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## INTEGRATIVE REVIEW OF THE LITERATURE

### A saúde de pescadores artesanais e ocorrência de feridas cutâneas: novos rumos para a enfermagem

Health handmade's fishermen and occurrence of skin wounds: new directions for nursing

La salud de pescadores artesanales y ocurrencia de heridas de la piel: nuevas direcciones para la enfermeira

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#### ABSTRACT

**Objective:** To synthesize the scientific literature on the health of fishermen that brings reflections on skin wounds. **Method:** integrative review with data collection from April to May 2013. Five articles in the databases LILACS, Medline and Scielo were selected. **Results:** five articles (100%) show fishing as a precarious labor activity, noting the occurrence of accidents and injuries at work. Regarding the essence of content and knowledge production, issues related to the shortage of health policies for the fisherman, precarious labor laws and lack of information on epidemiological and health surveillance stood out. **Conclusion:** it is recognized the need of returning attention of nurse researchers for this population of workers, since previous studies point to the urgency of measures aimed at the promotion, prevention and recovery of those fishermen's health. **Descriptors:** Health, Occupational health, Health education, Nursing.

#### RESUMO

**Objetivo:** Sintetizar a produção científica sobre a saúde de pescadores que tragam reflexões sobre feridas cutâneas. **Método:** revisão integrativa com período de coleta de dados de abril a maio de 2013. Foram selecionados cinco artigos nas bases de dados: LILACS, Scielo e Medline. **Resultados:** os cinco artigos (100%) evidenciam a pesca como uma atividade laborativa precária, salientando a ocorrência de acidentes de trabalho e de ferimentos. Em relação à essência do conteúdo e produção do conhecimento, destacaram-se questões relacionadas à escassez de políticas voltadas para a saúde do pescador, precariedade de leis trabalhistas e inexistência de informações sobre vigilância epidemiológica e sanitária. **Conclusão:** admite-se a necessidade de voltar à atenção de pesquisadores enfermeiros para esta população de trabalhadores, uma vez que estudos prévios apontam para a urgência de medidas voltadas para a promoção, prevenção e recuperação da saúde dos pescadores. **Descritores:** Saúde, Saúde do trabalhador, Educação em saúde, Enfermagem.

#### RESUMEN

**Objetivo:** Sintetizar la literatura científica sobre la salud de los pescadores que traen reflexiones sobre las heridas de la piel. **Método:** periodo de revisión integradora con la recopilación de datos, de abril a mayo de 2013. Se seleccionaron cinco artículos en las bases de datos LILACS, Scielo y MEDLINE. **Resultados:** Los cinco elementos (100%) muestran la pesca como una actividad laboral precaria, teniendo en cuenta la ocurrencia de accidentes y lesiones. En cuanto a la sustancia del contenido y la producción de conocimientos se destacaron problemas relacionados con la escasez de políticas para la salud de los pescadores, las leyes laborales precarias y la falta de información sobre la vigilancia epidemiológica y de salud. **Conclusión:** Se reconoce la necesidad de volver al cuidado de las enfermeras investigadoras para esta población de trabajadores, ya que los estudios previos apuntan a la urgencia de las medidas encaminadas a la promoción, prevención y recuperación de los pescadores. **Descriptor:** Salud, Educación para la salud, Salud de los trabajadores, Enfermería.

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## INTRODUCTION

The skin is the largest organ of the body, constantly adapting to the needs imposed by the external environment, and it is therefore considered a protection system against the external environment and the maintenance of homeostasis in the internal environment.<sup>1</sup> The skin takes on functions like body thermoregulation, perception, excretion and secretion of several substances capable of ensuring the biochemical protection on its surface and protecting the internal structures of the action of pathogenic micro-organisms.

When the skin is injured, the epidermis acts to regenerate the surface of the wound and restore the barrier against invading organisms while the dermis responds to restore structural integrity (collagen) and the physical properties of the skin.<sup>2</sup> Better understanding the function of the skin enables to identify wounds that pose risks to individual's safety and triggers a complex healing response.

