BIBLIOMETRIC ANALYSIS ABOUT HIV VULNERABILITY

Análise bibliométrica acerca da vulnerabilidade ao HIV

Análisis bibliométrico sobre la vulnerabilidad del VIH

Daniela de Aquino Freire[1]*; Juliana da Rocha Cabral[2]; Marta Regina Chaves Camilo Fernandes[3]; Thaís da Silva Oliveira[4]; Regina Célia de Oliveira[5];Fátima Maria da Silva Abrão[6]

ABSTRACT

Objective: To analyze the frequency of words correlating with the title and summary of scientific production on people's vulnerability to HIV under the Zipf Law. **Methods:** descriptive study, bibliometric analysis. The search took place in the SCOPUS database (Elsivier) using the descriptors HIV and vulnerability. The Boolean and operator was used. Inclusion criteria: articles available in full, free of charge, without language restriction and between 1983 and 2020. **Results:** tag clouds made it possible to clearly identify the correlation between all text segments through the frequency of the words' HIV', 'vulnerability 'with the female sex. **Conclusion:** Zipf's theory enabled a more modern view, for nursing, corroborating the analysis of structures of written language derived from texts. In this sense, it can be inferred that, in general, the abstracts revealed fundamental aspects for a broad understanding of the theme.

Descriptors: HIV, Vulnerability, Nursing.

[1] Nurse. Master in Nursing UPE/UEPB. PhD Student in Nursing at the University of *Pernambuco* and State University of *Paraíba* University of *Pernambuco* UPE.
[2] Nurse. Master of Nursing. PhD student in Nursing at the University of *Pernambuco* and State University of *Paraíba. Recife - Pernambuco* - Brazil.University of *Pernambuco* UPE
[3] Nurse. Master of Nursing. PhD student in Nursing at the University of *Pernambuco* and State University of *Paraíba. Recife - Pernambuco* - Brazil. University of *Pernambuco* UPE.
[4] Nurse. Master in Nursing from the University of *Pernambuco* and State University of *Paraíba. Recife - Pernambuco* - Brazil. University of *Pernambuco* UPE.
[5] Nurse. PhD in Nursing from the *Ribeirão Preto* School of Nursing, University of *São Paulo*. Coordinator of the Associate Nursing Graduate Program UPE/UEPB. *Recife - Pernambuco* - Brazil. University of *Pernambuco* UPE.
[6] Nurse. PhD in Nursing from the *Ribeirão Preto* School of Nursing, University of *São Paulo*. Associate Professor at the University of *Pernambuco / Nossa Senhora das Graças Nursing School (UPE/FENSG). Recife - Pernambuco* - Brazil.University of *Pernambuco* UPE.

RESUMO

Objetivo: Analisar a frequência de palavras correlacionando com o título e resumo da produção científica sobre a vulnerabilidade das pessoas ao HIV à luz da Lei de Zipf. **Métodos:** estudo descritivo, de análise bibliométrica. A busca ocorreu na base de dados SCOPUS (*Elsivier*) utilizando os descritores HIV e *vulnerability*. Foi utilizado o operador booleano *and*. Critérios de inclusão: artigos disponíveis na íntegra, de forma gratuita, sem restrição de idioma e no espaço temporal entre 1983 e 2020. **Resultados:** as nuvens de *tags* possibilitaram identificar claramente a correlação existente entre todos os segmentos de texto através da frequência das palavras 'HIV', 'vulnerabilidade' com o sexo feminino. **Conclusão:** a teoria de Zipf possibilitou uma visão mais moderna, para a enfermagem, corroborando na análise de estruturas de linguagem escrita advindas de textos. Neste sentido, pode-se inferir que, de uma forma geral, os resumos revelaram aspectos fundamentais para a compreensão ampla acerca do tema.

Descritores: HIV, Vulnerabilidade, Enfermagem.

RESUMEN

Objetivo: Analizar la frecuencia de las palabras que se correlacionan con el título y el resumen de la producción científica sobre la vulnerabilidad de las personas al VIH en virtud de la Ley Zipf. **Métodos:** estudio descriptivo, análisis bibliométrico. La búsqueda se realizó en la base de datos SCOPUS (Elsivier) utilizando los descriptores VIH y vulnerabilidad. Se utilizó el operador booleano AND. Criterios de inclusión: artículos disponibles en su totalidad, sin cargo, sin restricción de idioma y entre 1983 y 2020. **Resultados:** las nubes de etiquetas permitieron identificar claramente la correlación entre todos los segmentos de texto a través de la frecuencia de las palabras " VIH', 'vulnerabilidad 'con el sexo femenino. **Conclusión:** la teoría de Zipf permitió una visión más moderna, para enfermería, corroborando el análisis de estructuras de lenguaje escrito derivadas de textos. En este sentido, se puede inferir que, en general, los resúmenes revelaron aspectos fundamentales para una comprensión amplia del tema.

