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Social media health literacy during a pandemic: Is everyone prepared for that?

Letramento em saúde por meio de mídias sociais durante uma pandemia: Todos estão preparados para isso?

Alfabetización en salud en las redes sociales durante una pandemia: ¿Están todos preparados para eso?

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Abstract
The internet has been an important tool for health literacy, particularly during global impacts (e.g., the Sars-Cov-2 pandemic) however, one question remains: is everyone prepared for social media health literacy during a pandemic? This study aimed to describe the health literacy process provided via social media to artisanal fishermen during the Sars-Cov-2 pandemic. A descriptive study (experience report) on the development and implementation of educational actions for health promotion developed via social networks (Instagram, YouTube, and WhatsApp). Using digital platforms for health literacy is a viable, low-cost, and far-reaching alternative to disseminating information to vulnerable populations in times of pandemic (or in contexts where face-to-face is impossible). In conclusion, some artisanal fishermen do not have access to the internet, either because they live in rural areas, or because of conditions that make it impossible for them to acquire the equipment.
Keywords: Health literacy; Public health; Vulnerable populations; Health information management.

Resumo
A internet tem sido uma ferramenta importante para o letramento em saúde, principalmente durante os impactos globais (por exemplo, a pandemia de Sars-Cov-2), no entanto, uma pergunta permanece: todos estão preparados para o letramento em saúde por meio de mídias sociais durante uma pandemia? Este estudo teve como objetivo descrever o processo de letramento em saúde via mídia social para pescadores artesanais durante a pandemia do Sars-Cov-2. Estudo descritivo (relato de experiência) sobre o desenvolvimento e implementação de ações educativas para promoção da saúde desenvolvidas por meio de redes sociais (Instagram, YouTube e WhatsApp). O uso de plataformas digitais para letramento em saúde é uma alternativa viável, de baixo custo e amplo alcance para disseminar informações para populações vulneráveis em tempos de pandemia (ou em contextos nos quais o atendimento

presencial é impossível). Conclui-se que alguns pescadores artesanais não possuem acesso à internet, seja por residirem na zona rural, seja por condições que impossibilitam a aquisição de equipamentos necessários.
Palavras-chave: Letramento em saúde; Saúde pública; Populações vulneráveis; Gestão da informação em saúde.

Resumen
Internet ha sido una herramienta importante para la alfabetización en salud, particularmente durante los impactos globales (por ejemplo, la pandemia de Sars-Cov-2), sin embargo, queda una pregunta: ¿están todos preparados para la alfabetización en salud en las redes sociales durante una pandemia? Este estudio tuvo como objetivo describir el proceso de alfabetización en salud a través de las redes sociales para pescadores artesanales durante la pandemia de Sars-Cov-2. Estudio descriptivo (informe de experiencia) sobre el desarrollo e implementación de acciones educativas para la promoción de la salud desarrolladas a través de las redes sociales (Instagram, YouTube y WhatsApp). El uso de plataformas digitales para la alfabetización en salud es una alternativa viable, de bajo costo y amplio alcance para difundir información a poblaciones vulnerables en tiempos de pandemia (o en contextos donde la atención presencial es imposible). Se concluye que algunos pescadores artesanales no tienen acceso a internet, ya sea porque viven en zonas rurales o por condiciones que les imposibilitan adquirir equipos.
Palabras clave: Alfabetización en salud; Salud pública; Poblaciones vulnerables; Gestión de la información de salud.

1. Introduction

Artisanal fishermen engaged in fishing activities are exposed to risks that contribute to the development of diseases, as they work in precarious environments with health risks (e.g., stress, sleep disturbances, and overwork); this affects productivity and social performance. Ensuring the right to health of these people is a challenge, as existing public policies disregard the context of social vulnerability in which fishermen are inserted (Silva et al., 2019).

