ORIGINAL ARTICLE

Pain level associated to socio-demographic and clinical variables in people living with human immunodeficiency virus and acquired immunodeficiency syndrome

Nível de dor associado a variáveis sócio-demográficas e clínicas em pessoas que vivem com o vírus da imunodeficiência humana e a síndrome da imunodeficiência adquirida

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ABSTRACT

BACKGROUND AND OBJECTIVES: Pain is a common symptom in people living with acquired immunodeficiency syndrome, being widely underreported and not treated. For this reason, there is the need for studies discussing the subject in the attempt to explain factors involved in this process and to look for adequate and effective therapies. So, this study aimed at relating pain level in people living with human immunodeficiency virus to socio-demographic and clinical variables.

METHODS: This was a descriptive and cross-sectional study with 261 individuals living with the human immunodeficiency virus. Visual analog scale for pain intensity and semi-structured interview for anamnesis were applied.

RESULTS: A total of 47.5% of individuals was found reporting mild pain/no pain; 24.1% with moderate pain and 28.4% with severe pain. There has been significant relationship between pain and gender (p=0.02), health status (p=0.001), health perception with regard to feeling ill or not (p=0.001) and infection stage (p=0.005). Pain was characterized as shooting (69%), piercing (55%) and burning (41%), with significant relationship with regard to pain intensity (p<0.001) and time (p<0.001). When the logistic regression model was applied, the fact of being a female has represented a risk of 7.256 (p<0.001) for moderate pain and of 5.329 (p<0.004) for severe pain. With regard to age, age groups between 21 and 30 years (0.073; p<0.046), 41 and 50 years (0.068; p<0.023) and 51 and 60 years (0.063; p<0,030) were protection factors for the presence of moderate pain. With regard to health status, this variable was a risk factor for the presence of moderate pain (8.13; p<0.038) and severe pain (11.73; p<0.005).

CONCLUSION: Pain was a prevalent symptom among people living with human immunodeficiency virus.

Keywords: Acquired immunodeficiency syndrome, Human immunodeficiency virus, Pain.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor é um sintoma comum em pessoas que vivem com a síndrome da imunodeficiência adquirida, sendo bastante subnotificada e não tratada. Por esse motivo, existe a necessidade de estudos que discutam a temática na tentativa de esclarecer os fatores envolvidos nesse processo e buscar tratamentos adequados e eficazes. Dentro dessa perspectiva, o objetivo deste estudo foi relacionar o nível de dor em pessoas que vivem com o vírus da imunodeficiência humana, com variáveis sócio-demográficas e clínicas.

MÉTODOS: Pesquisa descritiva com caráter transversal, com 261 indivíduos vivendo com o vírus da imunodeficiência humana. Foi aplicada a escala analógica visual para a intensidade da dor e entrevista semiestruturada como anamnese.

RESULTADOS: Foi encontrado um total de 47,5% indivíduos referindo dor leve/sem dor; 24,1% com dor moderada e 28,4% com dor intensa. Foi encontrada relação significativa entre a dor e o sexo (p=0,02), estado de saúde (p=0,001), percepção da saúde, quanto a se sentir doente ou não (p=0,001) e o estágio da infecção (p=0,005). A dor foi caracterizada em lancinante (69%), perfurante (55%) e em queimação (41%), sendo encontrada relação significativa entre essas variáveis (p<0,001). Foi possível encontrar também uma associação significativa com relação a intensidade da dor (p<0,001) e o tempo (p<0,001). Quando aplicado o modelo de regressão logística, o fato de ser mulher representou um risco de 7,256 (p<0,001) para a dor moderada e de 5,329 (p<0,004) para dor intensa. Com relação a idade, as faixas etárias de 21 a 30 anos (0,073; p<0,046), 41 a 50 anos (0,068; p<0,023) e 51 a 60 anos (0,063; p<0,030), apresentaram-se como fator de proteção para a presença de dor moderada. Com relação ao estado de saúde, esta variável apresentou-se como fator de risco para a presença de dor moderada (8,13; p<0,038) e intensa (11,73; p<0,005).

CONCLUSÃO: A dor foi um sintoma prevalente entre as pessoas que vivem com o vírus da imunodeficiência humana.