Descriptores: VIH, Vulnerabilidad, Enfermería.

INTRODUCTION

The global HIV epidemic is still a major public health problem, despite numerous advances over approximately three decades. We can highlight the important changes in Antiretroviral Therapy (ART), introduced in the 1990s, improved in the first ten years of the 21st century, in which there was a simplification in the proposed schemes, introduction of new combinations of drugs with different mechanisms of action and reduction of adverse effects.[1-2]

From this context, studies have incorporated the problem of vulnerability to HIV as part of the determinants of health conditions, in order to subsidize better conditions in public health policies with a focus on promoting population health.[3]

In the concepts of vulnerability and care, it is understood that it is necessary to contribute to the improvement in the reconstruction of health practices. In this sense, the concept of vulnerability proposes a renewal of the ways of building health diagnoses in order to broaden the understanding of health needs, incorporating, in addition to biomedical and epidemiological knowledge, those originating in the fields of social and human sciences, as well as the practical knowledge of those involved in the scenarios. Starting from such extended diagnoses, the concept of care, in turn, turns to the construction of health practices that consider the autonomy of the subjects and their knowledge about health and life.[4-5]

In the context of HIV, it is understood that the sets of policies, services and actions directly imply the vulnerability of the population. In addition, the process of spreading the epidemic and its impact on populations are differentiated. Thus, identifying and recognizing the differences and specificities of this process is essential in the planning and implementation of policies and programmes aimed at assisting the groups most vulnerable to exposure to HIV.[6]

The adoption of the term vulnerability also allows, in the area of HIV, to translate the complexity of individual and collective aspects related to chronic infection. This approach aims at the planning of health education actions and specific preventive ones, in order to clarify the vulnerability factors and to stimulate the adoption of effective protective behaviors against HIV.[4,7]

Based on such understanding, studies addressing aspects of HIV vulnerability are needed in order to favour the planning of preventive actions in the face of infection. It is also justified the relevance of the theme in the area and the incipient quantity of studies on the subject. Based on this assumption, this study aims to analyze the frequency of words correlating with the title and summary of scientific production on people's vulnerability to HIV in light of Zipf's Law (frequency of words).

The following guiding question was formulated for this study: What is the frequency of words correlating with the title and summary of scientific production on people's vulnerability to HIV?

METHODS

It is a descriptive study and bibliometric analysis. Bibliometric research is a quantitative technique that seeks to investigate data that may be relevant in research and, with this, expand the scientific knowledge of a particular area of knowledge of society.[8]

The main laws of bibliometry are the laws of Bradford (productivity of journals), Lotka's law (productivity of authors) and, Zipf's law, used for the study in question, which consists of measuring the frequency of the appearance of words in various texts, creating an order of frequency of terms of a particular subject or theme.[9]

The data collection was carried out in the month of February 2020, through a script prepared by the authors in which the following variables were captured: language, year of publication, name of the journal, authors with the highest production number in this study, location of institutional affiliation, modality of the article, descriptors and/or key words, subject studied and summary of each study.

The search for the articles took place in the SCOPUS

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(Elsivier) database using the following DeCS descriptors: HIV and vulnerability. The Boolean operator and was used for this purpose. The inclusion criteria established were: articles available in their entirety, free of charge, without language restriction and within 37 years between 1983 and 2020.

A search was carried out at Scopus to collect data regarding the authors, such as the number of articles, index H, institution to which they are linked, country, number of publications and number of citations. Scopus is a database that has access to more than 16,000 journal titles, 1200 freely accessible journals and 500 reference annals, etc..[10]

After collecting the data, with a total of 65 documents recovered, all the abstracts were translated to the Portuguese language, read in full so that they could be organized and analyzed in the IRAMUTEQ® software, which was chosen to perform word frequency analysis - following Zipf's Law.

Initially, of the 65 documents, 25 were eliminated because the abstracts did not cover the subject under analysis. Then, in a second reading, 14 more abstracts were deleted that did not contain concise information regarding the main elements: objective, methodology, results and conclusion.

