Prevalence of Pain in Family Medicine Clinic of Bowen University Teaching Hospital, Ogbomoso, Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Author IOA designed the study, wrote the protocol, and wrote the first draft of the manuscript. Authors AOD, AA and OTA collected the data and searched for the literatures. Authors IOA and SAA analyzed the results. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Introduction: Pain is the most common reason for physician consultation in most advanced countries such as the United States. It is a major symptom in many medical conditions, and can significantly interfere with a person's quality of life and general functioning.
Objectives: This study aimed to determine the prevalence of pain among adult patients and to describe the localization, duration and severity of pain in this population.
Methodology: A cross-sectional descriptive survey was used. Consenting participants aged 18

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years or older were recruited for the study. Descriptive and pain-specific data were collected using a predesigned interviewer administered questionnaire and the Brief Pain Inventory (BPI). The initial questionnaire elicited information on demographic variables, pain prevalence, and pain characteristics, and the BPI was used to characterize pain further.

Results: A total of 100 subjects participated in the study and the mean age was 44.94±14.92 years. The prevalence of pain (defined as any subject who reported pain as a top or secondary reason for the visit) was 84.0% (95% CI 76.7% – 91.3%). More than one-half (52.4%) of the subjects complained of pains in the lower limbs and back and the duration of pain was less than 6 months in 58.3% of the subjects. More than one-half (54.8%) of the subjects who presented with pain claimed that pain interfere with their walking ability. No significant association was found between socio-demographic characteristic and prevalence of pain.

Conclusion: The prevalence of pain in Family Medicine Clinic of the Bowen University Teaching Hospital, Ogbomoso is very high. It affects mainly the lower limbs and the back and interferes with their walking ability. Majority of them presented with severe pain that is usually less than 6 months.

1. INTRODUCTION

Pain is an unpleasant feeling often caused by intense or damaging stimuli. Pain initiates self-survival or self-protection through motivations such as withdrawal from damaging situations, protection of a body part as it heals, and/or avoidance of similar experiences in the future [1]. Most pain resolves promptly once the painful stimulus is removed, but sometimes pain persists despite removal of the stimulus; and sometimes pain arises in the absence of any detectable stimulus [2]. Pain is the most common reason for physician consultation in most advanced countries such as the United States [3,4]. It is a major symptom in many medical conditions, and can significantly interfere with a person's quality of life and general functioning [5]. Pain appears to impact all populations, regardless of age, sex, income, race/ethnicity, or geography and those who experience pain can experience acute, chronic, or intermittent pain, or a combination of the three [6].

Globally, it has been estimated that 1 in 5 adults suffer from pain and that another 1 in 10 adults are diagnosed with chronic pain each year [3]. In United Kingdom it was reported [7] that over 40% of consultations in a primary care setting involved a complaint of pain while in Finland, a study reported that pain accounted for 40% of all visits to the primary care doctor [8]. In a study conducted in South Africa, it was discovered that almost three-quarters (74.6%) of the patients who reported to the clinic visited the clinic because of pain [9]. While in Sweden a little less than 30% of patients, who were treated at a primary care practice, had some kind of medically defined pain problem, requiring the attention of a General Practitioner [10].

Despite the accumulating evidence from industrialized nations, rates of pain and characterization of pain symptoms in developing countries are lacking. Specifically, there is a paucity of empirical evidence on the prevalence of pain complaints in Nigeria and in Ogbomoso which is home to a mission-based teaching hospital. Therefore, the purpose was to determine the prevalence of pain among adult patients attending the Family Medicine clinic of the Bowen University Teaching Hospital, Ogbomoso and to describe the localization, duration and severity of pain in this population.

1.1 Study Area

Ogbomoso is a rapidly expanding city situated in Southwestern Nigeria, 100 km north of Ibadan, the capital of Oyo State. The population was estimated to be approximately 801,389 in 2006 [11]. The indigenous people belong to the Yoruba ethnic group whose primary vocation includes farming and trading. Ogbomoso is one of the main gateways to the northern region of Nigeria. The Ilorin-Ibadan trunk, a federal road that serves this purpose facilitates interstate transportation of goods and is bound by the Central Business District (CBD) in the city. The Baptist-mission hospital, Bowen University Teaching Hospital, was the site of data collection. In addition to this medical facility, Ogbomoso is home to two government owned hospitals and a number of primary care clinics to help meet the health needs of the people in the region.

1.2 Ethical Considerations

Ethical clearance was obtained from the sub-committee on the ethics of human experimentation of Bowen University Teaching Hospital, Ogbomoso. The study was properly explained to the patients and only those that gave their written consent were included in the study.

