



## Health damage related to work in shellfish gatherers in Recife city, Pernambuco

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### **ABSTRACT**

The aim of this study is to describe the socioeconomic profile and health damage related to shellfish harvesting among women in the city of Recife, Pernambuco. This is a descriptive cross-sectional epidemiological study, with data collected in 2021,

where a socioeconomic questionnaire and the Work-Related Injury Assessment Scale (EADRT) were used. 43 shellfish gatherers from the city of Recife with an average age of 48 years were interviewed, where 86% declared themselves to be black or brown, 55.8% were single, 76.7% received less than one minimum wage, and 41.9% were the only economic home providers. Regarding occupational data, the average working time in this activity was 25 years, working 4 days a week and 7 hours on average per day. 79.1% reported using Personal Protective Equipment and 79.1% reported having had some type of accident at work. As for physical complaints, 90.7% reported having body pain. Regarding social aspects, 41.9% felt like being alone and in the emotional issue, 51.2% reported a feeling of emptiness. In view of this, a high number of work accidents was found, despite the high report of PPE use. An important number of musculoskeletal and emotional pain complaints were also observed.

**Keywords:** shellfish gatherers, artisanal fishing, occupational health, musculoskeletal complaints, public health surveillance.

## **1 INTRODUCTION**

Work in globalization and modernity is marked by flexibilization and social precarization. This precarization is characterized by intense rhythms and increased competitiveness, failures in prevention and dilution of responsibilities in relation to work accidents, lack of recognition and social valorization, weakening of bonds, rupture of professional trajectories, trivialization of social injustice, among other characteristics that degrade working conditions and can lead the worker to physical and mental illness (FRANCO T, DRUCK G, SELIGMANN-SILVA E, 2010).

In 1991, Dahlgren and Whitehead proposed the Social Determinants model, which deals with socioeconomic, environmental, cultural, living and working conditions, as well as individual factors that are methodologically divided into a few layers according to their level of coverage, but that directly influence the emergence of diseases or health promotion in individuals and collectives (SOBRAL, A; de FREITAS, C M, 2010).

In this model, the condition of the work is directly or indirectly responsible for the production of health or disease and therefore the individual must be protected by their labor rights, presence of a place and tools suitable for the production of this work in order to avoid diseases and occupational accidents and, if this happens, have their rights guaranteed (SOBRAL, A; de FREITAS, C M, 2010).

According to the International Labor Organization (ILO), fishing is a hazardous occupation compared to other activities due to the numerous types of exposure that the individual suffers. The National Classification of Economic Activities (CNAE) assigns Fishing and Aquaculture (Code A -01 03) a medium risk level (GR-3). Anyway, in artisanal fishing, male and female workers are exposed to strenuous solar radiation, often low light during night work, motor noise, accidents with fishing tools and perforating animals, drowning, besides the overload of weight and unhealthy conditions. These exposures added to an informal work process, without protection and labor guarantees, increase the probability of occurrences of occupational damage (FREITAS, Marcelo Bessa de; RODRIGUES, Silvio Cesar Alves, 2020).

In shellfishing, the professionals, most of whom are women, work in several stages, including the collection of shellfish, the harvesting, until the sale of the final product. In this process, the postures adopted and repetitive movements for a long period, sun exposure and high luminosity on the eyes, the permanence inside the mangrove or sea during collection can cause health problems to these workers (MINISTRY OF HEALTH, 2018). Often, the working conditions of artisanal fisherwomen are precarious, unavailable of a minimum structure for the processing and beneficiation of the seafood produced, contributing to the production of diseases for these women as shown in some studies (FALCAO, Ila Rocha et al, 2019; FALCAO, Ila Rocha et al, 2015; PENA, P.G.L.; FREITAS, Maria do C.S. de; CARDIM, A. 2011).

In 2012, the World Bank estimated that there were around 56 million people in the world who worked in small-scale fishing, distributed among the Asian, African, and Latin American continents, 47% of which were women at various stages. The participation of these women in this work process goes back to the pre-colonial period. However, it was between the 1980's and the 1990's that there was the consolidation of the fisherwoman. In addition, they usually perform dual functions, as they also take care of household and family chores, increasing the physical and mental overload (FONSECA, Marília et al, 2016).

This overload that exacerbates the signs and symptoms produced by working conditions in the health and disease process is usually not made visible, and because of this, little interference to manage the risks is offered (COSTA, C. A. da, 2019).

Given the above, this article aims to describe the socioeconomic profile of shellfish gatherers in the city of Recife, as well as the work-related health harms.