Studies point to concerns about variables capable of improving the workplace (e.g., time to fish, reduction of uninterrupted shifts, and handling of heavy loads) (á Høvdanum et al., 2014), in order to avoid impacts on the health of fishermen; however, increasingly, have an increase in work-related illnesses in this population (Allen et al., 2010). To develop actions to promote health that take into account the social context, people's difficulties in understanding, and their limitations in accessing information sources, are guiding principles for health literacy—educational actions for health promotion, with simple language, to minimize gaps in access to and use of health information (Areias et al., 2021; Pena & Gomez, 2014).

Health literacy is something that goes beyond the ability to read, write and interpret texts; it also includes the development of skills to obtain, analyze and use health information, resulting in assertive decisions for self-care, disease prevention, health promotion/recovery (Cesar et al., 2021). Health literacy, is, sometimes, associated with the educational level of the population and the specificities of health services in each region (and it is in this context that vulnerable populations suffer) (Ribeiro & Sabóia, 2015). However, it is important to remember that interventions must be designed and implemented to address diversity, facilitate access to health information and services for all individuals (Anwar et al., 2020).

During global impacts (e.g., the 2020 pandemic), due to social distancing, the internet has been an important tool for health literacy and can be used to promote changes in the global work context of this vulnerable population (all via health literacy). Furthermore, health literacy can generate changes and reduce the problems faced by this population (artisanal fishers) (Brasil, 2009; Ministério da Saúde, 2019; Rêgo et al., 2018; Teixeira, 2012), however, a question remains open: are artisanal fishers prepared for social media health literacy during a pandemic?

Considering the need to take information to artisanal fishermen, and the need for strategies for the health literacy of this population, this article is based on the description of the need for a face-to-face educational action that prepares people for online health literacy (considering that fishermen artisanal are not adapted to health literacy via the internet), as well as to the changes caused by the dissemination of the Coronavirus (Sars-Cov-2) (Neto et al., 2020). This study aimed to describe the health literacy process provided via social media to artisanal fishermen during the Sars-Cov-2 pandemic.

2. Methodology

Descriptive study (experience report) on the development and implementation of educational actions for health promotion, developed via social networks (Instagram, YouTube, and WhatsApp). All procedures were approved by the ethics committee of a public university in Brazil (opinion 3219733).

Study location

Study was carried out in the "Z-22" and "Porto Real" fisherman colonies, located in the cities of Porto Nacional and Ipueiras. Porto Nacional is a Brazilian municipality in the state of Tocantins, 57 km from Palmas, with important access to some regions of the state and the country, and the city of Ipueiras is 107 km from the capital Palmas.

Participants

The target population of the present study consisted of artisanal fishermen who live in the city and are registered in the two fishing colonies and are aged 18 years or older. There was no sample selection, as the intention was to evaluate all fishermen in the colony.

The research scenario was two fishing colonies located in the cities of Ipueiras and Porto Nacional in the Tocantins. According to data from the General Fishermen's Registry for the year 2011, the colony of Porto Nacional has 77 fishermen, the colony of Ipueiras 55 fishermen, totaling 132 fishermen, who were invited to participate in the survey voluntarily. A total of 77 fishermen participated in the first stage, including the two colonies.

Intervention

The educational intervention was focused on the control/prevention of metabolic syndrome, intestinal parasitosis, and Work-related musculoskeletal disorders (WMSDs) and associated factors in artisanal fishermen. From the data analysis, it was verified the problematic that helping as a learning scenario, generating hypotheses of solutions to apply to the local reality. An intervention was planned for each colony, taking into account individual needs. For health literacy, active methodologies were planned (*Arco de Maguerez*, focusing on the reality of each fisherman's colony, and the organization and construction of the educational intervention) (Ferreira, 2019).

The first action would take place on March 27, 2020, in the colony of Porto Real located in the city of Porto Nacional-TO, but on March 20, 2020, the Ministry of Health decreed ordinance n.º 454, declaring the state of community transmission of SARS -Cov-2 throughout the national territory (Ministério da Saúde, 2020), thus, all intervention activities were suspended, with no expected return date.

