Perception and Expression of Pain in Patients Attending University of Nigeria Teaching Hospital, Ituku-Ozalla Enugu

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Abstract
This study examined the perception and expression of pain in patients attending the University of Nigeria, Ituku-Ozalla, Enugu. Pain is often described as a subjective complaint that acts as a warning sign. It is a common reason for people to visit hospitals. Patients in male, female and pediatric medical and surgical wards were the target population. A sample size (96) was determined using yaro-yaman formula. The data were collected through a qualitative interview. A pilot study was carried out to test the validity and reliability of the instrument. The study was guided by three objectives and two hypotheses. From the data analysis, it was found that 55.2% of the respondents were female and 44.8% were males, 41.1% were within the age range of 16-30 years, 31.8% (31-40 years), 21% (41-55 years), and 2.5% (5-15 years). The following factors were found to influence pain perception and expression: lack of finance, lack of knowledge regarding the outcome of the disease, family relation and attitude of nurses. The common forms of pain amongst the patients are physical (49.4%) and psychological pain (40.1%). As regards expression of pain, 29.1% expressed by frowning, 21.3% by crying and groaning and 16.4% by shouting. Hypothetically, there was no significant relationship found between patient’s characteristics and pain expression. The researcher therefore recommends that patients relations be involved in their care, the Nurses should display a positive attitude towards their patients.

Introduction
Pain is the chief complaint and the commonest reason for people to visit hospitals. It is a major symptom in many medical conditions and after surgery and can significantly interfere with a person's quality of life and general functioning [1]. Poorly controlled pain has psychological and physiological harmful effects on the patients and this includes impaired wound recovery, increased metabolic rates, impaired insulin response, increased production of cortical, and increased fluid retention and risk of developing chronic pain [2].

Pain is often described as a subjective complaint that acts as a warning sign, perceived and experienced differently by people [3,4]. Perception and expression of pain are broad and despite the availability of clear clinical guideline and widespread recognition. According to Christian Jarrett, most of us have suffered pain in one form or another, but our experience of that pain will have varied widely. In the Lab, the same level of stimulation from extreme cold to electric shock has been shown to cause a yelp in some but a barely discernible wince in others. Moreover, whereas many people are lucky enough to experience pain as a fleeting encounter, for others pain is a constant companion.

The sensitivity and tolerance people show towards pain varies predictably according to several factors, including gender, ethnicity, personality and culture, all interacting, overlapping and playing out in the tissues and synapses of the body. Indeed, the topic of individual differences in pain is like a microcosm of science. It’s worth remembering that a person’s beliefs and cultural upbringing can change the way their body and brain respond to pain [5]. The pain threshold equally varies among people; hence the treatment modalities for pain should be individualized. In the quest to determine the perception of pain and its expression among patients in different settings, several researchers have explored many hospital inpatients but none has been able to evaluate this in both adult, adolescent and pediatrics wards in both medical and surgical conditions.

In other to fill the gap in literature, the study focusing on the perception and expression of pain by patients has the following characteristics: it focused on the perception of pain by patients in both medical and surgical wards. It also includes personal characteristics of the respondent (patient). It explored the factors that affect pain perception among patients with medical and surgical conditions and focused on the expression of pain among patients with medical and surgical conditions.

Hypothesis of the study
There is no significant association between the personal characteristics of respondents and pain perception.

This study aimed at exploring pain perception and expression amongst patients in both medical and surgical ward. The following section provides background information to the readers on pain perception and expression and the associated factors, and some relevant finding from the literature.

According to international association for the study of pains “Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. Pain is an unpleasant sensory and emotional experience; it is the most common reason patients require nurse’s attention. Knowing the time onset, location, and intensity, pattern of occurrence, quality and exacerbating and relieving factors will help the nurse to accurately diagnose the problem and plan the nursing intervention. Patients
suffering from pain cannot help themselves and many times, perceptions are under-reported due to many factors on the patients’ parts which may be cultural, religious or ethical. Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage [6]. It is a perception that signals the individual that tissue damage has occurred or may be occurring. It is subjective and very complex. The processes in the body that are involved in the perception of pain are called “Nocinception”.

Pain is predictable, following injury, surgery and gradually decreases over time. Pain is a highly individualized, complex, multi-dimensional experience which is influenced by the interaction of many factors including biological, psychological, environmental, and social (Australian and New Zealand College of Anesthetists and Faculty of Pain Medicine [7]).

