Research Article

STUDY OF INDIVIDUAL CHARACTERISTICS AND HEALTH SERVICES IN THE MANAGEMENT OF PAIN AMONG HEALTH PERSONNEL IN CAMEROON

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ABSTRACT

Pain remains the first reason for consultation encountered in several health imbalances. The subjective evaluation of pain despite the existence of pain evaluation tools is a reality which justifies the practice of self-medication and poly-medication with significant consequences on the health of individuals and in turn on the health system.

Objective: Raise the characteristics of health professionals and services caring for victims of pain in the West – Cameroon.

Methodology: This quantitative observational study of the pain management environment and the professionals involved took place among 230 health professionals working in the West Cameroon region. Respondents were selected using two sampling techniques: 03-degree probability sampling and systematic non-probability sampling within tertiary units. The data were collected using a questionnaire and analyzed using SPSS software, Version 25. The statistics were assessed at the 5% threshold.

Results: The median age was 26 years (IQR: 22-54 years). More than half of the professionals surveyed (58.5%) were male Doctors and Nurses. (χ^2 = 14.32; p < 0.0001). The youth of the study population was associated with considerably low professional seniority where 45.20% of the staff involved in pain care had less than one year of professional experience. (χ^2 = 17.50; p < 0.0001).An unequal distribution of health professionals surveyed in the study site was noted. The Dschang health district brings together almost half (46.10%) of the personnel surveyed while the Mifi and Mbouda health districts each record less than a third of these professionals (30.40%) (χ^2 = 17 .51; p <0.0001) The use of the two standard pain assessment tools (VAS and EN) in health facilities determined the process of assessing the intensity of pain felt by patients (χ^2 = 226.01; p < 0.0001), VC = 1; CC = 0.71).

Conclusion: Taking into account contextualized ratios of caregivers/people being treated and equity in the institutional distribution of caregivers within health services would facilitate the evaluation of the achievement of treatment objectives and the implementation of a more humanized system. monitoring of treated patients.

Keywords: Profile, pain health service, nursing staff.

INTRODUCTION

Considered as the main reason for consultation of patients consulting in the health training, pain assessment as for her don't dies holding not a place of choice in the process of comprehensive and effective care. Pain can be induced by therapeutic activity, pathological organic imbalance, physical, mental, psychological or emotional trauma. Whatever the etiology of pain, its management requires a good prior assessment to establish appropriate therapeutic protocols and rigorous clinical monitoring. The prescription and use of analgesics and anesthetics in hospitals and in the community does not always follow ideal protocols that allow monitoring and evaluation of pain, which is essential to avoid real or potential side effects. Patients remain exposed to the avoidable side effects of analgesics used in the acute phase or in the process of chronic pain.

From the front door of the health system at the peripheral level to its door at the central level via the intermediate level, pain is experienced on a daily basis by both caregivers and those receiving care. HAS hospital General of Yaoundé - Cameroon, The incidence of pain post -operatory was 94% with a high intra-service frequency in orthopedic

surgeries(100%) and obstetrics and gynecology's(97.5%) where analgesics were prescribed to 100% of patients with 4% of adverse effects observed due to treatment([1]). Many painful processes are treated without prior evaluation and despite a growing understanding of the path physiology and of development of sophisticated treatment techniques, pain remains undervalued and therefore poorly treated.

Many researchers have described the state of the art of analgesia practice and have proposed strategies to improve the use of analgesia in cases of pain. ([1]) All of these protocols involve prior assessment of pain. The assessment of pain is a difficult task for reasons which relate to the personal nature of the painful sensation and its entanglement with affective and cognitive elements often coming to the fore. In Africa, much more than elsewhere, cultural and intellectual considerations profoundly hinder screening and quantification. of the pain ([2]).

Study framework

Pain is defined according to the International Association for the Study of Pain (IASP) as "an unpleasant sensory and emotional experience related to actual or potential tissue damage or described in terms of such damage. Acute pain is pain that has recently started (< 3 months). It is a symptom, an alarm signal which aims to protect the individual, in particular by revealing an illness. It can be cured by

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appropriate curative treatment. This is the most frequent reason for consultation in emergency departments.

