

Barriers in access to health services by residents of rural communities: Integrative review

RESUMO | Objetivo: compreender as barreiras no acesso aos serviços de saúde por residentes de comunidades rurais. Método: Trata-se de uma revisão integrativa da literatura, realizada no período de agosto a novembro de 2021, nas bases de dados Scientific Eletronic Library Online, Medical Literature Analysis and Retrieval System Online e ScienceDirect. Resultados: A busca nas bases de dados resultou em um total de 44 artigos selecionados. Aplicados os critérios de inclusão e exclusão, foi elencado para análise, o total de 21 artigos os quais foram lidos na íntegra. Destes, 3 foram excluídos, pois não contemplaram o objeto abordado e 18 artigos foram selecionados para integrar este estudo. Conclusão: Foi possível compreender a estrutura de acesso aos serviços de saúde primários pela população residente de comunidades rurais, identificando as barreiras e dificuldades enfrentadas, permite prover e pensar em estratégias que minimizem os impactos sobre a saúde desta população.

Descritores: Saúde; População rural; Atenção primária; Planejamento rural.

ABSTRACT | Objective: to understand the barriers in accessing health services by residents of rural communities. Method: This is an integrative literature review, carried out from August to November 2021, in the Scientific Electronic Library Online, Medical Literature Analysis and Retrieval System Online and ScienceDirect databases. Results: The search in the databases resulted in a total of 44 selected articles. After applying the inclusion and exclusion criteria, a total of 21 articles were listed for analysis, which were read in full. Of these, 3 were excluded, as they did not contemplate the object addressed and 18 articles were selected to integrate this study. Conclusion: It was possible to understand the structure of access to primary health services by the population residing in rural communities, identifying the barriers and difficulties faced, allowing to provide and think of strategies that minimize the impacts on the health of this population.

Keywords: Health; Rural population; Primary attention; Rural planning.

RESUMEN | Objetivo: comprender las barreras en el acceso a los servicios de salud por parte de los habitantes de las comunidades rurales. Método: Se trata de una revisión integrativa de la literatura, realizada de agosto a noviembre de 2021, en las bases de datos Scientific Electronic Library Online, Medical Literature Analysis and Retrieval System Online y ScienceDirect. Resultados: La búsqueda en las bases de datos arrojó un total de 44 artículos seleccionados. Después de aplicar los criterios de inclusión y exclusión, se listaron para su análisis un total de 21 artículos, los cuales fueron leídos en su totalidad. De estos, 3 fueron excluidos, por no contemplar el objeto abordado y 18 artículos fueron seleccionados para integrar este estudio. Conclusión: Fue posible comprender la estructura de acceso a los servicios primarios de salud por parte de la población residente en las comunidades rurales, identificando las barreras y dificultades enfrentadas, permitiendo brindar y pensar estrategias que minimicen los impactos en la salud de esta población.

Palabras claves: Salud; Población rural; Atención primaria; Planificación rural.

Amanda Conrado Silva Barbosa

Nurse. Master in Nursing from the Federal University of Juíz de Fora and Professor at the University of the State of Minas Gerais ORCID: 0000-0003-2092-2099

Paula Lívia Rozália Silva

Graduate in Nursing. State University of Minas Gerais (UEMG), Divinópolis – MG ORCID: 0000-0002-5978-5987

Emirlaine Katrine Silva

Graduate in Nursing. State University of Minas Gerais (UEMG), Divinópolis – MG. ORCID: 0000-0002-8418-0381

Caique Alves Rezende

Graduating in Nursing. University of the State of Minas Gerais (UEMG), Divinópolis - MG. Center, Santana do Jacaré, Minas Gerais, Brazil.