Descritores: Dor, Síndrome da imunodeficiência adquirida, Vírus da imunodeficiência humana.

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INTRODUCTION

Pain is a complex multidimension physical and psychic experience triggered by some primary stimulus and being influenced by sociocultural, family and gender context. So, the same stimulus might induce totally different painful responses in different individuals[1,2].

This context may be also influenced by a baseline disease, as it is the case of people living with human immunodeficiency virus (HIV) or with already installed acquired immunodeficiency syndrome (AIDS), and this might happen due to three primary reasons: HIV symptom; other opportunistic disease or infection; adverse effect of antiretroviral therapy (ARVT). Pain is also a symptom which may be present in all stages of the disease in up to 90% of cases[3].

Estimates reveal that approximately 80% of world population have inadequate access to moderate to severe pain management and that millions of people living with HIV/AIDS suffer of untreated severe pain[4]. It is also worth highlighting that HIV/AIDS is a major global health challenge, counting on 34.2 million people infected with HIV worldwide[5]. In Brazil, in 2012, 39185 cases of AIDS were notified[6].

So, one should take into consideration the presence not only of infectious complications but also of painful syndromes[7].

This study aimed at relating the level of pain of HIV/AIDS patients to socio-demographic and clinical variables.

METHODS

Descriptive, cross-sectional research carried out from October 2013 to May 2015, in Hospital Rafael Fernandes, city of Mossoró, Rio Grande do Norte, Brazil.

To make up the sample, subjects attending the service for medical follow up and who voluntarily accepted to participate in the study were probabilistically and randomly selected. To determine the necessary number of HIV/AIDS individuals, sample size for finite populations calculation was applied, according to the following formula:

$$R = \frac{Z^2.p.q.N}{e^2.(N-1) + Z^2.p.q}$$

Where:

N= Population Size, in this study population is made up of 709 elements.

Z = Chosen confidence level 95% equal to 1.96.

p = proportion in which the phenomenon is observed. Value was p = 0.50.

According to Mattar[8], if there are no previous estimates for p, 0.50 is admitted, thus obtaining the largest possible sample size.

q = (1-p) proportion of non-occurrence of the phenomenon.

e = sample error expressed in the variable unit. Sample error is maximum difference admitted by investigator between real population average. In this research, maximum error of 0.05 was admitted.

Transcribing values described for the formula, the following sample calculation is obtained:

$$R = \frac{1.96^2 . 0.5 . 0.5 . 709}{0.05^2 . (709 - 1) + 1.96^2 . 0.5 . 0.5}$$

$$R = \frac{680,92}{1.77 + 0.96}$$

$$R = \frac{680.92}{2.73}$$

$$R = 249.4$$

A total of 249 questionnaires was needed to consider the sample significant, thus being included 261 people living with HIV/AIDS with minimum diagnostic time of six months; ages varied from 20 to 64 years; of both genders dwellers of Mossoró and neighbor cities, being excluded all individuals with cognitive abnormalities or unable to answer the questionnaires.

Pain was evaluated with the visual analog scale (VAS) validated in 1983[9].

This scale is considered a one-dimension tool, for evaluating just one aspect of pain, which is intensity; however, this is done in a minimally intrusive way. So, it classifies pain in mild (1-2), moderate (3-7) and severe (8-10).

A semi-structured interview to evaluate other pain dimensions was developed to complement VAS pain investigation (Table 1).

Table 1. Semi-structured interview to evaluate pain dimensions

Questions	Objectives
Where is your pain?	To identify and classify pain as to location
For how long do you feel this pain?	To classify pain in chronic or acute
How is it or how does this pain behave?	To identify characteristic of pain felt by respondent.

With regard to other clinical variables associated to HIV/AIDS a direct investigation was carried out asking individuals about their perception of their health, how they considered their health status, whether they felt ill or not, and the stage of their infection, mode and year when they were infected and year of the first test.

This study was approved by the Ethics Committee, Universidade do Estado do Rio Grande do Norte, opinion 421.293 in 2013.

Statistical analysis

Data were analyzed with statistical software packages SPSS 21.0 (Statistical Package for the Social Sciences) and STATA 13.0, be-

ing expressed in mean±standard deviation, minimum and maximum values, as well as simple frequency and percentage.