## 2 METHODOLOGY

The present study follows the quantitative, cross-sectional and descriptive method. It was conducted with shellfish gatherers associated with the Fishermen and Fisherwomen Colony - Z1 - The letter "Z" is used because of the zoning that was established by the military (SILVA, Felipe Francisco Regueira da,

2017) - located in Recife, in the neighborhood of Brasília Teimosa, where artisanal fishing has always been constant and moves the local economy.

The type of sample was non-probability intentional sampling, where all shellfisherwomen associated with the Colony were invited through official communication vehicles, in this case social networks managed by the administration. The inclusion criterion was to be over 18 years old and to have been working as a shellfish gatherer for over a year. Those who were not performing the function during the data collection period were excluded.

The data were collected by a single researcher between the months of September and October 2021 in the space of the Fishermen and Fisherwomen Colony on an individual basis. A total of 4 meetings were held, but each shellfish gatherer attended the space only once, on the day and time previously arranged after being summoned by the media. Two instruments were used: The first was prepared by the researchers and contained socioeconomic data (age, race, education, marital status, average monthly income, economic provider of the household, number of residents in the residence) and occupational data (time of work as a shellfish maker, hours per day and weekly frequency worked, age when starting work, social security contribution, use of personal protective equipment (PPE), work accident, and most strenuous phase of shellfishing).

The second instrument used was the Escala de Avaliação de Danos Relacionados ao Trabalho (EADRT), validated in Brazil, which has 29 items and is composed of three factors: physical damage (item 1 to 12); psychological (item 13 to 22), and social (item 23 to 29). This scale has the objective of evaluating the damage caused by work in the last six months, with a score from 0 to 6. Thus, 0 = not at all, 1 = once, 2 = twice, 3 = three times, 4 = four times, 5 = five times, and 6 = six or more times (PRESTES, Francine Cassol et al, 2016).

In the EADRT, the items portray very serious health-related situations: their appearance and repetition at a moderate level already signifies illness. For this reason, the midpoint of this scale, although it is 3.0, is broken down into two intervals with a variation of one standard deviation. Thus, the results must be classified into four levels: Above 4.1 corresponds to the most negative assessment with the presence of occupational diseases; Between 3.1 and 4.0 refers to the moderate assessment for frequency of occupational diseases; Between 2.1 and 3.0 refers to the moderate assessment for frequency of occupational diseases. uente, considered severe, without confirmation of occupational injury; Between 2.0 and 3.0 is a moderate, critical evaluation; And below 1.9 = Most positive or bearable evaluation (FACAS, Emílio Peres, 2013). In our study, we considered only the most negative evaluation, that is, above 4.1, being positive for occupational diseases.

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 28.0, by calculating descriptive statistics: absolute and relative frequencies for categorical variables and measures of central tendency (mean) and dispersion (standard deviation (SD)) for quantitative variables. The study

was approved by the Research Ethics Committee of the Faculdade Pernambucana de Saúde, under opinion no. 4.696.662, on May 6, 2021. All participants received clarification about the research and signed the Informed Consent Form (ICF).

### 3 RESULTS

Currently, there are around 416 shellfish gatherers associated in the Fishermen's Colony Z-1, however, only 43 showed up and were included in the research.

The mean age of the interviewees was 48 years (SD= ±8.5), the minimum age found was 25 and maximum 65 years, 69.8% (n=30) were in the age range between 36 and 55 years. Regarding color, 86% (n=37) of the women identified themselves as brown or black. Regarding marital status, 55.8% (n=24) reported being single. Regarding the level of education, 53.5% (n=23) did not complete elementary school. 76.7% (n=33) of the participants earned less than one minimum wage and 41.9% (n=18) of the interviewees were the only economic provider in the household. Regarding the number of people living in the house, 30.2% (n=13) of the shellfish gatherers had more than 4 people in the house, while the houses with 1, 2 or 3 residents corresponded to 23.3% (n=10) each (Table I).

Table I. Representation of socioeconomic data expressed in absolute numbers (n) and relative numbers (%).

