

## MANAGEMENT OF OSTEO-ARTHRITIC PAIN BY THE ELDERLY IN NIGERIA

**J. O. Faronbi**, MSc  
Obafemi Awolowo University, Ile-Ife, Nigeria  
Department of Nursing Science  
Corresponding author: faronbiy2k@yahoo.co.uk

**B.R. Fajemilehin**, PhD  
Obafemi Awolowo University, Ile-Ife, Nigeria  
Department of Nursing Science

### ABSTRACT

This study aimed to identify how the elderly in Nigeria manage osteo-arthritis pain; their descriptions of osteo-arthritis pain; and the relationship between management strategies and relief of osteo-arthritis pain. Using structured interviews, data were collected from 236 elderly people on the quality of pain experienced; modalities used to manage osteo-arthritis pain; and the effect of such modalities on the pain.

The results revealed that most respondents (79.7%) perceived osteo-arthritis pain as being excruciating; occurring all the time (80.9%); and increasing in intensity (68.2%). However, 36.9% asserted that pain was associated with stiffness of swollen joints, while 94.5% indicated that rest relieved the pain. Non-steroidal anti-inflammatory drugs (NSAIDs) were used by most (93.6%) of the respondents; local balm (*ori*) by 57.3%; various concoctions (*abgo*) by 14.7%; and traditional powder (*agunmu*) by 11.9%.

Osteo-arthritis pain is a common condition among the elderly in Nigeria. The study found that rest, NSAIDs and local remedies were used to control the pain. Future research should investigate the actions, effectiveness, effective dosages, and potential side-effects of traditional remedies. Health education efforts should inform elderly people about the early signs and symptoms of osteo-arthritis, available remedies and medications as well as the possible side-effects of medications. Elderly women should be warned about the association between being overweight and suffering from osteo-arthritis.

**KEYWORDS:** care of elderly persons, management of osteo-arthritis pain, osteo-arthritis in Nigeria

## INTRODUCTION

Pain is often associated with aging and degenerative diseases (Cavalieri, 2007:12; Pautex & Gold, 2006:1). Older individuals might suffer from both acute and chronic painful diseases (Herr & Kwekkeboom, 2003:1). As the number of elderly people continues to increase (Owoeye & Olawale, 2000: 8), frailty and chronic diseases associated with pain, will also continue to increase.

Musculoskeletal disorders, such as arthritis, are the most common causes of pain (AMA 2007:4; Lin, Katon & Von Korff, 2003; Melding 2002:5). Herr and Garand (2001:457) assert that untreated pain in older persons can affect their overall quality of life resulting in depression, anxiety, social isolation, cognitive impairment, immobility, and sleep disturbances.

Achieving optimal and safe pain management practices in the elderly will improve their functionality, promote their quality of life, increase their comfort and decrease health care costs. Kee and Epps (2001, cited in Hanks-Bell, Halvey & Paice, 2004), stress that pain management is of critical importance for preventing elderly persons' disabilities and for maintaining their independence.

Treatment predominantly focuses on the relief of pain and maintenance of quality of life and functional independence. Some organisations have published clinical practice guidelines for pain management (AGS, 2002; APS, 2002). Pain management modalities include pharmacologic and non-pharmacologic management, and involve integrated programmes of different treatment modalities. Herr and Kwekkeboom (2003:237), as well as Cavalieri (2007:13), stress that non-pharmacologic strategies are useful components of a comprehensive pain management programme. While non-pharmacologic approaches alone might be sufficient to relieve intermittent mild pain, moderate or severe pain would require analgesic medications. Strategies encompass a broad range of treatments and physical modalities for controlling osteo-arthritic pain (AGS 2002; APS 2002; Cavalieri 2007). Non-pharmacologic pain management modalities include general measures, such as patient education, self-help, frequent patient contacts, weight reduction, dietary interventions, physical therapy and exercises, as well as heat and cold applications which can reduce pain (Cavalieri, 2007).

Several authors (Cavalieri, 2007; Kee & Epps, 2001, cited in Hanks-Bell, Halvey & Paice, 2004) have documented the effectiveness of various pharmacologic agents in the management of mild to severe osteo-arthritic pain. These include acetaminophen, opioids, non-steroidal anti-inflammatory drugs (NSAIDS), tramadol, topical local anaesthetics, nitrates, capsaicin, and tricyclic antidepressants, antiepileptics, and muscle relaxants. Cavalieri (2007:13) asserts that even though adverse drug reactions in the elderly are a significant risk, pharmacologic intervention for pain management remains the most important treatment modality.