To observe relationship between socio-demographic factors and pain levels in HIV/AIDS patients, odds ratio (OR), 95% confidence intervals and significance determined by Chi-square and Fisher Exact tests were used. The latter, in turn, was used whenever values with expected frequency below five were found.

Logistic regression model was developed to study multiple effects which might be involved with pain. When needed, variables were translated into dummies. Values of $p<0.05$ were considered significant.

RESULTS

Table 2 shows results obtained by evaluated socio-demographic indicators, showing association among studied variables, with regard to the outcome of this study: pain.

With regard to pain intensity (Table 2), there has been a total of 47.5% individuals (n=124) referring mild or no pain, 24.1% individuals (n=63) with moderate pain and 28.4% (n=74) with severe pain.

With regard to age, there has been concentration of cases between 41 and 50 years (34.9%), being also very close to the number of the group between 31 and 40 years of age (32.6%). Predominant education level was complete basic education (49%); most people were single (36.8%), followed by people living as married (26.8%) and infection stage of most participants of the study was AIDS (87%).

When pain was correlated to involved socio-demographic variables, it was possible to find significant relationship only between pain and gender (p=0.02).

Table 3 shows results with regard to clinical aspects, being found significant associations between pain intensity and health status (p=0.001), health perception, as to feeling ill or not (p=0.001), and infection stage (p=0.005).

In our study, among those evaluating their health as poor, 61.5% have referred severe pain versus 28.8% referring moderate pain and 9.6% referring mild or no pain. Conversely, most people classifying their health as good belonged to the mild or no pain group (66.7%), having 17.5% referred moderate pain and 15.9% severe pain. With regard to considering themselves ill or not, those answering yes corresponded to 45% of those referring severe pain, 27.9% moderate pain and 27% mild or no pain.

With regard to infection mode, our study points to a significant correlation with the presence of pain, with higher concentration among people acquiring HIV/AIDS by means of sexual intercourse with males. This fact might be explained because most participants of this study were females, thus showing a strong correlation between gender and presence of pain.

Table 2. Frequency values (%) of socio-demographic variables associated to pain level of evaluated patients

Variables	Total n=261	No pain/mild n=124 (47,5%)	Moderate n= 63 (24,1%)	Severe n=74 (28,4%)	p value Chi-square for categorical variables Kruskal-Wallis for continuous variables
Gender					
Male	130 (49.8)	76 (58.5)	26 (20.0)	28 (21.5)	12.61. p=0.02*
Female	131 (50.2)	48 (36.6)	37 (28.2)	46 (35.1)	
Age (years)					
21 to 30	32 (12.3)	19 (59.4)	08 (25.0)	05 (15.6)	2.369 p=0.124ŦŦ
31 to 40	85 (32.6)	40 (47.1)	21 (24.7)	24 (28.2)	
41 to 50	91 (34.9)	41 (45.1)	23 (25.3)	27 (29.7)	
51 to 60	45 (17.2)	22 (48.9)	07 (15.6)	16 (35.6)	
> 60	08 (3.1)	02 (25.0)	04 (50.0)	02 (25.0)	
Education					
None	67 (25.7)	25 (37.3)	16 (23.9)	26 (38.8)	8.059. p=0.234
Basic	128 (49.0)	69 (53.9)	27 (21.1)	32 (25.0)	
High school	54 (20.7)	24 (44.4)	16 (29.6)	14 (25.9)	
College	12 (4.6)	06 (50.0)	04 (33.3)	02 (16.7)	
Marital Status					
Single	96 (36.8)	42 (43.8)	20 (20.8)	34 (35.4)	11.918. p=0.291
Married	38 (14.6)	19 (50.0)	07 (18.4)	12 (31.6)	
Stable relationship	70 (26.8)	38 (54.3)	18 (25.7)	14 (20.0)	
Separate	24 (9.2)	09 (37.5)	07 (29.2)	08 (33.3)	
Divorced	12 (4.6)	05 (41.7)	06 (50.0)	01 (8.3)	
Widow(er)	21 (8.0)	11 (52.4)	05 (23.8)	05 (23.8)	

* Statistical significance ($p<0.05$); ŦŦ Chi-square for trend.