In reality, the term "acute" refers to time, not intensity. This definition is supplemented by six key notes for more precise context:

- Pain is always a personal experience that is influenced to varying degrees by biological, psychological and social factors.
- Pain and nociception* are different phenomena. Pain cannot be inferred solely from the activity of sensory neurons.
- Through their life experiences, individuals learn the concept of pain.
- A person's report of a pain experience should be respected.
- Although pain generally plays an adaptive role, it can have negative effects on social and psychological functioning and well-being.
- Verbal description is only one of many behaviors for expressing pain; the inability to communicate does not exclude the possibility that a human being or anima experiences pain.

In the scientific literature, it is commonly accepted that the classic description of pain involves four processes: transduction which translates the conversion of the energy provided by a painful stimulus (mechanical, thermal, chemical) into electrical energy (nerve impulse) by sensory pain receptors (nociceptors). We also have transmission which allows the transport of the nerve impulse from the site of painful stimulation in the periphery to the central nervous system (spinal cord and brain) through nociceptive afferents. Perception, for its part, reflects the outcome of the painful experience in its sensory (location, type and identification) and affective (emotional) dimensions. Finally, modulation corresponds to the set of inhibitory and excitatory regulatory mechanisms that the nerve impulse undergoes between stimulation and final perception.

Regarding the components, whatever its initiating mechanism, somatic, neurological or psychological, pain is a complex phenomenon whose perception involves four interactive components: sensory-discriminative, affective and emotional, cognitive and finally behavioral.

- **Sensori-discriminative component:**

    It corresponds to the neurophysiological mechanisms allowing the decoding of nociceptive messages. It makes it possible to analyze the nature, location, duration and intensity of the painful stimulation.

- **Affective and emotional component:**

    It expresses the unpleasant, painful connotation linked to painful perception and can develop into states of anxiety and depression.

- **Cognitive component:**

    It refers to a set of mental processes capable of modulating the other dimensions of pain: meaning, interpretations, beliefs, etc. Eastalso modulated by context and motivation. Indeed, the perception of pain can be temporarily attenuated when the patient is "distracted" by an occupation (e.g. a footballer who continues to play despite a sprained ankle).

- **Behavioral component**:

    It corresponds to all the manifestations expressed by the patient:

    - ✓ Physiological and neurovegetative: sweating, tachycardia, increase in blood pressure, tachypnea)
    - ✓ Verbal: complaints, elaborate speech, moans, cries...

- ✓ Motor: grimaces, agitation, avoidance, immobility, analgesic position, counter stimulation by massage, etc.

It is therefore important to note that these dimensions are under the influence of environmental, professional, family, social and cultural factors, past or present. Besides, the decision to consult a doctor as soon as the illness appears is largely dependent on the financial means available. Lack of money constitutes for modern self-medication and abstention the fundamental reason for the therapeutic decision. The most common symptomatology being pain, it has no socio-cultural specificity([3]). We could therefore think that the incidence of self-medication with harmful health, social and economic consequences in cases of pain is significant. The problem of illicit sale of medicines and accessibility to generic essential medicines will increasing the consequences of poor pain management through self-medication and poly-medication.

In Cameroon, it was noted that 80% of the population has a poor consumption profile ([4]). This leads to a low capacity to seek care and therefore health expenditure. Thus, improper use of medications including analgesics would increase the risk of adverse effects occurring with even more serious consequences following events such as: Medication errors, Therapeutic failures, Drug interactions, dependence and tolerance, resistance, misuse, intoxication and drug addiction, poor quality or counterfeit. These errors and consequences arise in a health context where healthcare services are not always equipped and staff are sometimes poorly qualified. Thus, it becomes important to study how health personnel and health facilities manage pain victims on a daily basis. The general objective of this study is to identify individual characteristics and health services in the management of pain among health personnel in Cameroon.

Hypotheses

General hypothesis

Individual characteristics and health services in the management of pain among health personnel in Cameroon.