The corpus was then prepared according to the criteria of the Iramuteq® software, with the 26 documents recovered whose summaries were in accordance with the pre-established criteria. Subsequently, the objective subcorpus, subcorpus methodology, subcorpus results and subcorpus conclusion were performed and analyzed by the IRAMUTEQ® software, which processes different types of textual data analysis, i.e., classical textual statistics, group specificity search, Descending Hierarchical Classification (DHC), similarity analysis and word cloud; each one presents specific characteristics and reflections.[11] For the study, word cloud analysis and similarity analysis were chosen.

It is important to emphasize that the research has respected the ethical and legal principles established in Law no. 12,853, of August 14, 2013, which provides for the collective management of copyright.[12]

RESULTS

Table 1 - Corpus Description, Recife, Brazil. 2020.

Analysis	Text follow up	Occurrence of Words	Number of words	Hapax number*
Objective	15	606	237	159
Methodology	32	1273	553	397
Results	45	1783	666	457
Conclusion Total	32	1306	555	412
Total	124	5062	2011	1425

*Hapax: number of words that appear only once.

Words have the ability to be organized in our senses, enabling the process of understanding that leads to the comprehensive compaction of the text.[13] Thus, it is evident that the general understanding of a given discourse occurs

through the extraction of such terms that favors the foundation in the analysis of data.

Figure 1 shows the word cloud of the objective subcorpus, in which a connection is perceived between the most commonly cited HIV-inducing terms and vulnerability associated with women, adolescents, infection, and related verbs to identify, evaluate, analyze, and influence. This connection is notorious for achieving the objective of the study.

Figure 1 - Objective Word Cloud. Recife, PE, Brazil, 2020.

Tabela 2 – Ranking of terms extracted from the Corpus methodology present in the first three spheres. Recife, Brazil. 2020.

Order*	Terms	Frequency
1º	Study	23
2º	Perform	17
3º	HIV	15
4º	Woman	13
5º	Analysis	11
5º	Health	11
6º	Interview	10
7º	Qualitative	08
8º	Vulnerability	06

Source: survey data (2019)
*Different terms had the same order number because they contained the same frenquer number.

Continuing the order of words in Figure 2, which is the analysis of the results, we can see the words HIV, vulnerability and condom in prominence compared to the other words, but that these are linked to the words prevention, woman, partner, among others. This familiarity in the word cloud and its importance within the analyzed material is striking, as these terms are the answers to the objective and, consequently, are associated with the topic in question **Figure 2**.
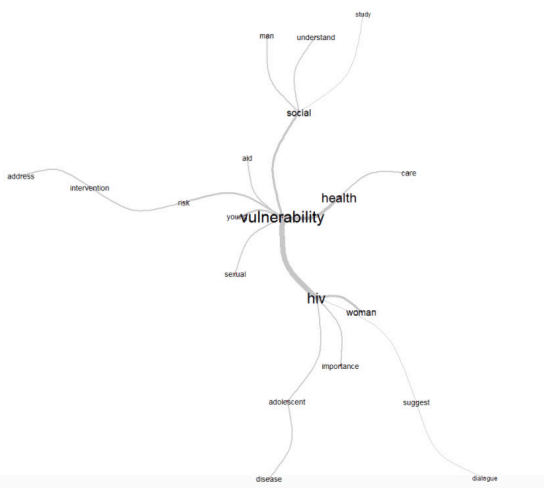
Figure 2 - Word cloud Results. Recife, PE, Brazil, 2020.

As seen in **Figure 3**, the word tree is presented at the interface of the results of the similarity analysis with the identification of occurrences between the words and indications of connectedness between the terms HIV; vulnerability; risk, sexual, knowledge, health, helping to identify the structure of the representative field of factors associated with vulnerability to HIV.

Figure 3 - Similitude Graph Conclusion. Recife,PE, Brazil, 2020.

Source: prepared by the authors

In **Figure 4**, it can be seen that in the first sphere, the words HIV, vulnerability and woman are highlighted, which have frequency of 86, 59 and 45, respectively. Next, the words use, health, sexual appear with 41, 39 and 37 times, respectively. It is noticeable how important these terms are within their scope, since these words are correlated with the title and abstract **Figure 4**.

Figure 4 - General Corpus word cloud. Recife, PE, Brazil, 2020**.**

DISCUSSION

Textual data analysis, or lexical analysis - analysis of the collection of words belonging to a given language - consisted of a peculiar type of analysis, which was specifically the analysis of material worked on in computer language through the IRAMUTEQ software®.

The general corpus consisted of four texts, separated into 123 text segments (TS), occurrences 4,968 and number of 1,387 words and the number of hpax 860 - 62% of the words.