If osteo-arthritic pain is not relieved, these patients might seek other solutions. Alternative therapies are popular approaches for dealing with pain management among the elderly, although there is a lack of evidence about the effectiveness of these therapies. Osteo-arthritic pain remains one of the common complaints that is frequently untreated or undertreated because of barriers of recognition, assessment and management. Thus, this article seeks to answer the following questions: What is the perception of osteo-arthritic pain by the elderly? What are the various management (pharmacological and non-pharmacological) modalities used by the elderly? Is there any relationship between management modalities and relief of osteo-arthritic pain?

## **RESEARCH METHODOLOGY**

A descriptive design was adopted for this study. The sample comprised 236 elderly persons residing in Ile-Ife and Ilesa in the Osun State of Nigeria. The two towns were selected because their location and cultural inheritance attract many elderly persons, including some who return home after a long working life in the adjacent suburbs and villages. The selection of respondents was based on the following inclusive criteria: the respondents had to be at least 60 years old; had to have experienced osteo-arthritic pain for more than six months; and had to be well oriented for time, place, and person. Structured interviews were conducted. The validity and reliability of the instrument was established through a pre-test conducted on five elderly people in one of the towns that did not form part of the study population.

Permission to conduct the study was sought from the community leaders in the selected towns. Every person's consent was obtained before each interview. Structured interviews were conducted in the elderly persons' homes, at markets or in community halls during regular meetings. Significant dates and records of events, such as the independence anniversary and the year in which the king was crowned, were used for determining the respondents' ages. Data collection was done between October 2007 and February 2008.

Data were coded and subjected to computer analysis using the Statistical Package for Social Sciences (SPSS version 15.0). Descriptive statistics, such as frequency counts, percentages, means and standard deviations, were used to analyse the variables.

## **RESULTS**

Table 1 presents the respondents' socio-demographic characteristics. The respondents' ages ranged from 60–120 years with a mean of 71.1 years and a standard deviation of 8.8 years, and 45.8% ( $n = 108$ ) fell within the 60–69 year age group. The number of respondents decreased with an increase in age group. Only one person was aged at least

100 years. More females (83.9%; n = 198) than males (16.1%; n = 38) were interviewed and many (67.8%; n = 160) were traders.

**Table 1:** Respondents' socio-demographic characteristics (N = 522, n = 236)

Variables	Frequency	Percentage
Age of respondents in years		
60-69	108	45.8
70-79	67	28.4
80-89	51	21.6
90-99	9	3.8
100-120	1	0.4
Total	235	100.0
Sex		
Male	38	16.1
Female	198	83.9
Total	236	100
Religion		
Christianity	172	72.5
Islam	64	27.1
Total	236	100
Educational status		
No formal education	179	75.8
Primary education	50	21.2
Secondary education	5	2.1
Postsecondary education	2	.8
Total	236	100
Occupation		
Retiree	50	21.2
Trading	160	67.8
Farming	15	6.4
Artisan	11	4.6
Total	236	100

Of the respondents (see table 2), 79.7% (n = 188) portrayed their pain as being excruciating or severe, while 36.85% (n = 87) perceived their pain to be an offshoot of joint stiffness and swelling; 25% (n = 41) believed that their pain was unbearable; 17% (n = 40) described that their pain was felt deep inside the bone; 9.31% (n = 22) said that their pain was associated with prolonged sitting or walking; while 19.5% (n = 46) stated that there was no permanent solution for their pain.

**Table 2:** Distribution of the respondents by the quality of their osteo-arthritic pain (n = 236)

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Severity of pain</b>		
Mild pain	1	0.4
Discomforting	5	2.1
Distressing	10	4.2
Horrible	32	13.6
Excruciating	188	79.7
Total	236	100
<b>Frequency of pain</b>		
At all time	191	80.9
Occasionally	43	18.2
Rarely	2	0.9
Total	236	100
<b>Changes in intensity of pain</b>		
Increasing	133	68.2
Decreasing	62	37.2
No	41	17.4
Total	236	100
<b>Intensity of pain</b>		
At all time	138	58.5
Morning	59	25.0
During the day	27	11.4
At night	10	4.2
When involved in activities	2	0.8
Total	236	100.0
<b>Description of perception of pain</b>		
Associated with stiffness and swollen joint	87	36.9
Unbearable	41	25.0
Felt deep in the bone	40	17.0
Comes with long sitting or working	22	9.3
It is a pain without permanent solution	46	19.5
Total	236	100.0