Operational assumptions

HO1: individual characteristics influence pain management among health personnel in Cameroon.

HO2: characteristics services health influences the management of pain among health personnel in Cameroon.

METHODOLOGY

Site and participants

Our study took place in the health districts of the western region of Cameroon. We carried out a survey among 230 (127 men and 103 women) health professionals from the West region - Cameroon, identified mainly in the health district of Dschang (46.08%) whose average age varies between 21 and 30 years old. These participants were selected through double sampling. Three-stage cluster probability sampling was used to cover the study site. The health districts constituted the primary units; the health areas, secondary units and health facilities where staff were interviewed constituted the tertiary units where the sample of participants was selected. Systematic non-probability sampling was used within tertiary units. The dominant characteristic being to practice within a health structure and to take care of the permanent or occasional management of patients' pain. All professional categories of health professions in the

study sites agreeing to participate in the study were interviewed. All health personnel working in the Western region during the collection period were included in our study. And having agreed to participate.

Material

The process which led to the collection of data was primarily based on the administration of a questionnaire. To collect the data for this study, the online questionnaire to collect the data was divided into three parts:

- The sociodemographic and professional profile of the respondents (age, sex, rank, seniority, etc.)
- Respondents' knowledge of pain
- Pain care by respondents

Statistical processing

In the present study, two types of analysis were favored, namely: descriptive analysis and inferential analysis. Apart from flat sorting for frequency analyses, we used the chi square to study the existing relationship between the variables of this study. This choice is motivated by the nominal nature of our variables.
The data were analyzed using SPSS software, Version 25. All statistics were assessed at the 5% threshold.

RESULTS

The survey allowed us to discuss with 230 health professionals from the West region - Cameroon, identified mainly in the health district of Dschang (46.08%). Five healthcare professions primarily involved in pain management were identified in the study site. The medical profession and the nursing profession were the most represented with 33.30% and 25.20% respectively. The main results of this study presented below are grouped into 04 parts, making it possible to highlight the factors associated with pain management and which would determine the level of achievement of the objectives of care sought by caregivers and associated structures.

H1:individual characteristics and pain management

- SOCIODEMOGRAPHIC PROFILE OF PROFESSIONALS SURVEYED

The results indicate that professionals involved in pain management is slightly in favor of the male sex (1.23). In many countries in the world, health professions are dominated by the female gender, our country is no exception to the rule but the contradiction of the present study will initially come from the reduced sample size and in a second phase of the prevalence of male professionals in consultation pools and in the different specialties.

The median age was 26 years (IQR: 22-54 years). This youthfulness of our sample could be explained by the emergence of numerous young health training centers in the region which largely recruit new batches of professionals from the numerous training schools abounding in the western region.

More than half of the professionals surveyed (58.5%) were doctors, made up mainly of men. (χ^2 = 14.32; p < 0.0001).We still note a low representation of dentistry (n= 13 for a quota of 5.7%). Likewise, nurses who constitute the majority of healthcare personnel in the field only represent 14.8% (n=34). This unequal representation of professionals will be linked to the fact that the theme addressed by the study put at the forefront professionals whose pain management is part of their daily life. Today, specialist doctors are most sought

after by patients or other professionals who need their expertise in managing recurrent pain. He is entirely logical that they had more interest in participating in the study than other professionals. On the other hand, the low representation of dental surgery would just be linked to the low number of this professional category in the region.

Table 1: Distribution of respondents according to profession and gender (n=230)

Sex Occupation	Male	feminine	Total
nurses	24 (70.6)	10 (29.4)	34 (14.8)
Specialized nurses	13 (54.2)	11 (45.8)	24 (10.4)
midwife	19 (51.4)	18 (48.6)	37 (16.1)
doctors	20 (62.5)	12 (37.5)	32 (13.9)
specialized doctors	29 (64.4)	16 (35.6)	45 (19.6)
pharmacists	12 (35.3)	22 (64.7)	34 (14.8)
dental Medicine	4 (30.8)	9 (69.2)	13 (5.7)
HASothers	6 (54.5)	5 (45.5)	11 (4.8)
Total	127 (55.2)	103 (44.8)	230 (100.0)

Regarding age and number of years of service, we note that the professionals involved in pain management are predominantly young's. The most represented age group that of professionals aged between [21 to 30 years [(45.20%). We noting addition to the fact that the youth of this study population is associated with a considerably low professional seniority with 45.20% of the personnel involved in pain care having less than one year. Professional experience (χ^2 = 17.50; p < 0.0001).