Persistent unrelieved moderate to severe pain and other risk factors are associated with CPSP [7]. Prompt identification of pain is therefore essential and caregiver must have an understanding of the nociception of pain if pain is to be accurately identified and effectively managed. If pain is not managed effectively the patients’ recovery can be adversely affected resulting in chronic pain and even death [7]. Most patients do not report to the hospital on time. Due to the way they perceive and express their pain, thereby coming in at the time the condition has become so critical and become an emergency situation which will reduce chance of survival and poor prognosis leading to spending more by the patient’s relatives and decrease the patients’ quality of life. A knowledge of pain physiology can help nurses to address this aspect of care and adequately plan to give individualized care to the patients since pain assessment is very vital and has become the fifth vital sign.

The human perception of pain is in conjunction with the mind and body, since pain is a perception, the mind may decide the degree. The concepts are transduction, transmission, modulation and perception.

**Perception of pain in medical/surgical condition**

Perception is the process where pain becomes a conscious sensation. The brain does not have a single center associated with pain but there is a complex interplay between many different centres depending on their activation by pre, intra and postoperative neuronal, psychological, environmental and social influences. The level of this activation and interplay of the brain centers depends on patients’ individual circumstances including: Fear of postoperative pain, previous pain experience, emergency or elective surgery, preoperative anxiety, gender (male patient is more prone to expressions of slightest pain than the female ), culture, age [8]. This interplay of information between the different centers of the brain is termed the ‘pain matrix’ and is not fully understood. The overall evaluation of this information will result in the patient’s own perception of their pain.

In pain, thresholds are measured by gradually increasing the intensity of a stimulus such as electric current or heat applied to the body. The pain perception threshold is the point at which the stimulus begins to hurt, and the pain tolerance threshold is reached when the subject acts to stop the pain. Differences in pain perception and tolerance thresholds are associated with, among other factors, ethnicity, genetics and sex. People of Mediterranean origin report as painful some radiant heat intensities that northern Europeans describe as non-painful, and Italian women tolerate less intense electric shock than Jewish or Native American women. Some individuals in all cultures have significantly higher than normal pain perception and tolerance thresholds. Women have lower pain perception and tolerance thresholds than men and this sex difference appears to apply to all ages including infants.

According to Encadela [9] the experience of pain has many cultural dimensions for instance, the way in which one experiences and responds to pain are related to socio-cultural characteristics, such as gender, ethnicity and age. An aging adult may not respond to pain in the way that a younger person would. Their ability to recognize pain may be blunted by illness or the use of multiple prescription drugs. Depression may also keep the older adult from reporting they are in pain. The older adult may also quit doing activities they love because it hurts too much. Decline in self-care activities (dressing, grooming, walking, etc.) may also be indicators that the older adult is experiencing pain. The further said that older adults may refrain from reporting pain because they are afraid they will have to undergo surgery or will be put on a drug they might become addicted to. They may not want others to see them as weak, or may feel there is something impolite or shameful in complaining about pain, or they may feel the pain is deserved punishment for past transgressions.

The sensitivity and tolerance people show towards pain varies predictably according to several factors, including gender, ethnicity, personality and culture, all interacting, overlapping and playing out in the tissues and synapses of the body indeed the body individual differences in pain is like a microcosm of science. It’s worth remembering that a person’s beliefs and cultural upbringing can change the way their body and brain respond to pain.

Alongside gender, substantial evidence has also accumulated suggesting an association between pain experience and ethnicity. Generally, white Caucasian people are found to be less sensitive to, and more tolerant of pain than individuals of African or Asian descent.

Another major factor that is associated with the way a person experiences pain is personality, personality is not only related to acute pain sensitivity and tolerance, it is also predictive of chronic pain conditions in later life, and people diagnosed with a chronic pain condition tend to exhibit a characteristic personality profile [10].

Impact of ethnicity and level of acculturation on pain perception in Hispanic, Caucasian and African American persons with fibromyalgia has been evaluated. There was no statistically significant difference across the three ethnic groups in total pain perception. However, it was noted that fibromyalgia is likely misdiagnosed or undiagnosed among Hispanics and African Americans in primary care clinics, indicating there are some implication for the delivery of culturally competent care in a comparative study of 337 individuals suffering chronic pains, African Americans reported higher levels of clinical pain and pain related disability [11,12].