Depending on the working conditions, skin wounds may be something not uncommon in the lives of some workers, including artisanal fishermen. Artisanal fishermen use extremely simple vessels such as dinghies or kayaks, participating directly on capturing and using relatively simple tools.<sup>3</sup>

Apart from occupational diseases, they are exposed to daily risk of physical trauma and consequent appearance of skin wounds in different moments of fishing activity, from the launch of the drift net to the removal of the hook from the fish. These wounds become therefore entryways for micro-organisms of various species present in human skin itself or which are present in contaminated water, which may be an aggravating factor in the healing process. Thus, artisanal fishermen who perform activities in environmentally degraded areas, by dumps for household and industrial waste, besides illnesses for reasons inherent to the profession, are subject to biological contamination by direct contact.

From this background, the research problem sets on actual health conditions of artisanal fishermen, in view of the risk of injury and contamination during the fishing activity of these in an often unhealthy work environment.

In face of the reality of poor life for many fishermen<sup>4</sup>, it is necessary to think about the possibility of expanding the nurse look beyond hospital and academic spaces, towards the fisherman worker who sometimes is overlooked in the face of social and environmental changes of the 21st century. We need to recognize the risks to which this group is exposed related to the loss of skin integrity and what has been done in the care of these wounds. It is thought, therefore, to be very important to know the existing studies on the health of this occupational category with respect to the occurrence of skin wounds.

Given the above, we draw as study objective to synthesize the scientific literature on the health of fishermen, which brings reflections on skin wounds in this group of workers, considering its applicability in practice of health care.

## METHOD

This is a study of integrative review in the following databases of the Virtual Health Library (VHL): LILACS (Literature Latin American and Caribbean Health Sciences), SciELO (Scientific

Electronic Library Online) and Medline (Literature international), with the period of data collection from 04/03/13 to 12/05/2013. This period was used for the selection of references and brief reading.

The integrative review is a research method, in general covered in six steps, which allows searching, critical appraisal and synthesis of available evidence from research theme, and its end product is the current state of knowledge of the investigated topic.<sup>5</sup> The large sample size, together with the multitude of proposals, must generate a consistent and understandable overview of complex concepts, theories or health issues relevant to nursing.<sup>6</sup>

To build the first stage of this integrative review, it was identified the theme and designed the research question as follows: What is the knowledge produced on the health of fishermen that portray the occurrence of injuries in this group of workers during the exercise of its function?

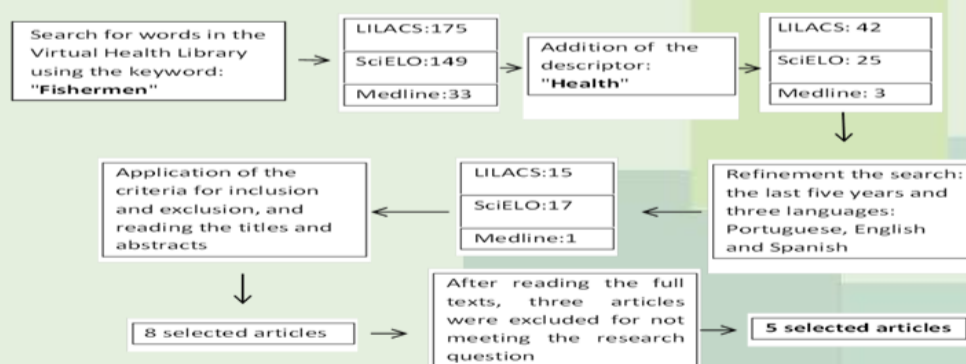
In the second step, for the search in the databases, we chose to use the keyword "fishermen", the descriptor "health" and Boolean operator "and", in the association between them. The replacement of the descriptor by keyword is justified as the essential term to the search fisherman is not willing as descriptor According to Descriptors in Health Sciences. Even at this stage, the inclusion criteria was established: the adherence to the objective and the proposed theme; articles published in Portuguese, English and Spanish; original full articles portraying the theme of health of fishermen and occurrence of skin wounds in this group; and articles published and indexed in these databases selected in the last five years (2009 - 2013). And exclusion criteria: published articles that were repeated; articles that did not address the mentioned issue; those that were not published in full and items with year of publication prior to 2009. The covered path is described by the flow diagram (Figure 1).