ORCID: 0000-0003-0956-7321

Amanda Cristina Teixeira do Prado

Graduate in Nursing. State University of Minas Gerais (UEMG), Divinópolis – MG. ORCID: 000-0003-3783-1695

Danielly Araujo Souza

Graduate in Nursing. State University of Minas Gerais (UEMG), Divinópolis – MG. ORCID: 0000-0002-2194-5180

Thais Stéfany Alves

Graduate in Nursing. State University of Minas Gerais (UEMG), Divinópolis – MG. ORCID: 0000-0003-1981-8374

João Marcos Alves Melo

Master of Science from UFSJ - CCO Dona Lindu. City Hall of Carmo do Cajuru ORCID: 0000-0002-9056-6782

Recebido em: 12/02/2022 **Aprovado em:** 22/04/2022

INTRODUÇÃO

rimary Health Care (PHC) is considered the gateway for users to the Unified Health System (SUS) and the Health Care Networks (RAS), in which, according to the World Health Organization (WHO), about 80 to 90% of users' claims can be resolved in primary care. PHC consists of axes, such as the Family Health Strategy (ESF), capable of guaranteeing resolute care with a direct impact on the health situation of users and communities. Despite being considered an expanding strategy, there are still difficulties in its implementation in communities and remote regions, harming the equitable access to health advocated by the SUS. 1-2

In the process of implementing the FHS, delimiting the territory of coverage favors the organization of health services, knowing barriers and limitations in territories of difficult access, such as in rural areas, becomes essential. ²⁻³⁻⁴⁻⁵

Rural residents, especially family farmers, still face difficulties in achieving equal access to health services, due to the existence of socioeconomic, psychosocial and, mainly, geographical barriers. ⁶⁻⁷

Data from the 2010 IBGE census indicate that the rural population of the country was 29,930,007 people, with a large part of the Northeast region, equivalent to 14,260,704 people, with family farming as the main source of income. ⁸

To Arruda, Maia and Alves (2018) ⁹, there are several difficulties faced by those who live in rural areas, such as difficulties in accessing basic sanitation, information and especially access to health services. To Piexak et al., (2019) ¹⁰ work activities performed by residents of rural areas can pose a greater risk to health due to the amount of physical effort and the need to handle work tools that increase the risk of accidents, making care imperative for this population

In this perspective, Piexak et al., (2019) 10 point out that the nursing pro-



Knowing the specifics of the process of living and falling ill allows the elaboration of public policies that can expand the primary care network, taking health where there are still important limitations and barriers to access and guarantee resolute care.



fessional plays an extremely important role in helping to solve the demands presented by people who live in rural areas, together with the health team. Therefore, it is up to the nursing professional to develop strategies and develop actions that facilitate access to the health service.

Therefore, this study aims to contribute to greater attention to people living in rural areas. Knowing the specifics of the process of living and falling ill allows the elaboration of public policies that can expand the primary care network, taking health where there are still important limitations and barriers to access and guarantee resolute care.

Thus, this research aims to understand the barriers in accessing health services by residents of rural communities.

METHOD

This is an integrative literature review, in which the PICO or PICOT strategy was used to prepare the guiding question. The acronym PICO stands for: P: Patient, problem or population; I: Intervention; C: Comparison; The result. Thus, it was delimited for this research: P (residents of rural communities); I (barriers to access to health services) and O (improvement in access to health services by the rural population). Thus, the guiding question was: What are the barriers to accessing health services seen by residents of rural communities?

The search was carried out between August and November 2021. The databases used were Scientific Electronic Library Online (SciELO), Medical Literature Analysis and Retrieval System Online (MEDLINE) and ScienceDirect. The following descriptors were used: "Health (Saúde)"; "Rural population (População rural)"; "Primary attention (Atenção Primária)"; "Rural planning (Planejamento rural)", according to the classification of Health Sciences Descriptors (DECS) and for each cited

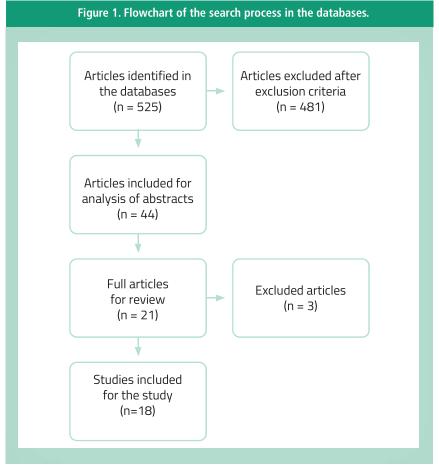


descriptor the Boolean operator "AND" was used and for synonyms the "OR" was used. The inclusion criteria adopted were articles published between 2016 and 2021 with full text available in English, Portuguese and Spanish and that addressed the proposed object of study. Theses, dissertations, course conclusion works, editorials and incomplete articles were excluded.