When COVID-19 was declared a pandemic, the main recommendation was to avoid agglomerations. Thus, events were canceled, bars, cinema, theater, among others, had to close their doors, schools, universities, had the suspension of classes, and started to implement new routines, such as remote teaching (Maciel et al., 2021); therefore, the idea of transforming the educational intervention that would be in a face-to-face format to online emerged, and so we started the process of constructing the intervention with the use of audiovisual resources, through social networks.

The project actions took place over 6 months (April 22 to October 25, 2021) and included posting videos, written materials, and discussions on the topics in WhatsApp groups. The target audience was divided into the following groups: 1) Artisanal fishermen belonging to the colony of "Porto Real" (Porto Nacional-TO); 2) artisanal fishermen from the "Z-22" colony (Ipueiras-TO).

The preparation of educational materials and videos was carried out by researchers from the postgraduate in *Ensino em Ciências e Saúde* (PPGECS) at the *Universidade Federal do Tocantins* (UFT). These activities were carried out in the following stages: initial research, health action planning, production of educational material, and posting on social networks (Figure 1).

Before starting the project, we presented the proposal to the presidents of the two colonies for approval. All activities and interventions followed professional ethical principles, voluntary consent of those involved, respect for autonomy, the principle of non-maleficence, beneficence, and justice, always seeking solutions to problems.

Figure 1 - Operationalization of the project.

Source: Authors.

Step 1: Assessment of needs for educational activities

We carried out a previous study that identified a high prevalence of metabolic syndrome, WMSDs, and intestinal parasites among fishermen (Rodrigues et al., 2020). Thus, in order to facilitate the access and use of health information to promote the health of this population, these themes were listed for the production of educational materials.