The analysis by means of a word cloud or tag cloud is visually interesting because it shows the words structured in a cloud, with different sizes, in which the larger words are the ones that have the greatest degree of importance in the text corpus.

The tag clouds made it possible to clearly identify the correlation between all text segments through the frequency of the words HIV, vulnerability with the female sex, in its majority, corroborating with data from the last epidemiological bulletin of the Ministry of Health shows a large incidence of HIV cases in heterosexual women in the age group of 25 to 39 years. Cases in this age group correspond to 52.4% of male cases and, among women, to 48.4% of the total registered cases from 1980 to June 2019. It can be observed that with the passing of the years the cases of HIV incidence in women are almost equivalent to the males, what characterizes the feminization of this infection along the decades.[14]

It is believed that this high incidence of cases is associated with unprotected sexual practices, less bargaining power for condom use, thus increasing their risk situation. In order to minimize these consequences, it is therefore necessary to pay attention to the fact that women constitute a vulnerable group to Sexually Transmitted Infections (STIs) - STI/HIV/ AIDS and should be assisted accordingly.

The social vulnerability to HIV experienced by women can also be explained through the interrelationship of several factors, such as low schooling and exposure to the virus mainly through heterosexual relationships with stable union partners, causing condom disuse by creating a bond of trust with a partner.

The study also brings the subordination of women to their partner and the exclusion of their decision power and freedom over sexual life, as predisposing characteristics to women's exposure to HIV and other STIs.[15] It is believed that the more effective participation of women in the fight for autonomy over their own bodies could be a great advance in reducing the vulnerability of this public to infections.

In this context, the concept of vulnerability refers to the susceptibility of individuals to being exposed to harm, injury or risk. The dimensions of vulnerability encompass individual, social and programmatic factors.[16]

The Similitude Analysis showed a graph that represented the coherence of connection between the words in the text corpus. From this analysis based on the theory of graphs, it was possible to identify the occurrences between the words and the indications of the connection between those words, helping to identify the structure of the content of the textual corpus. Three words that stood out in the text were observed, namely, HIV, vulnerability and health.

They branch out into other words that present significant expression of health, sexual, adolescent and behavior. At the extreme of the ramifications, the relationship between epidemic and research is contemplated.

Vulnerability can also be learned from levels of access to health services, their integrated network of care, quality and difficulties of access.[16] The vulnerability of the subject or group reveals the existing inequalities in access to quality and comprehensive care linked to health promotion in a given region. [17-18] It is believed that the educational practices that promote integral care are essential conducts in reducing the incidence of HIV, since social behavior cannot be isolated from socio-cultural and economic factors that guide the individual's life. In this context, it is important that actions encompassing health promotion programmes are carried out effectively in order to reduce such vulnerability.

The adolescent, a term of significant expression in the study, is characterized by a public that is in transition from childhood to adult life, a period marked by intense changes related to identity construction, doubts and indecision, which makes this public very vulnerable to health-related risks, HIV being an important way of expressing this vulnerability, mainly because it is an infectious and incurable disease.[19]

Studies have portrayed some of the main factors associated with adolescent vulnerability to HIV, as evidenced by sporadic condom use in sexual relationships, marital instability, and multiplicity of partners, ranking this audience as highly vulnerable to HIV. [20-21] These data also corroborate information from the Ministry of Health that has indicated an increase in HIV cases among young people in the country[22] which may justify significant expression of the term in the study.

Brazil has developed constant research related to various disease control programs, including HIV; and continues to fight AIDS in a remarkable way, with a focus on the production of preventive campaigns, implementation of specialized laboratories and services to assist People Living with HIV/AIDS (PLWHA), distribution of antiretrovirals in the public health system, and with funding for scientific research.[23-24]

CONCLUSIONS

Based on the results presented, it can be seen that, among the 26 articles analyzed - from 1983 to 2019, there were prevalent researches whose approach is directly related to the theme vulnerability to HIV.

Zipf's theory, used in this study, made possible a more modern vision, for nursing, corroborating the analysis of written language structures coming from texts. In this sense, it can be inferred that, in general, the summaries revealed fundamental aspects for a broad understanding of the subject.

It is worth noting, however, that a considerable number of productions - 68 documents, in well qualified journals, only 26 were in agreement, as they had important aspects necessary for a summary, thus being considered a limitation for the study. Faced with such a relevant theme, one can consider a tiny number, mainly in relation to the time span of 37 years. Thus, it is suggested deepening research related to vulnerability to HIV.