RESULTS

The search in the databases resulted in a total of 525 articles. Soon after, the titles were read and the inclusion and exclusion criteria were applied. For analysis, a total of 44 articles were read in full. Of these, 26 were excluded, as they did not cover the object addressed and 18 articles were selected to integrate this study, 01 articles from the ME-DLINE database, 08 articles from the SciELO database, 09 articles from the SCIENCEDIRECT (Figure 1).

The studies selected for analysis were characterized and arranged in the table, separated by column according to the following characteristics: title



Source: Researcher Data (2021)

Chart 1 - Characterization of the articles used in the review, highlighting the title/year of publication, authors and design.		
Title/ Year of publication	Authors	Design
Exploring the interaction of activity limitations with context, systems, community and personal factors in accessing public health care services: a presentation of south African case studies. 2017	MJI, G.; BRAATHEN, S. H.; VERGUNST, R.; SCHEF- FLER, E.; KRITZINGER, J.; MANNAN, H. et al.	There are four case studies of people with disabilities from four diverse low-resource contexts in South Africa.
Access to healthcare among people with physical disabilities in rural Louisiana. 2016	DAVIDSSON, N.; SÖDERGÅRD, B.	Qualitative research through nine in-depth interviews were carried out. The interviews were analyzed through content analysis.
Access to health care for persons with disabilities in rural South Africa. 2017	VERGUNST, R.; SWARTZ, L.; HEM, K. G.; EIDE, A. H.; MANNAN, H.; MACLACHLAN, M.	Quantitative research through interviews with 773 participants in 527 households.
Primary Health Care in the rural context: nurses' view (A Atenção Primária à Saúde no contexto rural: visão de enfermeiros.) 2020	OLIVEIRA, A. R.; SOUSA, Yanna Gomes de; SILVA, Doane Martins da; ALVES, Jairo Porto; DINIZ, Ítalo Vinícius Albuquerque; MEDEIROS, Soraya Maria de; MARTINIANO, Claudia Santos; ALVES, Marília.	Exploratory-descriptive study of a qualitative nature.