Pain perception is composed of highly interactive emotional, cognitive, as well as sensory components. Although the pain experience is complex and influenced by multiple variables, the perception of pain and behavior associated with pain are influenced by the socio-cultural context of the individual experiencing pain. Pain behavior varies widely and may be culturally bound, some clients cope by turning inward describing pain as a private and personal experience.

**Expression of pain in medical/surgical conditions**

It is not so much that our friends and loved ones are at fault, but that the English language has failed us. It has no way to express pain. We can never really know if the pain someone else feels is the same as what we are feeling. Sure, we can use words that describe it burning, throbbing, sharp, dull, and agonizing, but it does not really tell us what “it” is. We are left with pre language modalities such as crying and screaming, to express what we are feeling.
There are, of course, other experiences that we share for which there are no adequate words, love being the most common, in a way the pain is like love, it causes us to experience feeling in a far deeper way and leave us trying to express them in a way that shows their intensity and separates them from ordinary feelings. Since words are so inadequate, there are other ways to express our pain.

The experience of pain is often represented by changes in facial expression. People who have pain may vocalize their distress by moaning, crying or complaining or may exhibit pain related body postures or facial expressions. These verbal and non-verbal behaviors have been called pain behaviors because they serve to communicate the fact that pain is being experienced [11].

Hollander carried out a study of pain expression on a scientific basis. Their approach to pain was consistent with their views on emotions in general. They focused on expressive behaviors as a means of understanding the origin and functions of motivational and effective states. The explicit role of non-verbal communication behaviors as functional adaptations was acknowledged. They studied experimental pain by placing a metal grater under a blood pressure cuff and inflating it, noting the pressure at which the subject ”Winced”. They noted that the pain reaction end point was readily observed by watching for the beginning contraction of the eyelids at the outer canthus, only a small number of participants could make any appreciable alteration even when asked to keep from wincing as long as possible. These observations are interesting because they implicate the facial region surrounding the eyes as carrying important information about pain.

Darwin’s contributed to the study of pain expression, in pain the mouth may be closely compressed, or more commonly, the lips are retracted, with the teeth clenched or ground together, the eyes stare wildly as if in horrified astonishment.

Evolution has equipped us with complex systems for dealing with injury, many of which rely on behavior. Withdrawal reflexes for example, exist from the earliest moments and allow us to move away from sources of pain. Healthy adults have language, which allows them to speak about pains, their causes and options for dealing with them. Any attentive parent of a healthy infant can describe behaviors that they use to draw inferences about their child’s pain. Facial expression is a behavioral source of evidence about pain. Face to face interaction with a parent occurs from the earliest moment of existence. Parents monitor their infant’s facial expression because at this stage, facial expression is one of the few behaviors an infant can use to express its pain [13-16].

According to Fitzgerald When a person is non-verbal and cannot self-report pain, observation becomes critical, specific behaviors can be monitored as pain indicators. Behavior such as facial grimacing and guarding indicate pain, as well as an increase or decrease in vocalizations, changes in routine behavior patterns and mental status changes. A patient experiencing pain may exhibit withdrawal, social behavior and possibly experience a decreased appetite and decreased nutritional intake. A change in condition that deviates from baseline such as moaning with movement or when manipulating a body part are also potential pain indicators. Surgical dissection needed for extensive abdominal wall dissection actually has an effect in the reduction of postoperative pain control. The results of the study showed that the total amount of Nalbufen used for the control of postoperative pain is significantly less in group I throughout the postoperative follow-up period.

Conclusion

This study concludes that the use of sharp dissection in cases of extensive abdominal wall dissection is statistically better than other methods of dissection in terms of postoperative pain control.

Maija Rantala and Paivi Kankkunen carried out a study to describe a cognitive disorder as a factor that affects the expression of pain. Older adults with hip fracture are at high risk of under treatment for pain, especially if they also have a cognitive disorder at the stage of dementia. In this study data concerning current pain management practices was collected by questionnaire from 333 nursing staff. They worked in medical/surgical wards of seven universities and ten city-Centre hospitals. The response rate to the questionnaire was 53%. The data were analyzed using factor analysis and parametric methods. Half the respondents (53%) considered that pain expression was less in patients with dementia. Less than one third of respondent nurses reported that pain scales were in use on their unit.