Step 2: Planning and construction of educational material

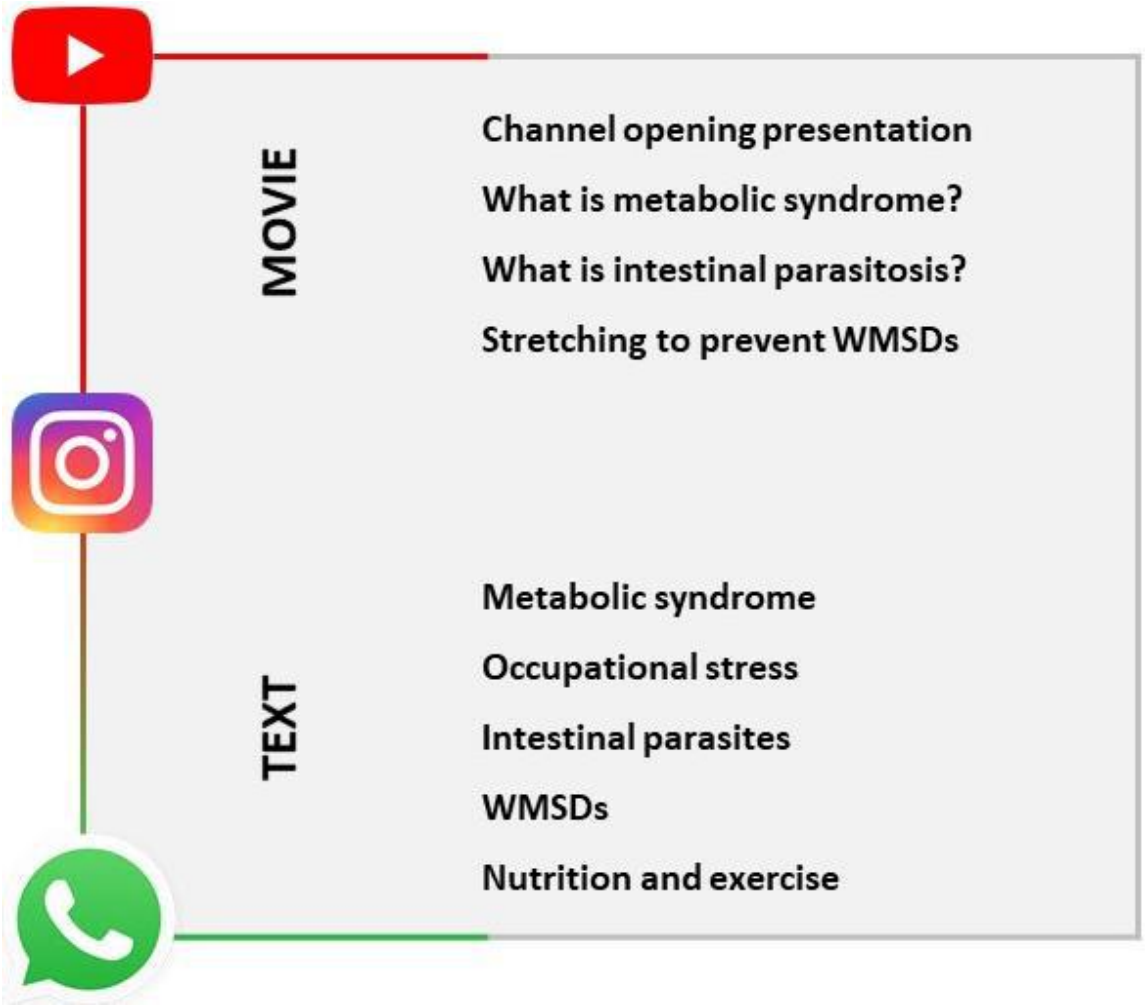
After selecting the themes, searches were carried out in national and international databases, manuals, and government websites, in order to prepare the materials. The educational materials were prepared in accordance with the Agency for Healthcare Research and Quality recommendations for the development of educational materials, following the principles of health literacy; use of simple and clear language (absence of jargon), the limit of text per approach, demonstration using culturally and socially appropriate images or objects. The economic, social, cultural, and linguistic particularities of the target audience were also respected when providing information on health and disease.

Step 3: Publication of educational materials

For the dissemination of educational activities in electronic and audiovisual format, accounts were created on social media: the first, on Instagram (@pescsaude); the second, on YouTube (Educação.saúde); and the third through groups in the WhatsApp application. In addition, the actions were shared on Instagram from the PPGECS.

Figure 2 presents the educational materials prepared by the researchers, including instructional material with illustrative designs to promote health literacy for artisanal fishermen, on the themes: metabolic syndrome, WMSDs, and intestinal parasites.

Figure 2 - Materials and social media used.



Source: Authors.

3. Results

In the first stage of the project, the researchers assessed vulnerabilities and selected three work themes: metabolic syndrome, WMSDs, and intestinal parasites; afterward, the researchers met to debate the themes and plan the educational activity and construction of the written material.

This stage had the active participation of the responsible researcher, who assessed the level of evidence of the information obtained, discussion of themes, and indicated the necessary adjustments for the proposal of the educational material. The use of the YouTube video sharing platform was used as a tool for posting educational videos on the selected topics. The opening of a project profile on Instagram for the publication of educational material allowed the creation of a space for continuous education, allowing consultation and sharing of the materials produced, as well as interaction with the page's followers.

4. Discussion

During the pandemic, all technologies are needed for health production processes,18 linked to this, health literacy aims to develop the knowledge and capacity of subjects, in order to influence the actions and behaviors necessary to improve their health and quality of life (Arantes et al., 2015).

Digital platforms bring a new perspective of healthcare, as they offer a universe to be enjoyed by patients and healthcare professionals, with the possibility of discussions, being a potential strategy to improve healthcare outcomes. Digital platforms are effective instruments and an important tool for social interaction for a plurality of individuals (Silva et al., 2020).