REFERENCES

1. World Health Organization (WHO). Global report: UNAIDS report on the global AIDS epidemic. [Internet] 2019. [cited 2020 jun 26] Available from: https://www.unaids.org/sites/default/files/media_asset/2019-UNAIDS-data_en.pdf.
2. Guimarães MDC, Carneiro M, Abreu DMX, França EB. Mortalidade por HIV/Aids no Brasil, 2000-2015: motivos para preocupação? Rev. Bras. Epidemiol. [Internet]. 2017 [acesso em 04 fevereiro 2020]; 20(1). Disponível em: https://doi.org/10.1590/1980-5497201700050015.
3. Andrade JS, LimaGS, Oliveira FBM. Análise dos fatores de vulnerabilidade à infecção por HIV/AIDS em população negra. ReOnFacema. [Internet]. 2018 [acesso em 02 de março 2020]; 4(3). Disponível em: https://www.facema.edu.br/ojs/index.php/ReOnFacema/article/view/296.
4. Ayres JRCM. Cuidado e reconstrução das práticas de saúde. Interface comun. saúde educ. [Internet]. 2014 [acesso em 18 de fevereiro 2020]; 8. Disponível em: https://doi.org/10.1590/S1414-32832004000100005.
5. Ayres JRCM. "Prevenção de agravos, promoção da saúde e redução de vulnerabilidade". In: Martins MA, Carrilho FJ, Alves VA, Castilho CG, Wen CL. (orgs.). Clínica médica. [Internet]. 2009 [acesso em 18 fev. 2020]. 1. Disponível em: http://observatorio.fm.usp.br/handle/OPI/15187.
6. Calazans GJ. Políticas públicas de saúde e reconhecimento: um estudo sobre prevenção da infecção pelo HIV para homens que fazem sexo com homens. [Doutorado em Medicina Preventiva]. São Paulo (Brasil): Universidade de São Paulo; 2018. [acesso em 26 de junho 2020]. Disponível em: https://teses.usp.br/teses/disponiveis/5/5137/tde-22102018-120508/pt-br.php.
7. Bittencourt GKGD, Moreira MASP, Meira LCS, Nóbrega MML, Nogueira JA, Silva AO. Beliefs of older adults about their vulnerability to HIV/Aids, for the construction of nursing diagnoses. Rev. Bras. Enferm. [Internet]. 2015 [cited 2020 fev 18]; 68(4). Available from: http://dx.doi.org/10.1590/0034-7167.2015680402i.
8. Santos RN. Produção científica: por que medir? O que medir? Rev. Digit. Bibliotecon. Cienc. Inf. [Internet]. 2003 [acesso em 22 de fevereiro 2020]; 1(1). Disponível em: https://doi.org/10.20396/rdbci.v1i1.2087.
9. Medeiros JMG, Vitoriano MAV. The evolution of bibliometrics and its nterdisciplinarity in brazilian's scientific production. Rev. Digit. Bibliotecon. Cienc. Inf. [Internet]. 2015 [cited 2020 fev 22]; 13(3). Available from: https://go.gale.com/ps/anonymous?id=GALE%7CA466411737&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=1678765X&p=AONE&sw=w.
10. BIBENG - Biblioteca da Escola de Engenharia da UFRGS - "Scopus - Tutorial". [Internet]. [acesso em 26 de junho 2020]. Disponível em: https://docplayer.com.br/10458406-T-u-t-o-r-i-a-i-s-scopus-tutorial-biblioteca-da-escola-de-engenharia-da-ufrgs-scopus-tutorial.html.
11. Camargo BV, Justo AM. IRAMUTEQ: um software gratuito para análise de dados textuais. Temas psicol. (Online). [Internet]. 2013 [acesso em 26 de fevereiro 2020]; 21(2). Disponível em: http://pepsic.bvsalud.org/pdf/tp/v21n2/v21n2a16.pdf.
12. BRASIL. Lei n. 12.853, de 14 de agosto de 2013. Altera os arts. 5º, 68, 97, 98, 99 e 100, acrescenta arts. 98-A, 98-B, 98-C, 99-A, 99-B, 100-A, 100-B e 109-A e revoga o art. 94 da Lei nº 9.610, de 19 de fevereiro de 1998, para dispor sobre a gestão coletiva de direitos autorais, e dá outras providências. Portal da Legislação: Leis Ordinárias. 2013. Disponível em: http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2013/lei/l12853.htm.
13. Molina MP. El resumen documental: princípios y métodos. Madrid: Pirâmide; Salamanca: Fundácion Germán Sánchez Rupérez; 1992.