Table 2: Distribution of respondents according to age and professional seniority (n=230)

Sex Occupation	Male	Feminin	Total
nurses	24 (70.6)	10 (29.4)	34 (14.8)
Specialized nurses	13 (54.2)	11 (45.8)	24 (10.4)
midwife	19 (51.4)	18 (48.6)	37 (16.1)
doctors	20 (62.5)	12 (37.5)	32 (13.9)
specialized doctors	29 (64.4)	16 (35.6)	45 (19.6)
pharmacists	12 (35.3)	22 (64.7)	34 (14.8)
dental Medicine	4 (30.8)	9 (69.2)	13 (5.7)
HASothers	6 (54.5)	5 (45.5)	11 (4.8)
Total	127 (55.2)	103 (44.8)	230 (100.0)

HO2: health characteristics and pain management among health personnel in Cameroon.
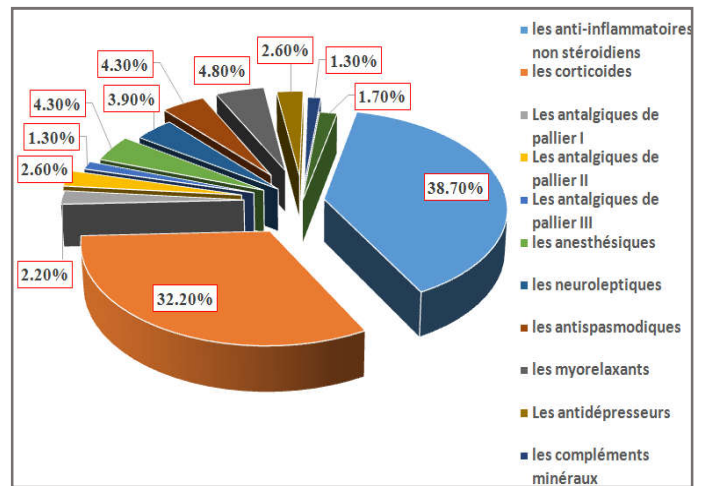
- Institutional distribution of respondents and elements of specialization

The results contained in the table below provide information relating to the geographical distribution of the personnel surveyed according to profession and health district to which they belong. There is an uneven overall distribution (qualitative and quantitative) of personnel working in the health districts visited. However, the distribution of staff numbers by professional category).The tends to stabilize around the average of 7 personnel per professional qualification for the Mbouda health district alone. Overall, dental professionals constituted the least represented profession (5.70%) in the population of personnel ensuring the daily management of patient pain in the study region. The Dschang health district brings together almost half (46.10%) of the personnel surveyed while the Mbouda health district records less than a third of these professionals (30.40%) (χ^2 = 17.51; p < 0.0001).

Table 3: Distribution of respondents according to health district and professional qualification

Health district Professions	Mifi	Dschang	Mbouda (*)	Total
Nurses	12 (22.2)	13 (12.3)	9 (12.9)	34 (14.8)
Specialized Nurses	6 (11.1)	9 (8.5)	9 (12.9)	24 (10.4)
Midwife	8 (14.8)	17 (16.0)	12 (17.1)	37 (16.1)
Doctors	10 (18.5)	11 (10.4)	11 (15.7)	32 (13.9)
Specialized Doctors	10 (18.5)	25 (23.6)	10 (14.3)	45 (19.6)
Pharmacists	2 (3.7	20 (18.9)	12 (17.1)	34 (14.8)
Dental Medicine	3 (5.6)	4 (3.8)	6 (8.6)	13 (5.7)
Others	3 (5.6)	7 (6.6)	1 (1.4)	11 (4.8)
Total (**)	54 (23.5)	106 (46.1)	70 (30.4)	230 (100.0)
Dental Medicine	3 (5.6)	4 (3.8)	6 (8.6)	13 (5.7)
Others	3 (5.6)	7 (6.6)	1 (1.4)	11 (4.8)
Total (**)	54 (23.5)	106 (46.1)	70 (30.4)	230 (100.0)