Table 3. Frequency values (%), clinical aspects and pain intensity of studied patients

Variables	Total n=261	No pain/mild n=124 (47.5%)	Moderate n= 63 (24.1%)	Severe n=74 (28.4%)	Chi-square statistical test for categorical variables Kruskal-Wallis for continuous variables
Health status ᵀ					
Poor	52 (29.2)	05 (9.6)	15 (28.8)	32 (61.5)	52.532. p<0.001*
Good	126 (70.8)	84 (66.7)	22 (17.5)	20 (15.9)	
Ill					
Yes	111 (42.5)	30 (27.0)	31 (27.9)	50 (45.0)	37.186. p<0.001*
No	150 (261)	94 (62.7)	32 (21.3)	24 (16.0)	
Infection stage					
Asymptomatic	23 (8.8)	14 (60.9)	01 (4.3)	08 (34.8)	14.759. p=0.005*
Symptomatic	11 (4.2)	10 (90.9)	01 (9.1)	0 (0.0)	
AIDS	227 (87.0)	100 (44.1)	61 (26.9)	66 (29.1)	
Year of the first test ᵀ					
1988 to 1997	20 (8.0)	06 (30.0)	07 (35.0)	07 (35.0)	1.214. p=0.271ᶠ
1998 to 2007	94 (37.5)	46 (48.9)	19 (20.2)	29 (30.9)	
2008 to 2013	137 (54.6)	67 (48.9)	33 (24.1)	37 (27.0)	
Year of infection ᵀ					
1973 to 1982	03 (2.2)	02 (66.7)	0 (0.0)	01 (33.3)	0.796. p=0.372ᶠ
1983 to 1992	26 (19.1)	07 (26.9)	10 (38.5)	09 (34.6)	
1993 to 2002	51 (37.5)	20 (39.2)	14 (27.5)	17 (33.3)	
2003 to 2012	56 (41.2)	24 (42.9)	17 (30.4)	15 (26.8)	
Infection mode					
Intercourse with male	161 (61.7)	62 (38.5)	41 (25.5)	58 (36.0)	29.371. p<0.001*
Intercourse with female	70 (26.8)	48 (68.6)	14 (20.0)	08 (11.4)	
Injectable drugs	11 (4.2)	04 (36.4)	02 (18.2)	05 (45.5)	
Blood byproducts	10 (3.8)	04 (40.0)	04 (40.0)	02 (20.0)	
Others	01 (0.4)	0 (0.0)	0 (0.0)	01 (100)	
Does not know	08 (3.1)	06 (75.0)	02 (25.0)	0 (0.0)	

* Statistical significance (p<0.05); ᶠ Chi-square for trend; ᵀ = Missing values.

Still evaluating pain symptom and for this being a multidimensional variable, it may receive more than one classification. In our study, in addition to intensity, pain was classified with regard to feature, site and duration (Table 4).

As to site, it was possible to find significant association (p<0.001) with intensity according to the classification of mild, moderate and severe. From total participants, 18% have referred headache and from this total, 44.7% have referred severe pain. Next was widespread pain where individuals referring pain throughout the body were classified, representing 15.3% of total, with higher concentration in the severe pain group (60%). Muscle (2.7%) and abdominal (11.9%) pains were also reported, and included all those referring stomach, bowel and kidneys pain, among other organs; upper limbs and shoulder (1.9%), lower limbs and knee (6.5%) and spine (6.1%). These groups were determined according to participants' answers.

With regard to characteristic, it was possible to find significant association with regard to pain intensity (p<0.001), being especially characterized as shooting (69%), drilling (55%) and burning (41%).

With regard to time, there has been significant association (p<0.001) with 15.3% with acute and 47.1% chronic pain.

Table 5 illustrates multinominal logistic regression model with variables with value of p<0.2. At this moment, the risk for moderate and severe pain was identified, taking as reference the no pain/mild pain group.

With regard to gender, females had a risk of 7.256 (p<0.001) for moderate pain and of 5.329 (p<0.004) for severe pain.

With regard to age, it was possible to notice that groups from 21 to 30 years (0.073; p<0.046), 41 to 50 years (0.068; p<0.023) and 51 to 60 years (0.063; p<0.030) were protection factors for the presence of moderate pain using as reference the group above 60 years of age.