The International Labor Organization stated that in developing countries, many communities, such as fishing communities, are in remote areas with poor living conditions (Anwar et al., 2020). Economy is based on fishing activities and plant extraction; low or no education. Culture has strong features of indigenous peoples, with different eating habits, use of medicinal plants, and subsistence agriculture. In general, this population has minimal infrastructure for basic sanitation, electricity, and health services (Gama et al., 2018).

In addition to work-related stress, fishermen are at high risk of developing chronic diseases due to an unhealthy lifestyle. A Danish study showed that fishermen had a high rate of hospitalization for lifestyle-related illnesses, e.g., diabetes, heart disease, bronchitis, emphysema, lung cancer, alcohol-related liver disease, and Raynaud's syndrome (Kaerlev et al., 2007). Other studies showed that fishing is a profession with a high incidence of musculoskeletal injuries and increased fatalities (Linda-Kaerlev et al., 2008; Percin et al., 2012).

Therefore, some population groups, such as riverside communities, maybe marginalized in relation to health literacy; this is related to a range of health problems, such as increased mortality, lower adherence to treatments, medications, and preventive services (Sørensen et al., 2015). Furthermore, it is associated with higher hospitalization rates, growth in the use of emergency services as well as high costs with health care (Bailey et al., 2014).

Besides, low health literacy is able to impact the health of this population, not only as a result of gaps in education, but also because many have chronic conditions and consequently require therapeutic treatments that need more attention (Anwar et al., 2020). Difficulties in managing chronic diseases associated with low education are the challenges of communicating with this vulnerable group (Dino et al., 2019).

Fishermen use WhatsApp, YouTube, and Instagram apps as an interaction tool; thus, we made contact with the presidents of the colonies, who promptly approved the proposal idea (thus, we requested that you put us in the WhatsApp groups to follow the conversation routine). We created a schedule for action, posts, and interaction with fishermen; the

educational activity (health literacy) was publicized in virtual communication vehicles from April to November 2021, but it will be online for the continuation of publications.

Thus, for health literacy with vulnerable populations, transformations in care planning and provision are needed, encompassing the provision of information, effective communication, and the execution of health education activities that involve teaching how to access, understand, communicate and evaluate the health information received.

5. Conclusion

In conclusion, twenty-twenty was a challenging year for face-to-face health literacy, which brought us the need to reorganize and innovate in the current scenario. Technologies enabled a form of virtual interaction and offered conditions for interaction with the population, even in times of social isolation. Using digital platforms for health literacy is a viable, low-cost alternative with a great capacity for disseminating information in the community, consisting of a powerful tool in contexts where face-to-face access to the target audience is not possible. However, there are systemic challenges in the use of these technologies. The need for training in the use of software, adaptation of scientific materials to simple language, internet access, and the fact that some artisanal fishermen do not have access to the internet, either because they live in rural areas, or for conditions that make it impossible for them to acquire the equipment devices.

References

á Høvdanum, A. S., Jensen, O. C., Petursdóttir, G., & Holmen, I. M. (2014). A review of fatigue in fishermen: a complicated and underprioritised area of research. *International Maritime Health*, *65*(3), 166–172. https://doi.org/10.5603/imh.2014.0031

Allen, P., Wellens, B., & Smith, A. (2010). Fatigue in British fishermen. *International Maritime Health*, *62*(3), 154–158.

Anwar, W. A., Mostafa, N. S., Hakim, S. A., Sos, D. G., Abozaid, D. A., & Osborne, R. H. (2020). Health literacy strengths and limitations among rural fishing communities in Egypt using the Health Literacy Questionnaire (HLQ). *PloS One*, *15*(7). https://doi.org/10.1371/JOURNAL.PONE.0235550

Arantes, R. K. M., Salvagioni, D. A. J., Araujo, J. P., & Roecker, S. (2015). Educação que produz saúde: atuação da enfermagem em grupo de hipertensos. *Revista de Enfermagem Da UFSM*, *5*(2). https://doi.org/10.5902/2179769213472