Table 3 outlines the various management modalities implemented by the elderly. Of all the non-pharmacological management strategies employed by the respondents, periods of rest were the most widely used (94.5%; n = 223), while physiotherapy visits were the least employed (7.6%; n = 18). As for drug therapy, the majority (93.6%; n = 221) claimed to use NSAIDs; 93.6% (n = 221) used methyl salicylate to topically relieve their pain; while 80.5% (n = 190) reportedly took paracetamol as a systemic pain killer.

Opioids, morphine, codeine, diazepam, and chlorpromazine were seldom used (1.3%; n = 3). Table 3 further reveals that the quest for relief from pain among the elderly was not limited to the pharmacologic and non-pharmacologic modalities. Some indigenous remedies that were used included local balm (ori) (57.3%; n = 125), different concoctions (agbu) (14.7%; n = 32), and traditional powder (agunmu) (11.9%; n = 26). Table 3 also shows that 67.8% (n = 160) of the respondents obtained patented medications from medicine stores; 25.4% (n = 60) received their treatment from health care facilities; while 78.4% (n = 185) claimed to use locally available materials to relieve their pain.

**Table 3:** Distribution of management modalities implemented by respondents to relieve osteo-arthritis pain (n = 236)

Modalities	Mostly used (%)	Rarely used (%)	Not used (%)	Total (%)
Non-pharmacologic				
Rest	223 (94.5)	5 (2.1)	8 (3.4)	236 (100)
Physical therapy	18 (7.6)	38 (16.5)	179 (75.8)	236 (100)
Bandaging	22 (9.3)	53 (22.5)	161 (68.2)	236 (100)
Hot or cold	57 (24.2)	44 (18.6)	135 (57.2)	236 (100)
Pharmacologic				
NSAIDS	221 (93.6)	7 (3.0)	8 (3.4)	236 (100)
Paracetamol	190 (80.5)	9 (3.8)	37 (15.7)	236 (100)
Opioids	3 (1.3)	3 (1.3)	230 (97.5)	236 (100)
Adjuvant Therapy	3 (1.3)	3 (1.3)	230 (97.5)	236 (100)
Methyl salicylate	221 (93.6)	3 (1.3)	12 (5.1)	236 (100)
Surgical procedure	1 (0.42)	0 (0)	235 (99.6)	236 (100)
Alternative materials				
Local balm (Ori)	125 (57.3)	45 (19.1)	66 (28.0)	236 (100)
Concoctions (Agbo)	32 (14.7)	86 (36.4)	118 (50.0)	236 (100)
Scarification (Gbere)	13 (6.0)	62 (26.3)	161 (68.2)	236 (100)
Traditional powder (Agunmu)	26 (11.9)	52 (22.0)	158 (67.0)	236 (100)
Traditional bone setting	6 (2.75)	38 (16.1)	192 (81.4)	236 (100)
Black soap	16 (6.8)	65 (27.5)	155 (65.7)	236 (100)
Source of aforementioned therapeutic measures				
Medicine store		160	67.8	
Health care facility		60	25.4	
Local		185	78.4	
Duration of relief				
No relief at all		5	2.1	
Only a brief period, up to eight hours		41	17.4	
Half a day or more, up to eight hours		98	41.5	
A day or more, sixteen to twenty-four hours		92	39.0	
Total		236	100.0	

## **DISCUSSION OF RESEARCH RESULTS**

Many of the respondents (48.5%; n = 108) suffering from osteo-arthritic pain, fell within the age group 60–69 years. This is in line with Zhang et al.'s (2002) findings that there was a decline in the incidence of osteo-arthritis as the elderly advanced in age.

The gender difference found in the incidence of osteo-arthritic respondents (male 16.1% and female 83.9%) is similar to that reported by Fillingim et al. (2009), thus indicating that the incidence of osteo-arthritis is higher among women than men. This observed trend might be related to the prevalence of obesity among women, implicated as a predisposing factor in osteo-arthritis (Ehrentraut, 2011) and the sedentary lifestyle predominant among Nigerian women.