With regard to health status, this variable was risk factor for moderate (8.13; p<0.038) and severe (11.73; p<0.005) pain. Since classification as good or poor was given by respondents

Table 4. Pain classification with regard to site, feature and time

Variables	Total n=261	No pain/mild n=124 (47.5%)	Moderate n= 63 (24.1%)	Severe n=74 (28.4%)	p value Chi-square
Pain site					
Head	47 (18.0)	14 (29.8)	12 (25.5)	21 (44.7)	167.016. p<0.001*
Widespread	40 (15.3)	04 (10.0)	12 (30.0)	24 (60.0)	
Muscle	07 (2.7)	04 (57.1)	03 (42.9)	0 (0.0)	
Abdominal	31 (11.9)	04 (12.9)	15 (48.4)	12 (38.7)	
UULL & shoulders	05 (1.9)	0 (0.0)	04 (80.0)	01 (20.0)	
llLL & knee	17 (6.5)	02 (11.8)	09 (52.9)	06 (35.3)	
Spine	16 (6.1)	03 (18.8)	06 (37.5)	07 (43.8)	
No place	98 (37.5)	93 (94.9)	02 (2.0)	03 (3.1)	
Feature					
Shooting	69 (26.4)	11 (15.9)	27 (39.1)	31 (44.9)	156.723. p<0.001*
Drilling	55 (21.1)	09 (16.4)	22 (40.0)	24 (43.6)	
Burning	41 (15.7)	10 (24.4)	12 (29.3)	19 (46.3)	
None	96 (36.8)	94 (97.9)	02 (2.1)	0 (0.0)	
Classification (time)[a]					
No pain	98 (37.5)	96 (98.0)	02 (2.0)	0 (0.0)	
Acute	40 (15.3)	06 (15.0)	20 (50.0)	14 (35.0)	95.164. p<0.001*
Chronic	123 (47.1)	22 (17.9)	41 (33.3)	60 (48.8)	

* Statistical significance (p<0.05); Chi-square for trend; UULL = upper limbs; llLL = lower limbs.

Table 5. Multinominal logistic regression model for socio-demographic and variables and clinical aspects of pain for people living with HIV/AIDS

Variables	OR	CI95%	p value	OR (Adjusted)[a]	CI95%	p value
Moderate pain						
Gender						
Female	2.253	1.21-4.18	0.012*	7.256	2.267-23.224	<0.001*
Male	1.0			1.0		
Age (years)						
21 to 30	0.211	0.032-1.39	0.159	0.073	0.005-0.958	0.046*
31 to 40	0.263	0.044-1.55	0.186	0.125	0.012-1.314	0.083
41 to 50	0.280	0.048-1.65	0.196	0.068	0.006-0.685	0.023*
51 to 60	0.159	0.024-1.06	0.063	0.063	0.005-0.765	0.030*
> 60	1.0	-	-	1.0	-	-
Health status						
Poor	11.45	3.75-34.95	<0.001*	8.13	1.128-58.617	0.038*
Good	1.0			1.0		
Ill						
Yes	3.03	1.59-5.77	0.001	1.352	0.243-7.4971	0.730
No	1.0			1		
Infection stage						
AIDS	8.54	1.09-66.57	0.015*	5.04	-	1.0
Symptomatic	1.4	0.078-25.1	1.0	1.759	-	1.0
Asymptomatic	1.0	-	-	1.0	-	-

Continue...

Table 5. Multinominal logistic regression model for socio-demographic and variables and clinical aspects of pain for people living with HIV/AIDS – continuation

Variables	OR	CI95%	p value	OR (Adjusted)[a]	CI95%	p value
Severe pain						
Gender						
Female	2.601	1.438-1.470	<0.001*	5.329	1.728 – 16.433	0.004*
Male	1.0			1.0		
Age (years)						
21 to30	0.263	0.029 – 2.360	0.253	0.1384	0.007 – 2.612	0.187
31 to 40	0.60	0.07 – 4.544	0.975	0.261	0.0188 – 3.624	0.317
41 to 50	0.658	0.087 – 4.963	0.907	0.390	0.031- 4.899	0.466
51 to 60	0.727	0.09 – 5.726	0.819	0.582	0.040 – 8.399	0.691
> 60	1.0	-	-	1.0	-	-
Health status						
Poor	26.88	9.299 - 77.70	<0.0001*	11.73	2.095- 65.708	0.005*
Good	1.0			1.0		
Ill						
Yes	6.528	3.452 – 12.35	<0.0001*	3.251	0.698 – 15.145	0.133
No	1.0			1.0		
Infection stage						
AIDS	1.155	0.459 – 2.906	0.940	1.181	0.19711- 7.078	0.855
Symptomatic	0.008	0.004 - 1.570	0.07	0.000	-	0.992
Asymptomatic	1.0	-	-	1.0	-	-