On all nursing and doctor staff surveyed on the basis of their involvement pain management, more than half (51.85%) are specialized in one of the fields of health sciences. In terms of the specificity of the areas of specialization, intensive care anesthesia was the area of specialization most encounter (35.71%) among the health sciences specialists surveyed. It should also be noted that nurses are the only ones (100%) interested in specializing in mental health while doctors are the only ones concerned with surgery and cardiology.

Figure 1: Distribution of health professionals by profession and area of specialization

● **Pharmacological classes used in pain management**

The figure below provides information on the types of medication prescribed for patients with pain. A diversity of pharmacological classes is known by the respondents. However, we note that these pharmacological classes are used in unfair proportions depending on prescription habits in cases of pain. Overall, nonsteroidal and steroidal anti-inflammatories were the most prescribed (70.90%) by health professionals to deal with painful processes. The grouping of analgesics by level I, II, III shows that they are poorly used at 2.20%, 2.60% and 1.30% respectively. The same goes for antispasmodics (4.30%), muscle relaxants (4.80%) and antidepressants (2.60%).

Figure 2: Prescription frequency of main medications used to treat people with pain

● **Drug combinations usually usedees**

The combination of at least two medications for pain is used by 94.8% of the health professionals surveyed. These combine on average three medicinal products to treat pain. The mode of the series of distribution of the number of drugs partners by the respondents being 04 drugs, the professionals mainly use (30.40%) a combination of 4 drugs to treat the pain encountered in their patients.

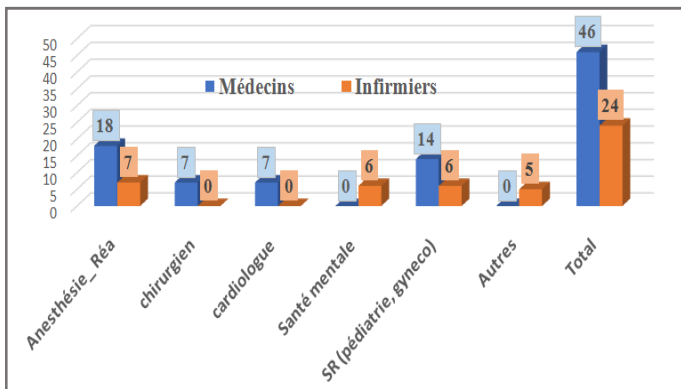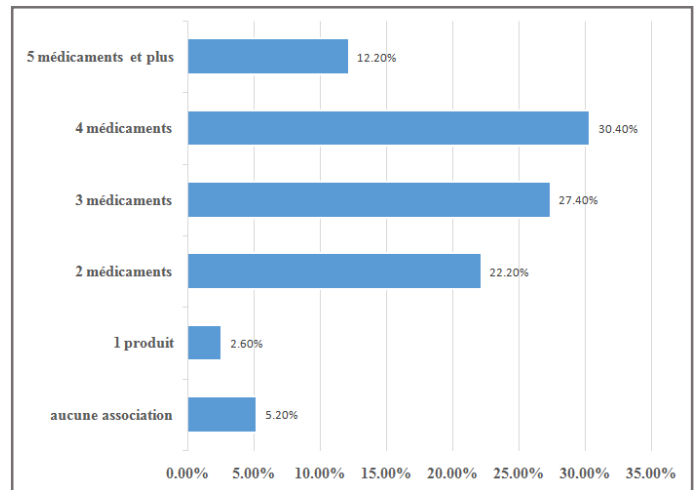**Figure 3: Distribution of respondents according to the number of medications frequently used to treat pain in patients**

● **Place of non-drug procedures in pain care**

The majority of professionals (55.20%) say they use non-drug procedures for the treatment of pain in patients (Tb. IV-4). The majority of respondents who prescribe examinations to look for the cause of the imbalance (62.90%) also integrate non-drug procedures into pain care. The use of non-drug procedures was also associated with prior investigation of the cause of pain through examinations in the pain case management protocol. sencountered (χ^2 = 6.42; p: 0.011).