The description of osteo-arthritis pain by respondents in the study is exemplified in their words as 'associated with stiffness and swollen joint', 'unbearable', 'felt deep in the bone', 'comes with prolonged sitting or walking', and 'is a pain without permanent solution'. These respondents' descriptions support Thomas' (2000: 84) finding that patients with chronic pain describe their pain experiences as individualised dialogues between themselves and their painful conditions, and also as McCaffery's (1999, cited in Herr et al., 2006:44) definition of pain as whatever the experiencing person says pain is, existing whenever he/she says it does.

The American Pain Society (APS, 2002) identifies relaxation, superficial massage, application of heat and cold, and positioning as effective non-pharmacologic treatment of chronic osteo-arthritis pain. However, the current study found that these measures, with the exception of resting, were seldom used by the respondents, who might have been ignorant about these strategies to manage pain. Periods of rest as a pain relieving strategy were widely implemented by the respondents. Dawson et al.'s (2004) finding that osteo-arthritic pain is often relieved by rest, especially at the onset of pain, gave credence to this observation.

The respondents utilised various pharmacologic agents to manage their osteo-arthritic pain, including NSAIDS (93.6%, n = 221), paracetamol (80.5%; n = 190) and salicylates (93.6%; n= 221). This is in line with established international guidelines (APS, 2002) for the management of osteo-arthritic pain. Cavalieri (2007:12) argues that the administration of opioid analgesics to manage chronic non-cancer pain in the elderly is acceptable and effective. However, in the current study few respondents (1.3%; n = 3) had ever used these drugs, probably because few attended hospitals for their pain treatment and these measures were not available over the counter. Also, due to their potential side-effects, such as respiratory depression especially in the elderly, healthcare practitioners might not prescribe these drugs readily.

NSAIDS were the most widely used pharmacological agents, shown to be effective in the management of osteo-arthritis because of its analgesic, anti-inflammatory and anti-pyretic properties. Besides, it is readily available, being over-the-counter drugs. This supports Baryraktar, Hudson, Watson and Fraiser's (2000:67) postulation that for inflammatory arthritis, NSAIDS are more effective than simple analgesics. However, NSAIDS have side effects including gastro-intestinal bleeding, fluid retention and renal insufficiency (Hawboldt, 2008).

As many as 160 (67.8%) respondents used patented medications obtained from medicine stores' unrestricted sales of over the counter medications available throughout Nigeria. Only 25.4% (n = 60) of the respondents received their treatment at healthcare facilities, while 78.4% (n = 184) used locally available herbs and homemade remedies.

Although adjuvant therapies are reportedly effective in the management of osteo-arthritis pain (APS, 2002; Bayraktar et al., 2000), the study showed that these measures were seldom used, probably because most respondents did not attend healthcare facilities and these measures are not available over the counter.

Most respondents found relief from their pain from the use of orthodox drugs, but some used traditional remedies (local balm (ori) 57.3%; n = 125; concoction (agbo) 14.7%; n = 32; and traditional powder (agunmu) 11.9%; n = 26). This is in line with Khatta (2007:1) who posited that when prescribed medical treatments are ineffective or cause side-effects, patients either have to suffer in pain or seek alternative treatments.

## **CONCLUSIONS**

The elderly respondents experienced substantive osteo-arthritis pain which they managed with NSAIDS, paracetamol and salicylates as well as with local remedies, thus producing relief from pain. However, of all the measures, rest and pharmacologic management were the most prominent. Many respondents were ignorant about the available non-pharmacological and pharmacological measures. Non-steroidal anti-inflammatory agents were widely used.

## **RECOMMENDATIONS**

Achieving optimal and safe pain management practices among the elderly remains a challenge to the elderly themselves, caregivers and healthcare professionals. Elderly people could benefit from health education addressing pain management. Pain management counselling should be given to the elderly, caregivers and healthcare professionals as well as education about the early detection and proper management of osteo-arthritis, and about the correlation between being overweight and osteo-arthritis.



Future research should investigate the composition, effects and side-effects, optimal doses and potential risks of traditional remedies used by the elderly in Nigeria to control their osteo-arthritic pain.

## LIMITATIONS

Non-probability sampling was used, implying that the results might not be generalised to other elderly people. Interviews were conducted with the elderly persons only. The caregivers of these elderly persons and their healthcare providers might have provided additional information about these elderly people's management of osteo-arthritic pain. No attempts were made to correlate any elderly person's information with his/her medical records. Only structured interviews were conducted. Richer data might have been obtained if in-depth interviews could have been conducted.

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