The third stage consisted of the selection of scientific papers, using a data collection tool to organize and summarize key information, described by the table (Figure 2), according to journal name, year of publication, database in which it was found, title, type of survey, type of article, and main results. Data categorizing was subsequently held.

In the fourth step, the studies included in the integrative review were analyzed in detail to ensure the validation of the review.

In the fifth and sixth stages, respectively, the results were interpreted from the discussion of notes made by various authors, and the synthesis of the knowledge produced about the health of fishermen and skin wounds was highlighted.

**Figure 1.** Path to search for articles in databases: LILACS, SciELO and MEDLINE from April to May 2013



Source: author (2013).

## RESULTS E DISCUSSION

Figure 2 - Selected Articles of databases: LILACS, SciELO and MEDLINE (2009-2013)

Journal	Year	Database	Title	Type research	Type article	Main results
1 Revista Brasileira de Saúde Ocupacional	2013	LILACS/SciELO	A policy for the health of self-employed worker: the case of artisanal fishermen and shellfishers	Qualitative Case Study	Scientific Article	It was evidenced poor living conditions, invisibility of accidents and occupational diseases. Besides lack of prevention and health care.
2 Revista Saúde e Sociedade	2012	LILACS/SciELO	Access to Health Services, Health Status and Exposure to Risk Factors: perception of coastal fishermen of the Machado Ji-Parana River, RO	Qualitative Field Study	Scientific Article	The research population perceives to be exposed to various risks and health problems. At work, there is risk of accidents, drowning and other hazards due to the absence or weakness in the use of Personal Protective Equipment
3 Revista da Sociedade Brasileira de Medicina Tropical	2012	LILACS/SciELO	Traumas and poisonings by stingrays and other fish in a fishing colony in depth for Paranapanema, State of São Paulo, Brazil: epidemiology, clinical aspects and therapeutic and preventive proposals	Quantitative Field Study	Scientific Article	The fishermen had multiple accidents by mandis, which are poisonous and cause severe pain, and trauma caused by other fish, as surubins, traíras, freshwater croakers and piranhas. In addition to creating a brochure easily assimilated by the local populations.
4 Revista da Sociedade Brasileira de Medicina Tropical	2010	LILACS/SciELO	Traumas and poisonings by aquatic animals of fishermen in Coxim and Corumbá, State of Mato Grosso do Sul, Brazil: identification of causative agents, clinical aspects and first aid measures	Quantitative Field Study	Scientific Article	Data from this study are relevant to the fishing communities of the Pantanal, since they reveal high rates of accidents, no notions of first aid or preventing accidents and lack of medical care continued along with these populations.
5 Revista Ciência Saúde Coletiva	2010	LILACS/SciELO/Medline	The health risks of crab pickers and fishermen of Guanabara Bay	Qualitative and quantitative Field Study	Scientific Article	Diseases presented by the subjects are related to weight overload, the great working hours and all situations of danger they are exposed in their activities. Great difficulties these workers to perform their work have been identified; there is an urgent need for measures that would improve their conditions of work and life.

Source: author (2013).

According to the table, all five articles (100%) show fishing as a precarious labor activity, noting the occurrence of workplace accidents and injuries during this activity.

Regarding the essence of content and knowledge production, it is highlighted in Articles 1, 2 and 5 questions related to the shortage of health policies for the fisherman, precarious labor laws and lack of information on epidemiological and health surveillance in this professional category.

Articles 3 and 4 refer to the high incidence of injury to the fish itself, and other marine and freshwater animals, highlighting the major animal species that cause injuries.

To elucidate the results and analysis, emerging data from selected articles were grouped and categorized, thus facilitating the understanding of the thematic discussion. After thorough reading of the texts, we have created two categories: Interference of social and environmental aspects in the health conditions of the fishermen; and Occupational risk, traumatic accidents and skin wounds: the reality of a class of neglected workers.