Socioeconomic Data		
Age	N	%
25 - 35 years old	2	4,6%
36 - 45 years old	15	34,9%
46 - 55 years old	15	34,9%
56 - 65 years old	11	25,6%
<b>Color</b>		
Brown	28	65,1%
Black	9	20,9%
White	5	11,6%
Indigenous	1	2,3%
<b>Marital Status</b>		
Married	15	34,9%
Single	24	55,8%
Divorced	1	2,3%
Widow	3	7%
<b>Education</b>		
Elementary School Complete	1	2,3%

Incomplete Primary Education	23	53,5%	
High School Complete	12	27,9%	
Incomplete High School	5	11,6%	
Illiterate	2	4,7%	
<b>Monthly Income</b>			
Less than 1 minimum wage	33	76,7%	
Between 1 and 2 minimum wages	10	23,3%	
<b>Economic Provider of the House</b>			
Interviewee	18	41,9%	
Companion	12	27,9%	
Both	11	25,6%	
Other	2	4,7%	
<b>Residents in the household</b>			
1	10	23,3%	
2	10	23,3%	
3	10	23,3%	
4	12	27,9%	
5	1	2,3%	÷

Regarding occupational data, the average time of work was 25 years ( $SD\pm 11.7$ ), but most women, 37.4% ( $n=16$ ), reported working with between 11 and 20 years. They work on average 4 days per week ( $SD\pm 1.2$ ), performing an average of 7h of work per day ( $SD\pm 2.4$ ), with 67.5% ( $n=29$ ) working between 5 to 8 hours per day. And 58.1% ( $n=25$ ) of the interviewees reported that they started their life as a seafood worker between 7 and 18 years old (Table II).

Regarding the use of PPE, most 79.1% ( $n=34$ ) reported using some type of equipment during work. The most used equipment were hat, with 74.4% ( $n=32$ ), and long-sleeved shirt, with 51.2% ( $n=22$ ), while the least cited were sunglasses, 7% ( $n=3$ ), pants 18.6% ( $n=8$ ), gloves 37.2% ( $n=16$ ). (Table II).

With regard to accidents accidents, it was observed that 79.1% (34) women had already had an accident. The most frequent types of accidents were cutting and perforation, both corresponding to 52.2% ( $n=22$ ), followed by falling, burning, and drowning, 18.6% ( $n=08$ ), 16.3% ( $n=07$ ), and 7% ( $n=03$ ), respectively. Regarding the most tiring phase of shellfishing, 51.2% ( $n=22$ ) of the shellfisherwomen stated that collection was the most tiring phase (Table II).

Table II. Representation of occupational data expressed as absolute numbers (n) and relative numbers (%).

Occupational Data		
<b>Years of work</b>	<b>n</b>	<b>%</b>
4 - 10 years	10	23,2%
11 - 20 years old	16	37,4%
21 - 30 years old	7	16,3%
31 - 40 years old	9	21,1%
41 - 50 years old	1	2,3%
<b>Hours per working day</b>		
1 - 4 hours	6	14%
5 - 8 hours	29	67,5%
9 - 12 hours	8	18,6%
<b>Weekly frequency</b>		
1 - 3 times	23	53,5%
4 - 7 times	20	46,5%
<b>Age at start of work</b>		
7 - 18 years old	25	58,1%
19 - 29 years old	6	13,9%
30 - 39 years old	9	21%
40 - 49 years old	3	7,0%
<b>Pension Contribution</b>		
Yes	39	90,7%
No	04	9,3%
<b>Works in another activity</b>		
Yes	17	39,5%
No	26	60,5%
<b>Other Activities</b>		
Autonomous	05	29,4%
Does cleaning, housekeeping	04	23,5%
Fish Salesperson	06	35,9%
Elderly caregiver	01	5,9%
Network patching	01	5,9%
<b>Use of PPE</b>		
Yes	34	79,1%
No	09	20,9%

**Long-sleeved shirt**

Yes	22	51,2%
No	21	48,8%

**Hat**

Yes	32	74,4%
No	11	25,6%

**Gloves**

Yes	16	37,2%
No	27	62,8%

**Boots/Shoes**

Yes	20	46,5%
No	23	53,5%

**Pants**

Yes	8	18,6%
No	35	81,4%

**Sunglasses**

Yes	3	7%
No	40	93%

**Sunblock**

Yes	20	46,5%
No	23	53,5%

**Occupational Accident**

Yes	34	79,1%
No	09	20,9%

**Cut**

Yes	22	51,2%
No	21	48,8%

**Drop**

Yes	08	18,6%
No	35	81,4%

**Burn**

Yes	07	16,3%
No	36	83,7%

**Drilling**

Yes	22	51,2%
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No	21	48,8%
<b>Drowning</b>		
Yes	03	7%
No	40	93%
<b>Shellfish harvesting phase more tiring</b>		
Collect	22	51,2%
Clear	09	20,9%
Thresh	10	23,3%
Cooking	02	4,7%

About work-related injuries, it was observed that in the item "physical injuries" there was an expressive report from the shellfisherwomen regarding musculoskeletal complaints, 90.7% (n=39) reported body pain, 81.4% (n=35) reported arm pain, while 88.4% (n=38) and 90.7% (n=39) confirmed having back and leg pain, respectively, and 71.1% (n=31) expressed having circulatory disorders (Table III).

