Making the case for evidence-based practice and cultivating a spirit of inquiry; p. 3-24.
16. Michalopoulos LTM Baca-Atlas SN, Simona SJ, Jiwatram-Negrón T, Ncube A, Chery MB. Life at the river is a living hell: a qualitative study of trauma, mental health, substance use and HIV risk behavior among female fish traders from the Kafue Flatlands in Zambia. *BMC Womens Health*. 2017;17(1):15. doi: <https://doi.org/10.1186/s12905-017-0369-z>
17. Yirenya-Tawiah DR, Ackumey MM, Bosompem KM. Knowledge and awareness of genital involvement and reproductive health consequences of urogenital schistosomiasis in endemic communities in Ghana: a cross-sectional study. *Reprod Health*. 2016;13:17. doi: <https://doi.org/10.1186/s12978-016-0238-5>
18. Ali I. A comprehensive study of family planning among muslims of assam. *J Evol Med Dent Sci*. 2017;6(4):347-9. doi: [10.14260/Jemds/2017/78](https://doi.org/10.14260/Jemds/2017/78)
19. Corvelo TCO, Oliveira ÉA, Parijós AM, Oliveira CS, Socorro RPL, Araújo AA, et al. Monitoring mercury exposure in reproductive aged women inhabiting the tapajós river basin, Amazon. *Bull Environ Contam Toxicol*. 2014;93(1):42-6. doi: <https://doi.org/10.1007/s00128-014-1279-5>
20. Fleischer SR. Dos fetos engolidos e escondidos: um comentário sobre o apoio de parteiras ribeirinhas ao aborto. *Ciênc Saúde Coletiva*. 2012;17(7):1685-7. doi: <https://doi.org/10.1590/S1413-81232012000700005>
21. Oliveira CSF, Silva AV, Santos KN, Fecury AA, Almeida KCA, Fernandes AP, et al. Hepatitis B and C virus infection among Brazilian Amazon riparians. *Rev Soc Bras Med Trop*. 2011;44(5):546-50. doi: <http://dx.doi.org/10.1590/S0037-86822011000500003>
22. Espinosa MC. Ethnic spirituality, gender and health care in the Peruvian Amazon. *Ethnic Health*. 2009;14(5):423-37. doi: <https://doi.org/10.1080/13557850802702397>
23. Silva HP, Padez C. Secular trends in age at Menarche among Caboclo populations from Pará, Amazonia, Brazil: 1930-1980. *Am J Hum Biol*. 2006;18(1):83-92. doi: <http://dx.doi.org/10.1002/ajhb.20458>
24. Silva AR, Lopes CM, Muniz PT. Inquérito do preservativo em ribeirinhos do Rio Acre: porte, acondicionamento, uso e risco de infecção pelas DSTs. *Rev Bras Enferm*. 2005;58(1):17-21, 2005. doi: <http://dx.doi.org/10.1590/S0034-71672005000100003>
25. Kossenko MM, Izhevsky PV, Degteva MO, Akleev AV, Vyushkova OV. Pregnancy outcome and early health status of children born to the Techa river population. *Sci Total Environ*. 1994;142(1-2):91-100. doi: [http://dx.doi.org/10.1016/0048-9697\(94\)90076-0](http://dx.doi.org/10.1016/0048-9697(94)90076-0)
26. Boischio AAP, Barbosa A. Exposição ao mercúrio orgânico em populações ribeirinhas do Alto Madeira, Rondônia, 1991: resultados preliminares. *Cad Saúde Pública*. 1993;9(2):155-60. doi: <http://dx.doi.org/10.1590/S0102-311X1993000200006>
27. Fennell RD, Grant B. Discussing sexuality in health care: A systematic review. *J Clin Nurs*. 2019;28(17-18):3065-76. doi: <https://doi.org/10.1111/jocn.14900>
28. Sampieri RH, Collado CF, Lucio MPB. Metodologia da pesquisa. 5ª ed. Porto Alegre: Penso; 2017.
29. Cappiello J, Coplon L, Carpenter H. A systematic review of sexual and reproductive health care content in nursing curricula. *J Obstet Gynecol Neonatal Nurs*. 2017;45(5):e157-e167. doi: <https://doi.org/10.1016/j.jogn.2017.04.132>
30. Pinheiro TF, Couto MT. Sexualidade e reprodução: discutindo gênero e integralidade na atenção primária à saúde. *Physis*. 2013;23(1):73-92, 2013. doi: <http://dx.doi.org/10.1590/S0103-73312013000100005>
31. Ribeiro CR, Gomes R, Moreira MCN. Encontros e desencontros entre a saúde do homem, a promoção da paternidade participativa e a saúde sexual e reprodutiva na atenção básica. *Physis*. 2017;27(1):41-60. doi: <http://dx.doi.org/10.1590/S0103-73312017000100003>

32. Higa EFR, Bertolin FH, Maringolo LF, Ribeiro TFSA, Ferreira HK, Oliveira VASC. Intersectorality as a strategy for promoting adolescent sexual and reproductive health. *Interface*. 2015;19(1 Suppl):879-91. doi: <https://doi.org/10.1590/1807-57622014.0751>
33. Lei HL, Wei HJ, Chen PH, Hsi HC, Chien LC. Preliminary study of blood methylmercury effects on reproductive hormones and relevant factors among infertile and pregnant women in Taiwan. *Chemosphere*. 2015;135:411-7. doi: <http://dx.doi.org/10.1016/j.chemosphere.2015.05.006>
34. Maeda E, Murata K, Kumazawa Y, Sato W, Shirasawa H, Iwasawa T, et al. Associations of environmental exposures to methylmercury and selenium with female infertility: a case-control study. *Environ Res*. 2019;168:357-63. doi: <http://dx.doi.org/10.1016/j.envres.2018.10.007>
35. Bjørklund G, Chirumbolo S, Dadar M, Pivina L, Lindh U, Butnariu M, et al. Mercury exposure and its effects on fertility and pregnancy outcome. *Basic Clin Pharmacol Toxicol*. 2019;125(4):317-27. doi: <http://dx.doi.org/10.1111/bcpt.13264>
36. Costa Junior MF, Silva CIM, Lima AAS, Rodrigues Júnior D, Souza GS, et al. Teores de mercúrio em cabelo e consumo de pescado de comunidades ribeirinhas na Amazônia brasileira, região do Tapajós. *Ciênc Saúde Coletiva*. 2018;23(3):805-12. doi: <https://doi.org/10.1590/1413-81232018233.09492016>

Financial support

Fundação Rondônia de Amparo ao Desenvolvimento das Ações Científicas e Tecnológicas e à Pesquisa do Estado de Rondônia. Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES). Chamada 008/2018.



This is an open-access article distributed under the terms of the Creative Commons Attribution License.