**Category 1) Interference of social and environmental aspects in the health conditions of the fishermen**

Working in fishing is ancient and dates back to the production modes of collectors and hunters. It is a process of pre-capitalist labor, who crossed in ancient times modes of agricultural, slave, and feudal production, and that persists to the present day in many regions of the globe.<sup>7</sup>

Fishing can be divided into three categories: commercial fishing, subsistence fishing and artisanal fishing. In the artisanal fishing, the fisherman actually participates in the whole process that involves fishing activity, such as preparation of the instruments used (net and hook), catching the fish, storage, sale. Thus, the job involvement and the consequent daily workload that provides for this purpose is large, which enhances the risks they undergo. Study shows that fishermen have been increasing working hours, both with regard to number of hours working as the distance traveled to reach the shoals.<sup>8</sup>

In Brazil, official data indicate that there are 833 205 artisanal fishermen.<sup>9</sup> It is assumed between the fisherman and the artisanal fishing a relationship of informality. Therefore, this category is not protected in the labor contract with the employer against existing risks and there are no policies in the health system that guarantee actions similar to those for employed people. As a result of this reality, we observe ignorance of occupational diseases, keeping them as invisible and neglected diseases, considering that they persist in the absence of prevention, treatment and rehabilitation actions.<sup>10</sup>

Another dilemma faced by fishermen in the social realm is the low income generated by artisanal fisheries. Many amid the economic pressure and the lack of conditions for transportation of their goods to markets find themselves at the mercy of middlemen who impose prices far below the real value of fish they catch.<sup>11</sup>

Social problems like these may precipitate psychological changes and justify the behavior of some fishermen. There are cases of psychiatric disorders such as schizophrenia, alcohol abuse and smoking in resident fishermen in Vigia (PA).<sup>4,12</sup>

In studies, several fishermen present diseases/complaints, including: pain in the back, leg, muscle, wrists, arms, knuckles, shoulders, chest, vision problems, headache, skin diseases, respiratory problems, such as bronchitis, pneumonia, colds and flu, translated by bouts of coughing, shortness of breath and nasal obstruction.<sup>4,11</sup> Diseases/complaints that can be easily linked to climate variations that they are exposed due to the work done primarily at dawn and weight overload with consequent postural inadequacy.

Authors of the articles discuss the precarious and sometimes non-existent sanitary sewage in the researched area where the fishermen live. This fact may lead to frequent occurrence of waterborne diseases, including deaths. The environmental issue was cited in two other articles, corroborating the importance that should be given to it when thinking about occupational health.

We believe that in the case of fishermen, contamination of the aquatic environment may contribute significantly to health. In addition to the circulating pathogenic micro-organisms from the discharge of domestic sewage into rivers, it is also possible to observe common waste such as broken glass and other sharp materials, which increase the risk of injuries and diseases like tetanus, since many are not vaccinated.

Many fishermen complain about the terrible service of hospitals and clinics in the region, and the lack of doctors and specialized services. For most of the fishermen, fishing is the only source of funding, so delays for medical care causes many forgo discovering an accurate diagnosis in order to return more quickly to fishing activity and overcome the financial need of their families.<sup>11</sup>

Thus, as recommended by the authors, we need to find urgent measures that can improve their living conditions, give social and health visibility to this issue so that is the subject of public health policies aimed at self-employed person and who live in traditional communities found across the country. And also the need for expansion of health care, with improvements in sanitation and

expansion of the Family Health Strategy, which includes promotion, prevention, recovery, rehabilitation of illness and more frequent diseases, enabling social participation according to the guidelines of the Ministry of Health.<sup>10-11</sup>

### **Category 2) Occupational risk, traumatic accidents and skin wounds: the reality of a class of neglected workers**

Due to the precarious living conditions, fishermen are subject to various types of accidents in work. In one of the articles, the proportion of incidence of occupational accidents obtained for the study population was 85.9% per year.<sup>8</sup> And among the main types of accidents that have already occurred in the articles, we can mention: drowning in water, accidents with venomous marine animals, fish traumatic structures; needle stick injuries with shellfishes, stones and other existing conditions in the aquatic environment of mangroves that cause injuries, fractures, risk of tetanus, accidents with rays, among others.