Rural Family Health Strategy: an analysis from the perspective of popular movements in Ceará. (Estratégia Saúde da Família rural: uma análise a partir da visão dos movimentos populares do Ceará.) 2020	COSTA, Leandro Araujo da; CARNEIRO, Fernando Ferreira; ALMEIDA, Magda Moura de; MACHADO, Maria de Fátima Antero Sousa; DIAS, Alexandre Pessoa; MENEZES, Francisco Wagner Pereira; Pessoa, Vanira Matos.	Qualitative, descriptive study.
Inequality in access to healthcare between urban and rural areas in Brazil: a breakdown of factors be- tween 1998 and 2008. (Desigualdade no acesso à saúde entre as áreas urbanas e rurais do Brasil: uma decomposição de fatores entre 1998 a 2008.) 2021	ARRUDA, Natália Martins; MAIA, Alexandre Gori; ALVES, Luciana Correia,	Quantitative systematic review based on data from the National Household Sample Survey health supplement.
Primary health care in rural areas: access, organization and health workforce in an integrative literature review. (Atenção primária à saúde em áreas rurais: acesso, organização e força de trabalho em saúde em revisão integrativa de literatura.) 2021	FRANCO, Cassiano Mendes; LIMA, Juliana Gagno; GIOVANELLA, Lígia.	Integrative literature review
Trajectories of men in search of health care: challenges for primary care in a rural context. (Trajetórias de homens em busca do cuidado em saúde: desafios para a atenção primária em um contexto rural.) 2019	ARAÚJO, Maria Deysiane Porto; FONSECA, Angelica Ferreira; MACHADO, Michael Ferreira; QUIRINO, Túlio Romério Lopes;	Qualitative research through semi-structured interviews.
You've got a friend in me: How social networks and mobile phones facilitate healthcare access among marginalized groups in rural Thailand and Lao PDR. 2021	HAENSSGEN, Marco J.; CHAROENBOON, Nutcha; ZANELLO, Giacomo.	Cross-sectional research
Multilevel analysis in rural cancer control: A conceptual framework and methodological implications. 2019	ZAHND, Whitney E.; MCLAFFERTY, Sara L.; EBERTH, Jan M.	Literature review
Rural health disparities in chronic heart disease. 2021	SCHOPFER, David W.	Literature review
Geographical accessibility to primary health care in Finland – Grid-based multimodal assessment. 2021	KOTAVAARA, Ossi; NIVALA, Aleksi; LANKILA, Tiina; HUOTARI, Tiina; DELMELLE, Eric; ANTIKAINEN, Harri,	Systematic review
Strategies for responding to the COVID-19 pandemic in a rural health system in New York state. 2021	ARON, Jamie A.; BULTEEL, Alexander J. B.; CLAYMAN, Kelsey A. et al.,	Systematic review
Indigenous Peoples, settler colonialism, and access to health care in rural and northern Ontario. 2020	BURNETT, Kristin; SANDERS, Chris; HALPERIN, Donna; HALPERIN, Scott.	Qualitative Study
Spatial barriers as moral failings: What rural distance can teach us about women's health and medical mistrust author names and affiliations. 2020	STATZ, Michele; EVERS, Kaylie.	Qualitative research with 51 women in a rural region of the United States.
Health and Poverty of Rural Children: An Under-Researched and Under-Resourced Vulnerable Population. 2021	BETTENHAUSEN, Jessica L.; WINTERER, Courtney M.; COLVIN, Jeffrey D.	Systematic review
Is home bound a major burden towards health access among the elderly population? A community based cross sectional study in the selected northern districts in Tamilnadu. 2021	RAMRAJ, Balaji; LOGARAJ, Muthunarayanan.	Cross-sectional study



Engaging and staying engaged: a phenomenological study of barriers to equitable access to mental healthcare for people with severe mental disorders in a rural African setting. 2017

HAILEMARIAM, M.; FEKADU, A.; PRINCE, M. et al.

Qualitative approach

Source: Researcher Data (2021)

and year of publication; authors and design (Chart 1):

DISCUSSION

The SUS plays an extremely important role for residents of rural communities, through the Family Health Strategy (ESF) which aims to expand, qualify and consolidate PHC to improve the quality of life in the community. 12

In Brazil, PHC nurses act as first responders, performing reception, providing care, coordinating the health team and promoting health information and education. For public health professionals, effective communication requires the use of tools that promote interpersonal relationships between the community and the health team, making it possible to identify the needs of this population. 12-14

Regarding health needs, the rural population is more likely to travel long distances to access health services, especially specialized or secondary services. Rural communities tend to have more elderly residents with chronic illnesses that require multiple visits to outpatient health facilities. Thus, it becomes challenging for the user to reach the health unit without public or private transport available. 13-15

Concurrently, in research conducted by Arruda, Maia and Alves (2021) 9 and Franco, Lima, Giovanella (2021) 14, address in their findings that rural populations have more limited access to primary care medical services when compared to residents of urban areas. They emphasize that the rural population is characterized by being elderly, with chronic comorbidities and more economically vulnerable than the population residing in urban areas. Traveling to reach a primary care provider can be expensive and costly for patients living in remote rural areas, leading to delays or withdrawals from care. 16

Regarding geographic distances, due to resource limitations, most health facilities are located in urban areas. ¹⁷ Given this, many articles reported that users had to travel long distances to reach a health facility. In addition to distance, the precarious nature of roads in most rural areas was highlighted in some of the studies analyzed. 18-19