[a]OR (CI95%): odds ratio and 95% confidence interval adjusted by all variables listed in tables 1 and 2, by means of multinominal logistic regression; reference class was "No pain/mild pain".

and corresponded to their perception of their health, this fact is directly linked to symptoms load and perception in face of all this presentation.

DISCUSSION

Our results point to pain as common symptom in people living with HIV/AIDS, being present in any stage of infection, in agreement with other studies[10,11]. Still confirming our results, another study[12] after evaluating 302 ambulatory HIV/AIDS patients in Uganda, has found a total of 53% of individuals reporting mild pain, 20% moderate pain and 27% severe pain.

However, some authors have disagreed from our study when evaluating 156 individuals of whom 48.7% have reported pain, being that 51.3% had moderate to severe pain[11].

When pain was correlated to socio-demographic variables, and in line with the literature, it was possible to find significant relationship with gender, which has already been reported by other authors, being females with higher prevalence of painful symptoms, being this fact associated to females' anatomo-functional characteristics, as well as to modulation of some nervous system impulses, hormonal and psychological problems[13,14].

Our results point to a higher number of females with moderate (28.2%) and severe (35.1%) pain. Conversely, most males had no pain or mild pain (58.5%). In this same line of thought, some authors have found strong association between pain and female gender[15].

Confirming our results, a study with 354 Cuban participants (73 females, 281 males) has shown that pain significantly interfered with females as compared to males[16]. This was also true in a study by Norval[17] with 103 adult HIV/AIDS patients, where it was possible to detect high prevalence of pain, being that females have referred more pain as compared to males, which strengthens even more our results, in spite of the different number of individuals in these studies. However, in disagreement with our study, other studies with populations living with HIV/AIDS, have not found significant differences between gender and the presence of pain[12,18,19].

With regard to health status, it is classified as good or poor and the perception of feeling ill or not. So, these two variables are intrinsically connected because they correspond to the individual perception of their health. Some studies have made this correlation between health perception and pain, finding an inversely proportional relationship between these variables[20,21], which confirms our results.

Health perception is directly related to patients' state of mind, how they position themselves in face of a chronic, permanent and full of stigmata disease, being reflected in the way patients decide to face potential challenges of the

disease and how they will cope with the treatment. So, a study with 953 people living with HIV/AIDS has stated that pain is directly related to health self-evaluation after finding significant relationship between pain and health status self-evaluation[22].

With regard to infection stage, our study is in agreement with the literature because it is known that pain predominance may vary depending on disease stage, care and treatment. This was proved by Bravin[10] who has found in his prospective study 38% of ambulatory patients with HIV reporting significant pain, versus 50% of AIDS patients with the same symptoms; while just 25% of patients in early stages of infection have referred pain.

In agreement with our results, different studies have found significant relationship between pain, immune status and advanced disease stage, advanced infection stage and the appearance of a larger number of symptoms and comorbidities, reporting pain as a significantly common symptom in people living with HIV/AIDS (PVHA)[12,18,23,24].

Conversely, however, a study with 79 PVHA, although having found pain as early symptom, has found weak and negative correlation between pain and disease stage, without statistical significance[19].

With regard to mode of infection, our study points to a significant correlation with pain, with higher concentration among those acquiring HIV/AIDS through sexual intercourse with males. This fact might be explained because most participants of this study were females and, as observed, there is strong correlation between gender and pain.

With regard to other pain classifications, and in agreement with our results, other studies have also found the head as primary site of pain[10,18,24]. Similarly, other studies have found more common diagnoses: headache (46%), joint pain (31%) and muscle pain (27%)[25]; 40.9% had lower limbs pain, 44.4% neuropathic pain affecting feet, 31.8% abdominal pain, 31.8% head and neck, while just 4.5% had widespread pain[19].