2. METHODOLOGY

The study was conducted at the Family Medicine Clinic of the Bowen University Teaching Hospital, Ogbomoso, Nigeria between July and October 2013. A cross-sectional descriptive survey was used. The participants aged 18 years or older that gave consent were randomized. A systematic sampling method was used to select the participants. The list of patients who attend Family Medicine clinic was taken as a sample frame, and from a review of records an average of 70 patients were estimated to attend the clinic per day during the period of the study. A sampling fraction of 10 was chosen and a simple random sampling was done to pick the first patient from the first 10 patients as the starting number of the systematic sampling technique and subsequent selections were every 10 patient registered. An identification sticker was placed on all selected participants' record cards at the records office and sent to a consulting office designated for the study. The identification sticker remained on each participant's card until completion of the study to avoid repeat selection. This sampling method yielded 100 participants aged 18 years or older. Data were collected using a predesigned interviewer administered questionnaire. The questionnaire elicited information on demographic variables (age, gender, marital status, ethnic group, religion, nationality, occupation, and educational status), pain prevalence and pain characteristics. To characterize pain further, the Brief Pain Inventory (BPI) questionnaire was also administered [12]. The BPI is a short, self-administered questionnaire designed to evaluate the intensity of pain and the impairment caused by pain during the past 24 hours. Four items measure pain intensity (pain now, average pain, worst pain, and least pain) using 0 ("no pain") to 10 ("pain as bad as you can imagine") numeric rating scales. Seven items measure the level of interference with function caused by pain (general activity, mood, walking ability, normal work, relations with other persons, sleep, and enjoyment of life) using 0 (no interference) to 10 (complete interference) rating scales. In addition, patients rate the amount of pain relief they are experiencing using a 0% ("no pain relief") to 100% ("complete pain relief") rating scale.

Data were analysed using SPSS version 16.0 for Windows. Proportions were determined and statistics presented in tables. In order to compare the association of demographic characteristic with pain Fisher's Exact test was applied and Significance was set at p-value < 0.05. The pain intensity and interference ratings were further categorized as mild, moderate, or severe. Mild pain (1-4 worst pain), Moderate pain (5-6 worst pain) and severe pain (7-10 worst pain). Prevalence of pain was defined as any subject who reported pain as a top or secondary reason for the visit.

3. RESULTS

A total of 100 subjects participated in the study and there were more female (68.0%) than male participants (32.0%). The age of the subjects ranged from 18 to 80 years with a mean age of 44.94±14.92 years. Almost one-half (41.0%) of the subjects were trader and more than two-third (87.0%) of the subjects were married. Almost all the subjects (91.0%) were from the Yoruba ethnic group (Table 1).

The prevalence of pain among the subjects who participated in the study was 84.0% (95% CI 76.7% – 91.3%). Pain was the primary (72%) or secondary (12%) complaint of the participants in the research study, and majority of those that complained of pain were women (67.9%). More than one-half (52.4%) of the subjects complained of pains in the lower limbs and back while 14.3% of the subjects complained of pain in more than one anatomical sites (Table 2).

Majority of the subjects described their pain to be severe at its worst (76.2%) and least (52.4%) in the last 24 hours whereas more than one-half of the subjects described their pain to be moderate on the average (63.1%) and severe on presentation (63.1%). Overwhelming majority (79.8%) of the subjects were already using orthodox medicine to treat their pain while 13.1% were not on any medication. The duration of pain was less than 6 months in 58.3% of the subjects while 7.1% of them cannot ascertain the duration of their pain (Table 3).

Table 1. Association between socio demographic characteristic and pain on presentation

Variables	Pain on presentation				P-value
	Yes		No		
	n	%	n	%	
Age range					0.459
<20	6	7.1	0	0.0	
21-30	9	10.7	4	25.0	
31-40	16	19.0	5	31.2	
41-50	27	32.1	3	18.8	
51- 60	12	14.3	3	18.8	
61-70	11	13.1	1	6.2	
71-80	3	3.6	0	0.0	
Gender					0.597
Male	27	32.1	5	31.2	
Female	57	67.9	11	68.8	
Marital status					0.500
Single	9	10.7	3	18.8	
Married	74	88.1	13	81.2	
Widow/widower	1	1.2	0	0.0	
Ethnic group					0.149
Yoruba	77	91.7	14	87.5	
Igbo	3	3.6	1	6.2	
Hausa	0	0.0	1	6.2	
Others	4	4.8	0	0.0	
Occupation					0.244
Artisan	18	21.4	4	25.0	
Trader	37	44.0	4	25.0	
Civil servant	18	21.4	4	25.0	
Student	9	10.7	3	18.8	
Unemployed	2	2.4	0	0.0	
Retiree	0	0.0	1	6.2	

Table 2. Characteristics of pain

Variables	Frequency	Percentage
Primary reason for visit		
Pain	72	72.0
Others	28	28.0
Pain on presentation		
Yes	84	84.0
No	16	16.0
Duration of pain		
Less than 6 months	49	58.3
Greater than 6 months	29	34.5
Not known	6	7.1
Location of pain		
Head and neck	5	6.0
Upper limb	6	7.1
Chest	7	8.3
Abdomen	10	11.9
Back	22	26.2
Lower limb	22	26.2
More than one area	12	14.3
Treatment		
Orthodox medicine	67	79.8
Alternative medicine	3	3.6
Physical therapy	3	3.6
No treatment	11	13.1