By working together with the community, nurses strengthen the capacity of the health system. In addition to health needs, the nurse's role encompasses health promotion, prevention and education, being the reference professional for the attached community. Nurses value the home visit to prioritize care and control of multiple situations and to adapt standards of nursing practice as needed based on available resources and patient care needs. Home visits and telehealth services are strategies that nurses can use to ensure access to support services in vulnerable populations. 20

While the use of telehealth services was already becoming more popular and widespread in early 2020, measures implemented in response to the COVID-19 pandemic accelerated this growth. 21 However, many rural areas do not have broadband Internet access or have slow Internet speeds, both of which are potential barriers to accessing telehealth services, unlike individuals residing in urban areas. 22

Health literacy can also be a barrier to accessing health care, affecting the patient's ability to understand health information and instructions, as well as fear or frustration related to communicating with a health professional. 23

In a study by Ramraj and Logaraj (2021) 20, the majority of rural older adults enrolled in the healthcare system are over 65 years of age and are more likely to suffer from chronic diseases compared to urban older adults. 24 To solve access problems for older people in rural areas, the authors proposed creating community-based outpatient clinics in many rural areas, in addition to using mobile clinics and telehealth services.

CONCLUSION

From this study, it was observed that understanding the structure of access to primary health services by the population residing in rural communities, identifying the barriers and difficulties faced, allows providing and thinking of strategies that minimize the impacts on the health of this population. Therefore, the need for permanent in-service education for health professionals working in rural areas is highlighted, as well as policies for these professionals to remain in the service, in addition to resources and supplies to provide comprehensive and resolute care for most problems and demands in PHC.

Thus, it is necessary to carry out comprehensive research that allows to know the profile of the patient who lives in a rural community, their particularities and ways of living that can directly impact the illness process. The development of health policies and future research allows for the development of practical measures to ensure equitable access to health care and services.

References

1.Silva LS, Viegas SM da F, Menezes C, Nascimento LC do, Nitschke RG, Duarte DC. Demanda espontânea e acesso no Sistema Único de Saúde: vivências de usuários da atenção primária. Av en Enfermería. 2021 [citado 2021 nov 23]; 39(1):30–9. Disponível em: http://www.scielo.org.co/scielo.php?script=sci_art-text&pid=S0121-45002021000100030 DOI: https://doi.org/10.15446/av.enferm. v39n1.85573.

2.Shimizu HE, Trindade JS, Mesquita MS, Ramos MC. Avaliação do Índice de Responsividade da Estratégia Saúde da Família da zona rural. Rev Esc Enferm USP. 2018 [citado 2021 nov 23]; 52. Disponível em: https://www.scielo.br/j/reeusp/a/LDTvrSC3pwF3SB43rDbXMQv/abstract/?lang=pt. DOI: https://doi.org/10.1590/S1980-220X2017020203316.

3.Miranda SC de M, Oliveira PSD, Moraes VC de M, Vasconcellos LCF. Necessidades e reivindicações de homens trabalhadores rurais frente à atenção primária à saúde. Trabalho, Educação e Saúde. 2020 [citado 2021 nov 22]; 18(1). Disponível em: https://www.scielo.br/j/tes/a/YMGGmNYMgTfCsLSpPB5ftvP/?format=pdf&lang=pt. DOI: https://doi.org/10.1590/1981-7746-sol00228.

4.Hone T, Rasella, D, Barreto ML.; MAJEED, Azeem M, Cristopher M. Association between expansion of primary healthcare and racial inequilities in mortality amenable to primary care in Brazil: A national longitudinal analysis. PloS Med. 2017 [access 2021 nov 22]; 14(5). Available in: https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002306.

5.Faria RM. A territorialização da Atenção Básica à Saúde do Sistema Único de Saúde do Brasil. Rev Ciência & Saúde Coletiva. 2020 [citado 2021 nov 23]; 25(11):4521-30. Disponível em: https://www.scielo.br/j/csc/a/jSZ7b65YpPSTwLfYWpRhg-5z/?lang=pt. DOI: https://doi.org/10.1590/1413-812320202511.30662018.