Differently from our results, another study has reported that pain was especially referred in abdomen and mouth (33%), followed by muscle pain (32%), joint or bone pain (20%)[26], or even lower limbs (66%) followed by mouth pain (50.5%), headache (42.3%), throat ache (39.8%), chest pain (17.5%)[17]; joint (52.36%) and abdominal (50.37%) pain[22]. Another study with 157 participants has identified chest pain as primary pain site, followed by headache[27].

However, even with variations as to pain site prevalence among patients, our results, in general, are in line with the literature with regard to major pain sites referred by people living with HIV/AIDS.

It is important to stress that pain site might be associated to rheumatologic problems, which are very common among people with HIV/AIDS, as adverse effect of antiretroviral therapy and also due to opportunistic diseases[19,25].

So, the association of pain site and intensity could be explained by the infection stage, being associated to the presence of comorbidities and the use of antiretroviral drugs, which may induce nervous injuries being responsible for peripheral neuropathy pain, which may vary from mild to severe in addition to being incapacitating[23,28].

With regard to characteristic there has been significant association with pain intensity ($p<0.001$), being primarily characterized as shooting (69%), drilling (55%) and burning (41%), in agreement with other studies which have also established this classification[29,30].

Understanding quality is critical for the establishment of some treatment goals. So, in a documental study as from medical charts of a reference hospital, it was possible to classify pain as radiating 33.3%), pulsing (20.0%), burning (6.7%), jumping (6.7%), pressing (6.7%), allodynia (6.7%), colic-type (6.7%) and widespread (6.7%)[31].

With regard to time, it calls the attention the number of people with severe chronic pain (48.8%), since this pain is associated to a multifactorial character, but may also be related to the association of mixed pathogenic mechanisms[32.34].

In case of people living with HIV/AIDS, this fact might be directly linked to disease stage, as well as to immune status, because there are estimates that approximately one million terminal patients suffer pain due to lack of treatment, being mostly classified as chronic pain[1,3,35].

A study has found frequent pain reports in the two weeks previous to the study in 27 patients, 2% of the sample, being that 22% have stated that pain persisted for more than three months, being then classified as chronic pain[4].

Literature, however, is in disagreement with these results when reporting correlation of pain with early disease symptom, being that in our study correlation was weak and negative with regard to stage, not being statistically significant[19].

Logistic regression analysis has shown relative risk of being female and having pain. These data strengthen previous discussions with regard to the association of female gender and pain.

Some studies have shown fragility of females with HIV/AIDS to present pain, be it due to the burden of the disease, which is considered higher for females, to cultural and economic disparities and education level, as well as to physiology, emotional and psychological states and gynecologic problems. These factors add to the fact that females are at risk for persistent, widespread and more severe pain. Among most common symptoms referred by females there are radiculopathies and headache[36-38].

However, some studies disagree with this statement, as from relative risk measurement, not finding association between being female and the presence of pain[12,18,39].

Our results also point to the fact that being younger is a protection factor for pain in PVHA, which might be partially explained by the brittleness syndrome affecting the elderly[40], as well as by the difficulty of diagnosing AIDS in the elderly primarily due to differential diagnosis[41,42].

In general, some studies advocate the theory of symptoms management, supporting the fact that individual characteristics, among them age, could be a risk factor, interacting with a health problem[43,44].

Another study[18], after regression analysis, has found the variable age as risk of 1.03 (p<0.016) for the presence of pain. It is worth mentioning that there has been no division by age groups.

On the other hand, some authors report that younger adults are more prone to some symptoms related to HIV/AIDS, more specifically to headache[45]. However, the same authors have concluded that effects related to age as risk factor could be mistaken with those related to race. Another study has not found risk relationship between age and the appearance of symptoms such as pain[44].

With regard to health status being a risk factor, this was because classification was made as from individual perception, which is directly linked to symptoms load and perception with regard to the disease. A study has reported that the number of symptoms had 1.30 (p<0.03) risk for the presence of severe pain[12].

Similarly, other studies state that health self-evaluation is a risk factor for the presence of pain[22,46].

CONCLUSION

In light of our results, it was possible to observe association between pain and some socio-demographic and clinic factors in people living with HIV/AIDS.

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