Table 3. Pain severity and interference

Variables	Frequency (%)			
	No pain	**Mild**	**Moderate**	**Severe**
Worst pain	7(8.3)	7(8.3)	6(7.1)	64(76.2)
Least pain	10(11.9)	16(19.0)	14(16.7)	44(52.4)
Average pain	8(9.5)	15(17.9)	53(63.1)	8(9.5)
Present pain	11(13.1)	12(14.3)	8(9.5)	53(63.1)
	No interference	**Mild**	**Moderate**	**Severe**
General activity	49(58.3)	11(13.1)	14(16.7)	10(11.9)
Mood	48(57.1)	10(11.9)	16(19.0)	10(11.9)
Walking ability	38(45.2)	10(11.9)	10(11.9)	26(31.0)
Normal work	44(52.4)	10(11.9)	12(14.3)	18(21.4)
Relationship with others	52(61.9)	16(19.0)	10(11.9)	6(7.1)
Sleep	42(50.6)	11(13.1)	11(13.1)	20(23.8)
Enjoyment of life	53(63.1)	14(16.7)	10(11.9)	7(8.3)

Not less than one-half of the subjects who presented with pain claimed that their pain does not have any effect on their general activity (58.3%), mood (57.1%), normal work (52.4%), relations with other persons (61.9%), sleep (50.0%), and enjoyment of life (63.1%) whereas more than one-half of the subjects claimed that their pain affects their walking ability (54.8%) (Table 3).

Among the subjects who presented with pain, the age group 41-50 had the highest proportion (32.1%) (p = 0.459) of subjects while more than one-half of them were female (67.9%) (p=0.597). Majority of the subjects who presented with pain were married (88.1%) (p=0.500) and nearly all of them were from the Yoruba ethnic group (91.7%) (p=0.149). Almost one-half of the subjects who presented with pain were traders (44.0%) (p=0.244) (Table 1).

4. DISCUSSION

According to data collected from a patient population presenting to a teaching hospital in a developing country, the prevalence, location, and duration of pain symptoms show similar characteristics to those reported for patient cohorts in more industrialized world regions. The cohort in Ogbomoso ranged in age from 18 to 80 years (mean age 44.94±14.92) which encapsulates a wide segment of the population. In line with age range and pain prevalence data from other regions, 84.0% of our patients reported pain as a primary or secondary complaint for medical consultation. This number is higher than that reported in in Finland (40.0%) [8], but it is close to the prevalence found in South Africa (74.6%) [9]. It was discovered from this study that majority of the subjects who

presented with pain were females (67.9%). Interestingly, individuals ages 41-50 had the highest frequency of subjects who reported pain. This finding may coincide with the fact that these subjects are the primary labourers in the region. Thus, they are exposed to a significant number of work-related factors which may instigate pain symptoms. More than one half (65.4%) of the subjects who presented with pain were traders or artisans who engaged in lifting heavy loads and/or bending their back for a long period of time. The higher prevalence found among the women may be the result of occupational hazards or household tasks or chores which may heighten the risk of musculoskeletal pain. Overall, the lower limbs and the back were the most common sites of pain and this finding is in accordance with data reported from a study in Spain [13] where subjects complained of pain in lower extremities. The finding is in opposition, however, to findings from South Africa [9] where most of the subjects complained of head and neck pain. Being a descriptive study, we are unable to comment on the etiology or reason for these localization differences.

Nearly 3 in 4 subjects (74.0%) reported using orthodox medicine to treat their pain. This is a higher number than subjects in a study in Spain (61.7%) [13]. The poor regulation of sales of drugs in Nigeria may contribute to the bountiful use [14]. With regards to duration of pain, 48.3% of the subjects in Ogbomoso reported pain occurring for less than 6 months and this finding is similar to what was found in South Africa [9] where the majority of their subjects reported their pain had been occurring for less than or equal to three months. Most subjects described their pain to be severe at its worst. This finding is not unexpected because the majority of the subjects in this environment do not present at the hospital

unless their pain is pressing to the point of significant discomfort. In 46 patients (54.8%), pain was significant enough to interfere with walking ability. This finding is in agreement with the fact that lower limbs and back pain were the most commonly impacted regions of the body."

5. CONCLUSION

The prevalence of pain in the Family Medicine Clinic of the Bowen University Teaching Hospital, Ogbomoso is very high. It affects mainly the lower limbs and the back and it interferes with their walking ability. Majority of them presented with severe pain that is usually less than 6 months. Further studies will be needed to design prevention and early treatment measures as well as to explore other aspects specifically related to pain.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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