Areias, G. B., Marchese, V. F., Celante, S. S. A., & Mozine, A. C. S. (2021). Ações Educativas e Formação Cidadã: Iniciativas e Resultados de um Programa de Educação Ambiental com Comunidades de Pescadores Artesanais Marítimos do Litoral Centro-Norte do Estado do Espírito Santo, Brasil. *Revista de Ensino, Educação e Ciências Humanas*, *22*(2), 282–288. https://doi.org/10.17921/2447-8733.2021V22N2P282-288

Bailey, S. C., Brega, A. G., Crutchfield, T. M., Elasy, T., Herr, H., Kaphingst, K., Karter, A. J., Moreland-Russell, S., Osborn, C. Y., Pignone, M., Rothman, R., & Schillinger, D. (2014). Update on health literacy and diabetes. *The Diabetes Educator*, *40*(5), 581–604. https://doi.org/10.1177/0145721714540220

Brasil, S. S. (2009). *Trabalho, adoecimento e saúde: aspectos sociais da pesca artesanal no Pará* [Universidade Federal do Paraná]. http://www.repositorio.ufpa.br/jspui/bitstream/2011/5300/1/Dissertacao_TrabalhoAdoecimentoSaude.pdf

Cesar, F. C. R., Mendes, M. C., Costa, C. S. C., Souza, T. F. de, Alves, A. G., Barbosa, M. A., Moraes, K. L., & Oliveira, L. M. de A. C. (2021). Social media health literacy during pandemic. *Extensão Em Foco*, *0*(22), 273–286.

Dino, T. S., Abrantes, M. A., Franco, L. S., Soares, V. de S., & Júnior, P. C. A. (2019). Os desafios na integralidade do cuidado de pacientes em situação de vulnerabilidade social: um relato de experiência. *Revista Interdisciplinar Pensamento Científico*, *5*(2). https://doi.org/10.20951/2446-6778/v5n2a6

Ferreira, G. I. (2019). Formação profissional em Saúde: aplicação do Arco de Maguerez no processo de ensino-aprendizagem. *Interface*, e180020. https://doi.org/10.1590/Interface.180020

Gama, A. S. M., Fernandes, T. G., Parente, R. C. P., & Secoli, S. R. (2018). Inquérito de saúde em comunidades ribeirinhas do Amazonas, Brasil. *Cadernos de Saúde Pública*, *34*(2). https://doi.org/10.1590/0102-311X00002817

Kaerlev, L, Dahl, S., Nielsen, P. S., Olsen, J., Hannerz, H., Jensen, A., & Tüchsen, F. (2007). Hospital contacts for chronic diseases among danish seafarers and fishermen: a population-based cohort study. *Scandinavian Journal of Public Health*, *35*(5), 481–489. https://doi.org/10.1080/14034940701267385

Kaerlev, Linda, Jensen, A., Nielsen, P. S., Olsen, J., Hannerz, H., & Tüchsen, F. (2008). Hospital contacts for injuries and musculoskeletal diseases among seamen and fishermen: A population-based cohort study. *BMC Musculoskeletal Disorders*, *9*, 8. https://doi.org/10.1186/1471-2474-9-8

Maciel, E. da S., Gotardelo, M. P. S., Rodrigues, A. L. M., Quaresma, F. R. P., Barasuol, A. M., & Nascimento, L. R. do. (2021). Novo coronavírus e as consequências na saúde mental dos profissionais de saúde envolvidos em seu enfrentamento. *Revista Observatório* , *7*(1), a9pt-a9pt. https://doi.org/10.20873/UFT.2447-4266.2021V7N1A9PT

Ministério da Saúde. (2019). SAÚDE BRASIL 2018 - Uma análise da situação de saúde e das doenças e agravos crônicos: desafios e perspectivas. In

ministério da Sáude, Secretaria de Vigilância em Saúde, Departamento de Vigilância de Doenças e Agravos não Transmissíveis e Promoção da Saúde. (pp. 1–428).