14. Ministério da Saúde (BR). Secretaria de Vigilância em Saúde. Guia de Vigilância em Saúde [Internet]. 3. ed. Brasília: Ministério da Saúde; 2019 [acesso em 26 de junho 2020]. Disponível em: http://www.aids.gov.br/pt-br/pub/2019/boletim-epidemiologico-de-hivaids-2019

15. Andrade SSC, Brito KKG, Gomes KKS, Lucena ASM, Santana EMF, Oliveira SHS. Vulnerabilidade à aids entre mulheres de aglomerado subnormal. Enfermagem Brasil. [Internet]. 2019 [acesso em 25 de fevereiro 2020]; 18(2). Disponível em: http://portalatlanticaeditora.com.br/index.php/enfermagembrasil/article/view/1194/html.

16. 16. Sevalho G. The concept of vulnerability and health education based on the theory laid out by Paulo Freire. Interface comun saúde educ. [Internet]. 2018 [cited 2020 fev 27]; 22(64). Available from: https://doi.org/10.1590/1807-57622016.0822.

17. Chaves ACP, Sousa CSP, Almeida PC, Bezerra EO, Sousa GJB, Pereira MLD. Vulnerabilidade à infecção pelo Vírus da Imunodeficiência Humana entre mulheres em idade fértil. Rev. Rene. [Internet]. 2019 [acesso em 02 de março 2020]; 20(1). Available from: https://pesquisa.bvsalud.org/portal/resource/pt/biblio-997295.

18. Maliska ICA, Padilha MI, Andrade SR. Policies directed towards STD/AIDS and their politicalcare integration in the context of the SUS: a study of the city of Florianópolis, SC, Brazil. Texto Contexto Enferm. [Internet]. 2014 [cited 2020 mar 03]; 23(3). Available from: https://doi.org/10.1590/0104-07072014003290012.

19. Campos CGAP, Estima SL, Santos VS, Lazzarotto AR. A vulnerabilidade ao hiv em adolescentes: estudo retrospectivo em um centro de testagem e aconselhamento. REME rev. min. enferm. [Internet]. 2014 [acesso em 06 de março 2020]; 18(2). Disponível em: http://www.dx.doi.org/10.5935/1415-2762.20140024.

20. Moreira PA, Reis TS, Menezes AF, Mendes RB. Vulnerabilidade ao Hiv/Aids em adolescentes de uma escola pública no interior de Sergipe. Rev. Pesqui. (Univ. Fed. Estado Rio J., Online). [Internet]. 2019 [acesso em 08 de março 2020]; 11(4). Disponível em: https://pesquisa.bvsalud.org/enfermeria/resource/pt/biblio-1005607.

21. Lopes AOS, Barbosa JA. Vulnerabilidade de Adolescentes de uma Instituição Pública de Ensino ao Vírus da Imunodeficiência Humana. Ver. Adolescência e Saúde. [Internet]. 2015 [acesso em 10 de março 2020]; 12(1). Disponível em: http://www.adolescenciaesaude.com/detalhe_artigo.asp?id=482#.

22. Ministério da Saúde (BR). Secretaria de Vigilância em Saúde. Boletim Epidemiológico de HIV e Aids. Brasília: Ministério da Saúde; 2016. [acesso em 26 de junho 2020]. Disponível em: http://www.aids.gov.br/pt-br/pub/2016/boletim-epidemiologico-de-aids-2016.

23. Maia, ECA, Reis Junior LP. Modes of Coping HIV/AIDS: Human Rights, Vulnerability and Health Care. Ver. Nufen. Phenom. Interd. [Internet]. 2019 [cited 2020 mar 09]; 11(1). Available from: http://pepsic.bvsalud.org/scielo.php?pid=S2175-25912019000100012&script=sci_abstract&tlng=en.

24. Greco DB. Trinta anos de enfrentamento à epidemia da Aids no Brasil, 1985-2015. Ciênc. Saúde Colet. [Internet]. 2016 [acesso em 10 de março 2020]; 21(5). Disponível em: https://www.scielo.br/scielo.php?pid=S1413-81232016000501553&script=sci_abstract&tlng=pt.

*Corresponding Author:
Daniela de Aquino Freire
Rua Dr. Otávio Coutinho
Santo Amaro, Recife, Pernambuco, Brasil
E-mail address: daniela_3439@hotmail.com
Zip Code: 52.171-011

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