6.Pessoa VM, Almeida MM, Carneiro FF. Como garantir o direito à saúde para as populações do campo, da floresta e das águas no Brasil? Rev Saúde Debate. 2018 [citado 2021 nov 23]; 42(1):302-14. Disponível em: https://www.scielo.br/j/sdeb/a/kvG6XQP4YRDbNQm7fSK54DN/abstract/?lang=pt. DOI: https://doi.org/10.1590/0103-110420185120.

7.Chávez GM, Viegas SM da F, Roquini GR, Santos TR. Acesso, acessibilidade e demanda na estratégia saúde da família. Esc Anna Ner. 2016 [citado 2021 nov 23]; 24(4). Disponível em: https://www.scielo.br/j/ean/a/rLPKRPYbWkRJfWPPBTWftG-j/?lang=pt. DOI: https://doi.org/10.1590/2177-9465-EAN-2019-0331.

8.IBGE - IINSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA [Internet]. Censo agropecuário. 2017 [citado 2021 nov 23]. Disponível em: https://censos.ibqe.gov.br/agro/2017/templates/censo_agro/resultadosagro/index.html.

9.Arruda NA, Maia AGA, Alves LC. Desigualdades no acesso à saúde entre as áreas urbanas e rurais do Brasil: uma decomposição de fatores entre 1998 e 2008. Cadernos de Saúde Pública [internet]. 2018 [citado 2021 nov 23]; 34. Disponível em: https://www.scielo.br/j/csp/a/zMLkvhHQzMQQHjqFt3D534x/abstract/?lang=pt#. DOI: https://doi.org/10.1590/0102-311X00213816.

10.Piexak DR, Abreu DPG, Silva MRS, Costa VZ, Oliveira ACC, Vaz MRC. Niveis de barreiras e de facilitadores de fatores ambientais relacionados à saúde: avaliação de agricultores. Rev. Enferm. UFSM – REUFSM. 2019 [citado 2021 nov 23]; 9:1-21. Disponível em: https://periodicos.ufsm.br/reufsm/article/view/29569. DOI: https://doi.org/10.5902/2179769229569.

11.Santo CMC, Pimenta CAM, Nobre MRC. The PICO strategy for the research question construction and evidence search. Rev. Latino-am Enfermagem. 2007 [access 2021 nov 24]; 15(3): 508-11. Available in: https://www.scielo.br/j/rlae/a/CfKNnz8mvSqVjZ37Z77pFsy/?lang=en. DOI: https://doi.org/10.1590/S0104-11692007000300023.

12.Oliveira AR, Sousa YG, Silva DM, Alves JP, Diniz IVA, Medeiros SM, et al. A Atenção Primária à Saúde no context rural: visão de enfermeiros. Revista Gaúcha de Enfermagem. 2020 [citado 2021 nov 24]; 41. Disponível em: https://www.scielo.br/j/rgenf/a/SjnTdGKkdDnLsh8CzNVB8nM/abstract/?lang=pt#. DOI: https://doi.org/10.1590/1983-1447.2020.20190328.

13.Kotavaara O, Nivala A, Lankila T, Huotari T, Delmelle E, Antikainen H. Geographical accessibility to primary health care in Finland — Grid-based multimodal assessment. Applied Geography. 2021 [access 2021 nov 24]; 136. Available in: https://doi.org/10.1016/j.apgeog.2021.102583. DOI: https://doi.org/10.1016/j.apgeog.2021.102583.

14.Franco CM, Lima JG, Giovanella L. Atenção primária à saúde em áreas rurais: acesso, organização e força de trabalho em saúde em revisão integrativa de literatura. Cadernos de Saúde Pública 2021 [citado 2021 nov 25]; 37(7). Disponível em: https://www.scielo.br/j/csp/a/VHd6TxVVpjzyJRtDWyvHkrs/?format=pdf&lang=pt. DOI: https://doi.org/10.1590/0102-311X00310520.