Ministério da Saúde. (2020). Portaria nº 454, de 20 de março de 2020. In *Declara, em todo o território nacional, o estado de transmissão comunitária do coronavírus (covid-19).*

Neto, J. B. dos S. B., Castro, T. M. G. de, Borges, R. C., Reis, D. L. dos, Medeiros, T. de S. P., Caldato, M. C. F., Veloso, N. da F., Teixeira, R. da costa, Sousa Júnior, J. R., & Magno, I. M. N. (2020). Construção de tecnologias educativas como forma de educação em saúde para a prevenção da Covid-19: relato de experiência. *Revista Eletrônica Acervo Saúde*, *12*(9), e-3737.

Pena, P. G. L., & Gomez, C. M. (2014). Health of subsistence fishermen and challenges for Occupational Health Surveillance. *Ciência & Saúde Coletiva*, *19*(12), 4689–4698. https://doi.org/10.1590/1413-812320141912.13162014

Percin, F., Akyol, O., Davas, A., & Saygi, H. (2012). Occupational health of Turkish Aegean small-scale fishermen. *Occupational Medicine*, *62*, 148–151. https://doi.org/10.1093/occmed/kqr181

Rêgo, R. F., Müller, J. dos S., Falcão, I. R., & Pena, P. G. L. (2018). Vigilância em saúde do trabalhador da pesca artesanal na Baía de Todos os Santos: da invisibilidade à proposição de políticas públicas para o Sistema Único de Saúde (SUS). *Revista Brasileira de Saude Ocupacional*, *43*(1), 10. https://doi.org/10.1590/2317-6369000003618

Ribeiro, C. R. B., & Sabóia, V. M. (2015). Educação popular em saúde com pescadores: uma experiência fora da "zona de conforto" da enfermeira. *Cuidado é Fundamental Online*, *7*(3), 2846–2852. https://doi.org/10.9789/2175-5361.2015.v7i3.2846-2852

Rodrigues, C. F. do C., Silva, M. da V. F. B., Souto, L. F. de S., Silva, E. A. A. da, Mocelai, R. S., Rodrigues, A. L. M., Coelho, S. C. D., & Abrão, R. K. (2020). Promoção de saúde para mulheres em território de vulnerabilidade social: comunidade a Saroba. *Research, Society and Development*, *9*(10), e8159109116. https://doi.org/10.33448/rsd-v9i10.9116

Silva, B. K. R., Dos Santos Figueiredo, F. W., Da Silva Maciel, E., Quaresma, F. R. P., & Adami, F. (2019). Factors associated with perceived quality of life in artisanal fishermen: A cross-sectional study. *BMC Research Notes*, *12*(1), 1–7. https://doi.org/10.1186/s13104-019-4525-4

Silva, E. de S. M., Ono, B. H. V. S., Souza, J. carlos, & Menin, I. B. F. (2020). Mídia e promoção da saúde em tempos de COVID-19. *Research, Society and Development*, *9*(8), e842986252. https://doi.org/10.33448/rsd-v9i8.6252

Sørensen, K., Pelikan, J. M., Röthlin, F., Ganahl, K., Slonska, Z., Doyle, G., Fullam, J., Kondilis, B., Agrafiotis, D., Uiters, E., Falcon, M., Mensing, M., Tchamov, K., Broucke, S., & Brand, H. (2015). Health literacy in Europe: comparative results of the European health literacy survey (HLS-EU). *European Journal of Public Health*, *25*(6), 1053–1058. https://doi.org/10.1093/EURPUB/CKV043

Teixeira, M. C. (2012). A invisibilidade das doenças e acidentes do trabalho na sociedade atual. *Revista de Direito Sanitário*, *13*(1), 102. https://doi.org/10.11606/issn.2316-9044.v13i1p102-131