The skin wounds generated as a result of injuries are a reality in the lives of many fishermen. In a study, 39 of the interviewed fishermen, all (100%) had been injured by fishes.<sup>13</sup>

Another study on occupational accidents with fishermen of Araguacema River, in Tocantins, reveals that the main cause of accidents is due to injury by aquatic animals at the time of removal of fish from the hook or net, and the upper and lower limbs parts of the body are the most affected.<sup>8,14</sup> Traumatic injuries can cause intense pain and ulcer by poisoning of certain species of fish and the possibility of fungal contamination by traumatogenic structures of some fluvial fish.

Stressful working conditions, inattention to basic preventative measures and carelessness were some factors that contributed to the accident.<sup>8,10,14</sup> However, the ability of some species of poisoning or producing mechanical trauma and the use of ineffective first aid and patient treatment contributed to the high morbidity and complications in many cases.

Traumatic accidents still favored the contamination of wounds by pathogenic microorganisms, such as vibrios and related to them, being isolated bacteria of the genera *Serratia*, *Proteus*, *Escherichia*, *Citrobacter*, *Enterobacter*, and other non-fermentative bacteria and Gram positive bacteria of the genus *Staphylococcus*. Many of these skin lesions have mixed infections, and it can be expected to ubiquitous organisms (*Enterobacteriaceae*) and commensals associated with skin (*Staphylococcus* and *Streptococcus*) are present in any injury, no matter the location of contamination.<sup>15</sup>

It is noteworthy that infection of skin wounds caused by vibrio species is installed after exposure to aquatic environments, and injuries begin with small wounds, sometimes already existing, or from lacerations caused by accidents in the workplace. There are descriptions of cases of superficial septic injuries of patients, which were exposed to the marine or other water environments, and of which several species of vibrio were isolated, indicating the possible pathogenic role of this bacterium.<sup>16</sup>

An important finding in relation to nursing actions with the target population was the form of treating injuries adopted by the fishermen. Study shows the prevalence of use of traditional knowledge in the care of wounds. It is observed the use of substances such as gasoline, olive oil, mercury, alcohol and swabs of the eye of the fish itself in the wound.<sup>13</sup> It is known in scientific circles, however, that there is no scientific evidence for the positive effect of these substances on wound healing.

It is noted the importance of an education program for the treatment of skin wounds and other aspects involving fishermen's health.

The nurse, when assuming the role of educator, needs to be able to recognize new courses of action for the transformation of reality. In a study on health education, the authors refer to the educational model proposed by Freire, in which people are encouraged to develop a critical

awareness of the collective problem analysis process in seeking joint solutions and strategies to change of reality.<sup>17</sup>

Thus, it is understood from the survey that the health care contributes to strengthen the visibility of nurse and social representation of the profession<sup>18</sup> in the context of fishermen's health through an articulated care with the health promotion, prevention and education, involving both the individuality of the fisherman and the environment in which he is inserted.

## CONCLUSION

The construction of worker's health involves the recognition of several worlds of work entered in the complexity of Brazilian society, among these, the artisanal fishing.

The integrative review provided a research of the latest knowledge in this specific subject, since it identified, analyzed and synthesized the results of other investigations about fishermen's health and skin wounds, seeking to contribute to the comprehensive care of this little valued population group.

Since the conducted search until the selection of five articles concerning the subject, it was noted that there is no scientific publications made by nurses in the area, which further increases the relevance of this study and contributes to the effective participation of nurses in research involving the search for new alternatives to improve the health conditions of fishermen.

Because of the large number of artisanal fishermen who currently carry out their fishing activities in places without proper sanitation and reduced studies in this profession, we must admit the need to turn the attention of nurse researchers for this population of workers, since studies previously performed with this worker category point to various diseases, risks of accidents with consequent skin wounds and infection by micro-organisms present in the water during their fishing activities, without even having access to information on such risks, urgency of measures aimed to promotion, prevention and rehabilitation of health.

Although the discharge of domestic and industrial waste and its contribution to pollution of aquatic environments, it is believed that nurses, as agents of the health work process, can play an important role in health education. However, aiming to educate, one must immerse oneself in the universe of students, meet their social contexts, so as to contribute effectively to improving the quality of life of fishermen.

Thus, it is expected that the impact of this study not only occur for the enhancement of theoretical issues, but especially to foster critical thinking of other nurses and other professionals who are scholars on the subject.

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