15.Statz M, Evers K. Spatial barriers as moral failings: What rural distance can teach us about women's health and medical mistrust author names and affiliations. Health & Place. 2020 [access 2021 nov 24]; 64. Available in: https://www.sciencedirect.com/science/article/pii/S1353829220305554?via%3Dihub. DOI: https://doi.org/10.1016/j.healthplace.2020.102396.

16.Zahnd WE, Mcflafferty SL, Eberth JM. Multilevel analysis in rural cancer control: A conceptual framework and methodological implications. Preventive Medicine. 2019 [access 2021 nov 25]; 129. Available in: https://www.sciencedirect.com/science/article/pii/S0091743519303111. DOI: https://doi.org/10.1016/j.ypmed.2019.105835.

17.Garnelo L, Lima JG, Rocha ESC, Herkrath FJ. Acesso e cobertura da Atenção Primária à Saúde para populações rurais e urbanas na região norte do Brasil. Saúde em Debate. 2018 [citado 2021 nov 25]; 42(spe1):81–99. Disponível em: https://www.scielo.br/j/sdeb/a/3tZ6QRxxTsPJNj9XwDftbgS/abstract/?lang=pt. DOI: https://doi.org/10.1590/0103-11042018S106.

18.Mji G, Braathen SH, Vergunst R, Scheffler E, Kritzinger J, Mannan H, et al. Exploring the interaction of activity limitations with context, systems, community and personal factors in accessing public health care services: a presentation of south African case studies. African J Prim Heal Care Fam Med. 2017 [access 2021 nov 25]; 9(1):1-9. Available in: https://phcfm.org/index.php/phcfm/article/view/1166. DOI: https://doi.org/10.4102/phcfm.v9i1.1166.

19.Vergunst R, Swartz L, Hem KG, Eide AH, Mannan H, Maclachlan M. et al. Access to health care for persons with disabilities in rural South Africa. BMC Health Serv Res. 2017 [access 2021 nov 25]; 17(741). Available in: https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-017-2674-5. DOI: https://doi.org/10.1186/s12913-017-2674-5.

20.RamraJ, B, Logara M. Is home bound a major burden towards health access among the elderly population? A community based cross sectional study in the selected northern districts in Tamilnadu. Clinical Epidemiology and Global Health. 2021 [access 2021 nov 25]; 9:132-6. Available in: https://cegh.net/article/S2213-3984(20)30184-6/fulltext. DOI: https://doi.org/10.1016/j.cegh.2020.08.002.

21.Aron JA, Bulteel AJB, Clayman KA, Cornett JA, Filtz K, Heneghan L, et l. Strategies for responding to the COVID-19 pandemic in a rural health system in New York state. Healthcare. 2021 [access 2021 nov 25]; 9. Available in: https://www.sciencedirect.com/science/article/pii/S221307642030107X?via%3Dihub. DOI: https://doi.org/10.1016/j.hjdsi.2020.100508.

22.Haenssgen MJ, Charoenboon N, Zanello G. You've got a friend in me: How social networks and mobile phones facilitate healthcare access among marginalised groups in rural Thailand and Lao PDR. World Development. 2021 [access 2021 nov 25]; 137. Available in: https://www.sciencedirect.com/science/article/pii/S0305750X20302837?via%3Dihub. DOI: https://doi.org/10.1016/j.world-dev.2020.105156.

23.Burnett K, Sanders C, Halperin D, Halperin S. Indigenous Peoples, settler colonialism, and access to health care in rural and northern Ontario. Health & Place. 2020 [access 2021 nov 25]; 66. Available in: https://www.sciencedirect.com/science/article/pii/S1353829220300952?via%3Dihub. DOI: https://doi.org/10.1016/j.healthplace.2020.10244.

24. Hisako Takase Gonçalves L, Pereira Silva A, De Souza Fernandes D, Leonardo Figueiredo Cunha C, Lúcia Pinheiro Castro R, Sousa Uchôa V. Conhecimento e atitude sobre diabetes mellitus de usuários idosos com a doença atendidos em unidade básica de saúde. Vol. 23, Nursing (São Paulo). 2020. p. 3496–500.