As for the social aspect, 41.9% (n=18) revealed feeling like being alone, 41.9% (n=18) also felt impatient with people in general, and 30.2% (n=13) reported having family conflicts.

Regarding emotional damage, 51.2% (n=22) reported a feeling of emptiness, 46.5% (n=20) reported feeling bitterness, 41.9% (n=18) and 37.2% (n=16) exposed feelings of helplessness and sadness, respectively. 32.6% (n=14) ever felt like giving up everything and 30.2% (n=13) feel or have felt loneliness (Table III).

Table III. Work-Related Injury Rating Scale variables expressed in absolute numbers (n) and relative numbers (%).

EADRT		
Variables	n	%
<b>Pain in the body</b>		
Yes	39	90,7%
No	4	9,3%
<b>Pain in the arm</b>		
Yes	35	81,4%
No	8	18,6%
<b>Headache</b>		
Yes	22	51,2%
No	21	48,8%
<b>Respiratory disorders</b>		
Yes	13	30,2%



No	30	69,8%
<b>Digestive disorders</b>		
Yes	21	48,8%
No	22	51,2%
<b>Back pain</b>		
Yes	38	88,4%
No	5	11,6%
<b>Hearing disorders</b>		
Yes	10	23,3%
No	33	76,7%
<b>Changes in sleep</b>		
Yes	24	55,8%
No	29	44,2%
<b>Leg pain</b>		
Yes	39	90,7%
No	4	9,3%
<b>Circulatory Disorders</b>		
Yes	31	72,1%
No	12	27,9%
<b>Insensitivity towards co-workers</b>		
Yes	6	14%
No	37	86%
<b>Difficulties outside of work</b>		
Yes	3	7%
No	40	93%
<b>Willingness to be alone</b>		
Yes	18	41,9%
No	25	58,1%
<b>Conflicts with family relationships</b>		
Yes	13	30,2%
No	30	69,8%
<b>Aggressiveness with others</b>		
Yes	6	14%
No	37	86%

<b>Difficulty with friends</b>		
Yes	2	4,7%
No	41	95,3%
<b>Impatience with general people</b>		
Yes	18	41,9%
No	25	58,1%
<b>Bitterness</b>		
Yes	20	46,5%
No	23	53,5%
<b>Feeling of emptiness</b>		
Yes	22	51,2%
No	21	48,8%
<b>Feeling of helplessness</b>		
Yes	18	41,9%
No	25	58,1%
<b>Bad mood</b>		
Yes	11	25,6%
No	32	74,4%
<b>Want to give up everything</b>		
Yes	14	32,6%
No	29	67,4%
<b>Sadness</b>		
Yes	16	37,2%
No	27	62,8%
<b>Irritation with everything</b>		
Yes	10	23,3%
No	33	76,7%
<b>Feeling of abandonment</b>		
Yes	12	27,9%
No	31	72,1%
<b>Doubts about abilities to perform tasks</b>		
Yes	8	18,6%
No	35	81,4%
<b>Solitude</b>		

Yes	13	30,2%
No	30	69,8%

#### 4 DISCUSSION

The results found in this research corroborate other studies already conducted with the population of shellfishermen in other states, where most women have not completed elementary school, self-declare as brown or black and receive less than one minimum wage as average monthly income (BARRETO, Leopoldo; BARRETO, Norma; PEREIRA, Adriana, 2013; FIGUEIREDO, NAIBE; SILVA, CLÁUDIO; HENRIQUES, VIRGÍNIA, 2017). This reflects the reality of many peripheral women, mostly black, who inhabit the coastal strip, because when they do not have the opportunity to complete the formal study, they resort to informal work in fishing, where the guidelines are passed orally and can perform the work process at home, autonomously (VIEIRA, BIANCA, 2017). And since artisanal fishing, although it corresponds to 45% of the fishing carried out in Brazil, is not valued, the financial return of this work is very low if compared to the whole process carried out (ROSA MFM, MATTOS UAO, 2010).