An observational study by Manias found that 60% of participants were passive recipients of pain relief, i.e., they waited to be asked about their pain before requesting analgesia. Continuous pain leads to increased levels of fear and anxiety and results in over all poorer pain management. These authors further suggested that pro re nata (PRN) or ‘as needed’ prescriptions encouraged passivity as the patients did not wish to ‘bother’ the nurse. Moreover, Bédard found that following the implementation of evidence-based drug orders, pain scores fell but patients’ fears concerning addiction and side-effect [17-20].

Montaner Abasolo, Morales Olivas, Martinez-Pons Navarro carried out a study to determine the factors affecting postoperative pain expression associated with the following variables: sex, age, type of surgery, surgical approach, anesthetic technique and analgesia administered.

Six hundred and twenty-three hospitalized patients were enrolled from the units of general and digestive surgery, gynecology and obstetrics, ophthalmology, Otorhinolaryngology, Traumatology and orthopedics, and urology. Pain intensity was measured on a visual analog scale (VAS) when the patient left the post-anesthesia recovery ward (PARU) and 24 and 48 h after surgery, and on a verbal evaluation scale (VES) during the first and second days after surgery. Gynecology is the department where the most pain is reported, both when the patient leaves the PARU (≥ 4 for 56.6% of patients) and during the first day on the ward (71.3% of patients suffer pain of moderate or high intensity). The correlation of pain with the duration of the procedure was strongest in the urology and surgery units, with common variances of 32.3% and 23.4%, respectively. More pain is felt during open procedures in the Traumatology and urology units, which is not the case in gynecology and surgery. Patients receiving general anesthesia leave the PARU with pain at 3.4 ± 1.8 cm on the VAS scale, versus 1.3 ± 1.6 cm for patients receiving local or regional anesthesia. Patients who received only ketorolac for pain in the PARU generally experienced less intense pain dissection assisted by sharp dissection, where blunt dissection could not do the job. All the patients had general anesthesia. No preemptive analgesia was used. Nalbufen was used as the only postoperative pain killer and the total amount used of it was treated as the indicator of the intensity of postoperative pain.
pain (2.5 ± 2.0 cm) than did those who received metamizol (3.3 ± 1.5 cm), morphine (4.0 ± 1.8 cm) or tramadol (4.5 ± 1.8 cm) they concluded that surgical department, surgical approach, anesthetic technique and, finally, analgesics administered are the major factors that affect the perception of postoperative pain. These factors should therefore be taken into account when establishing treatment protocols to assure adequate control of postoperative pain. Neither sex nor age was among the determining factors.

A study by Curtis Henrique Franciscillo in two Mexican hospitals in a surbctoge explores if the time of initiation of post-operative analgesics can affect the pain expression. The percentage of patients receiving analgesics within the first 30 minutes of arrival to recovery room increased from 44.4 % to 74.6% with 3 months of study, this show that time of initiation of pain killer is a major factor to post-operative pain expression, so he concluded that analgesics should not be delayed once the post-operative patient regains consciousness.

Literature indicates that pain can be perceived and expressed in different ways. The patient has right to their perception of pain free state. Pain behaviors vary widely and may be culturally bound. Some pain coping strategies differ in cultural groups, and this may be as significant as differences in perception and expression of pain. Factors like gender, age tends to influence the perception and expression of pain. Cultural barriers can also keep a person from telling someone they are in pain. Religious beliefs may prevent the individual from seeking help. They may feel certain pain treatment is against their religion. They may not report pain because they feel it is a sign that death is near [21].

Many Asians do not want to lose respect in society by admitting they are in pain and need help, believing the pain should be borne in silence, while other cultures feel they should report pain right away and get immediate relief. Gender can also be a factor in reporting pain. Sexual differences can be the result of social and cultural expectations, with women expected to be emotional and show pain and men stoic, keeping pain to themselves.

Method

All participants were recruited through the male medical ward, male surgical ward, female medical ward, female surgical ward, pediatric medical ward, pediatric surgical ward, post-natal ward and oncology ward of university of Nigeria teaching hospital, Ituku-Ozalla, Enugu. A letter of permission was given to the ethical committee of the hospital who in turn gave their approval. A total of 96 patients were used in the study.