Table 4: Distribution of respondents according to classification or not of pain and type of pain classified

Non-drug processes Examination prescription	Yes	No	Total*
Yes	78 (62.90)	46 (37.10)	124 (53.90)
No	49 (46.20)	57 (53.80)	106 (46.10)
Total**	**127 (55.20)**	**103 (44.80)**	**230 (100.00)**

DISCUSSION

Several explanatory theories of observed health behaviors can justify the foundations of the observations noted in the context of pain management by health professionals. Theories of Caring, interpersonal behavior and motivation. What pushes us to question the professional responsibility and freedom of man who sometimes seems to be presented as master and responsible for his actions and his therapeutic choices.

The high proportion of predominantly young health professionals rhymes with their professional experience which is still under construction. A reality which could partly justify lack of mastery of protocols, of the tools evaluation and pain treatment observede in the field. However, this reality could also highlight the notion of transitional age in a socio-cultural context where the cultural and socio-economic aspect influences the median age of 26 years among the respondents, as noted by Scrima and other researchers in their work ([5]).

The significant nursing representation in the health system associated with the drug prescription service devolves particularly to the medical profession in the health system justifies the large proportion of respondents, more than half of whom are made up of Doctors and Nurses. This observation is similar to the findings made by??(author)[4].The high concentration of respondents in the Dschang health district corroborates with data from the country's programmatic health map drawn up by the Ministry of Public Health. In the Western region, the Dschang health district benefits from the richest structuring of the health map with 20 health areas ([6]).

The main pharmacological classes of drugs used in the treatment of pain were cited in different proportions by the respondents. The main focus was on anti-inflammatories (steroidal and non-steroidal) used sin case of pain by 70, 90% of respondents. Not only do the undesirable effects of this pharmacological class concern several systems of the body, but they are also less recommended than analgesics, which are weakly mentioned (6.10%) by the professionals interviewed. Several studies have also highlighted the limited knowledge and variability in the level of knowledge of professionals during health practices ([7]).

The usual presence of pain in the treated population rhymes with the factwhatis one of the main reasons for consultation encountered by the respondents in this study. The usual encounter of the same reason for consultation should also lead the healthcare team to question the effectiveness of the protocols used to restore a lasting smile to the people being treated. In this study, all respondents were involved not only in the management of pain cases in the initial phase, but also in cases of patient relapse. Frequent relapses are the main reason for keeping appointments. Which corroborates with the findings of several studies carried out in the field of health? Pain actually constitutes a major therapeutic problem in hospital and community health ([8]).

Several respondents did not take into consideration the existence of several types of pain. This is contrary to the data noted by other researchers who have found a diversity of types and approaches therapeutics integrating pain perceived in several dimensions of being. They take into account the diversity of the patient and make it possible to propose a global treatment strategy perceived as suitable and effective for sustainably reducing pain ([9]). The permanence of physical pain is not without consequences on the moral, mental and psychological sphere. Hence the need for adequate treatment that can protect the patient from chronicity. Avoiding depressing situations would improve the experience of patients suffering from pain. The authors agree on the fact that the permanence of pain perceived in the long term would be the cause on the one hand and the consequence of depression on the other hand. A vicious circle which would contribute to the overconsumption of analgesics and antidepressants whose therapeutic effects would be reduced. The frequency of occurrence of depressive episodes in patients suffering from chronic pain and, conversely, the frequency of depressed patients in whom the effectiveness of antidepressants is delayed demonstrates the importance of classification and determination of the types and degree of pain treated ([10]).

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