Having an average monthly income below one minimum wage exposes these women to low quality of life conditions, and also compromises management in the workspace, as it restricts access to personal protective equipment (SILVA, Rafaela Almeida da et al, 2017).

The majority presence of black women in artisanal fishing exposes the structural racism existing in society that places in informal work spaces and in unhealthy conditions people who are historically marginalized (VIEIRA, BIANCA, 2017).

Most of the women in this article self-declared that they were the main economic providers in the household, a situation that may occur because most of them also declared themselves to be single, thus needing to manage their homes independently. This data confirms what has been seen in Brazilian households, the significant increase in the number of households headed by women. In Brazil, according to data from the demographic census of the Brazilian Institute of Geography and Statistics (IBGE), in 2010 about 37.3% of households were headed by women, reaching 40% in 2015 (BATISTA, A L. COSTA, L. V., 2019).

As for the average number of years of work, daily hours worked, and the beginning of work in shellfishing, this study is similar to other reports. TRABUCO (2015) conducted a survey with 61 fishery workers, 56 of whom were shellfisherwomen and identified that the population studied worked on average for 29 years and around 9 hours per day, however as for the age of beginning to work in fishing, she found an average age of 16 years, different from the present study (TRABUCO, Anne Caroline Santiago Ramos., 2015). The study by FALCÃO et al, 2015, also showed that the shellfisherwomen in their research worked on average for 27 years, making 8.7h per day, with an age of onset of 16 years.

Some of these women, in order to supplement their monthly income, performed other parallel jobs, such as domestic service, reselling cosmetics and selling their own fish, which are informal activities and do not guarantee labor rights (ZACARIAS, Sheyla & Santana, Cruz & Loureiro, Carlos & Almeida, Tamires, 2015). But still, most of the shellfisherwomen contributed to social security, an important fact so that there is a minimum guarantee of maintaining life after the absence from work that can be momentary or definitive (BRASIL, 1991).

As far as Social Security is concerned, shellfish gatherers fall into the category "special insured" according to the normative instruction No. 08/97 of the Ministry of Social Security. To fit into this category they must: work in a family economy regime, have up to 4 fiscal modules that varies per municipality and per urban or rural area (from 5 to 75 hectares), have a boat with a maximum of 6 tons gross tonnage, that is, if the fisherman works alone or with family members and works in partnership with other people he can have a boat with up to 10 tons gross tonnage, which refers to the amount the boat can support. Farmers and extractivists are also included in this category (ALMEIDA, Marcella Cristina Ever de, 2016).

The unhealthy work environment of these women, which presents biological, chemical, physical, and ergonomic risks, favors work accidents, exposing these women to direct and indirect damage to their health (DA SILVA, N B A *et al.*, 2021). Cuts and perforations were the most reported accidents in the present study. The cuts happened mostly during the process of cleaning the fish, while the perforations occurred during the collection of shellfish in the tides or mangroves, usually by bones reaching their feet.

These findings of occupational accidents refer to the importance of the use of PPE, because these resources are able to prevent them, as is the case of boots and their protection against sharp instruments present in the tides (ALVES, Analee Cruz., 2016). Although PPE is of fundamental use, socioeconomic vulnerability often does not favor its acquisition.

Among the most commonly cited PPE are the long-sleeved UV blouse and the hat, both for protection against the sun. The use of other PPE, such as gloves, long pants, and boots or shoes are more neglected. Among the justifications reported in other studies is the lack of money for the purchase and/or maintenance of such equipment. As in the case of sunscreen, an indispensable resource, but that its high cost is beyond the reality of many shellfish gatherers (STADTLER, H H C., 2015). Thus, one of the greatest repercussions on the health of fisherwomen is related to the financial issue (MARTINS, Quéren da silva, 2015).

The occupational process of shellfishing requires that these women expose themselves long and often to the sun, which added to the reflection of the waters and the sea air predispose to skin changes that can lead to serious diseases due to cumulative exposure, such as melasma, photoaging, solar melanosis, and even skin cancer (SIMIS, Tatiana; SIMIS, Deborah Regina Cunha. , 2006; SILVEIRA, Thaís Lima Verde de Araujo, 2014). Therefore, it is of great importance to use PPE to protect them from the sun's ultraviolet rays.

Still on the work process, it is divided into a few steps: the collection, which consists in extracting the shellfish and fish from the mangroves or tides; the threshing, where the shellfish is separated from the shells; the cleaning or washing and cooking (ARAÚJO, Liane Marli Silva de, 2020). In this work, the collection was chosen as the most tiring phase, because usually at this time, women are subjected to a greater physical overload, exposed to the sun, keeping the same posture for long periods, sometimes with inclined torso forward and extended lower limbs, as well as the upper limbs in search of submerged fish, sometimes in a squatting posture, with flexed torso and lower limbs and extended upper limbs.

During the threshing phase, the fisherwomen are normally seated with their trunk and lower limbs flexed, as well as their elbows. At this time a great repetition of manual movements is required, reaching an average of 10,000 movements per hour, equivalent to that found in typing functions in modern services (PENA, Paulo Gilvane Lopes, Freitas, Maria do Carmo Soares de e Cardim, Adryanna, 2011).

In any case, such positions, each with its own particularities, favor ergonomic risks (GOIABEIRA, Fernanda dos Santos Lima., 2012). In the present article, the main physical complaints reported were body pain, arm pain, headache, back and leg pain, and circulatory problems. Such complaints corroborate the findings of the current literature. As exposed, the work conducted with 209 shellfish gatherers in Sarauba, Bahia, where 65% of the interviewees reported musculoskeletal complaints in the legs and 72.7% in the lumbar spine (VIANA, Wendel da Silva, 2015; COUTO, Maria Carolina Barreto Moreira, 2014). Another study also conducted in Bahia, in the city of Vera Cruz, reported that more than 70% of the 139 shellfisherwomen interviewed reported feeling in the last 12 months some complaint among pain, tingling or numbness in the neck region, shoulders and hands/fingers (SILVA, Rafaela Almeida da, et al., 2014).

A study conducted in some municipalities of Sergipe with 77 shellfish gatherers exposed similar complaints to our study, such as back pain, headache, pain in the legs, wrists, arms and knees, in addition to varicose veins, burning eyes, skin irritation/dryness and gynecological problems (FONTES, C dos S. Martins, M L S. Pena, P G L et al., 2017).

In this sense, Repetitive Strain Injury (RSI) is one of the main physical manifestations resulting from the physical overload of shellfishing. Compressive neuropathies, tendinitis and tenosynovitis, muscular and vascular syndromes are other dysfunctions that often affect these women and are recognized by the Ministry of Health and Social Security as occupational diseases. In addition, other complaints such as dermatitis, infections in the genitourinary tract, parasitic infections or by bacteria, fungi and protozoa; Leptospirosis, viruses are other occupational risks that threaten the physical integrity of these workers (MARTINS, V L A. PENA, P G L, 2014).

Regarding mental health, it was observed an important report of feeling of emptiness and bitterness, including when answering this part of the interview many were moved, revealing an emotional and psychological burden that these women endure. In other articles, shellfish gatherers also reported the

presence of anxiety, worry and feeling of exhaustion due to the process and working conditions (MARTINS, Quéren da silva., 2015).

This situation is worrisome, because with the countless roles they have to assume in their lives, added to the physical wear and the context of social vulnerability, mental health becomes one of the most neglected areas in the self-care process, because it is often not recognized as important among the other aspects of life.

. In Bahia, a study compared the quality of life of shellfish gatherers with that of the general population, and one of the conclusions was that although mental health was one of the best scores of the instrument applied to shellfish gatherers, it was still lower if compared to the general population and this could be related to the physical overload of work, as well as the accumulation of domestic chores, making the daily lives of these women stressful and highly dependent on their general health status (MÜLLER, JDS, Falcão IR, Couto MCBM, Viana WDS, Alves IB, Viola DN, Woods CG, Rêgo RF, 2016).

As for the social aspect, no study was found that related the items cited from the EADRT to the work of shellfishing. But the results of this research reveal that the work process of these women favor an important desire to be alone and impatience with people in general. This may be because of the numerous responsibilities they take on as working women, housewives, often mothers and wives, who, to reduce the stresses they carry, would like to get away as an escape valve.

## **5 CONCLUSION**

In the present study, we conclude that the shellfisherwomen interviewed presented a significant report of musculoskeletal pains due to the work process in which they are inserted, besides an important presence of emotional complaints. Although the use of PPE is reported by most of the interviewees, there is still an important lack of some equipment necessary for the prevention of accidents, including the majority revealed having had accidents at work.

In this way, it is of utmost importance to strengthen the Worker's Health policy in order to better meet the needs of artisanal fishermen, especially shellfish gatherers, in order to promote health and quality of life and prevent injuries and diseases.

As a limitation of this study, we had a small sample of women who were able to attend the interviews. A larger sample could show a more reliable description of the reality.

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