Material

A semi structured qualitative interview was used in data collection, comprising of open and close end questions. The first section dealt with demographic data of the respondents such as age, sex, parental occupation or personal occupation in case of adults. The second section dealt with pain experience, perception, frequency, level of tolerance and expression methods. The open ended questions addressed areas of pain expression methods and threshold. The aim of the interview was to enable the respondents to share their pain perception, experience and expression. The interview was administered to each of the respondents on the principle of voluntary participation, and anonymity of the respondents was upheld during data collection.

Interview procedure

Following approval by the ethical committee and verbal consent of the respondent, the respondents were interviewed face to face with audio record transcribed. Direct observation of non-verbal responses was equally made, the interview lasted for 45 minutes.

Qualitative analysis was based on standard processes utilized in qualitative research [13]. The process followed four steps. First, transcripts were read to gain a holistic understanding of relevant trends. Each respondent’s statements were then grouped into domains or topic areas. Thirdly, summaries were created to succinctly express what individual patients said about each topic. The fourth step was based upon a qualitative cross-analysis whereby, for each domain, common and unique themes across Patients’ experiences were explicated.

Result

Of all the participants, 38 were males while 47 were females. As at the time of this report, the age range of the participants were as follows: 35 were within the age range of 16-30 years, 27 within 31-40 years, 18 within 41-55 years while 2 were within 5-15 years and 3 were within 56 years and above. All respondents 85 were Christians. By marital status, 53 of the respondents were married and 32 were single. Tribally, 81 were Igbos, 1 was Hausa, 2 were Yoruba and 1 was Tiv. Looking at their occupation, 5 were farmers, 14 were traders, and 29 were civil servants, 15 engaged in other professional services while 22 were unemployed. The highest educational qualification of the respondent was tertiary education which had 40 of the respondents, 39 had secondary education, while 8 had primary education being the least educational qualification.

Pain perception among patients with medical and surgical conditions and the related factors

This section aims at exploring the account given by the participants about pain perception and the related factors. As the responses were analyzed, it was found that the perception of pain among the patients was in three categories: psychological pain, physical pain and physical and psychological combined. 34 of the respondents reported having had the psychological pain of various degrees in the course of their admission to the hospital, the majority of the respondent, 43 had physical pain, 8 respondents had both psychological and physical pain, 1 did not respond at all. As regards the related factors, 20 patients had their psychological pain related to lack of finances. This could be seen from the expression of some the respondents given below:

“I feel pains not because of my ailment or diseases, but because I know I have no money to care for myself or pay my expected bills. I feel so distressed and humiliated and irresponsible because I cannot measure up to expectation”.

12 of the respondents attributed their perceived psychological pain to lack of knowledge regarding the outcome of diseases; one of them gave the expression below:

“I feel emotionally hurt because I barely know anything about my condition and the care I receive. All I know is that am asked to make payment for treatment”.

8 persons related their psychological pain to family/relatation and 1 related to the attitude of the health professionals while 1 said others like stress.

Common and unique themes among the 50 respondents that had physical pain were abdominal pain, waist pain, headache, and toothache and chest pain. 43 of the respondents had the support of their loved ones influencing their perception of pain, 28 had the attitude of the health professionals and 14 reported that the lack knowledge of the treatment plan influence their perception of pain. The above was reflected in an
account given by some of the respondents as quoted below:

“If I had a good family support since I have been on admission at least I should have shared my feelings and got some help”.

The second woman gave her own response as thus; “if the caregivers here were kind enough, they should have helped us explain the condition of our health but if we talk all we get is we are busy. As I talk to you now I cannot say that this is my problem, why am on admission and this makes me quite worried and unhappy”.

Expression of pain by patients with medical and surgical conditions

This section deals with the pain expression approaches as reported by the respondents and the factors deterring them from expressing pain freely.

The reported approaches to pain expression were frowning (25), crying and groaning (18), gnashing of teeth (1), other forms of shouting (14), through being moody (6) and (3) through other means like smiling and all of the options. Those who cry said they do so because it is the only way they could gain the attention of the nurses to come to their aid. As regards the factors deterring their responses, (81) of the respondents said their tribe allow verbalization of pain while (4) of the respondents said their tribes do not allowed verbalization of pain, 23 of the respondents expressed that attitude of the caregivers which would be health workers or family members prevents them from expressing their pain, 39 said fear of medication because expression of pain would land them in another round of medication which they are not comfortable with, 15 respondents said finances deterred them, 1 respondent cultural belief prevents them from expressing their pain, while 7 respondents did not respond at all.

Common themes among the respondents were that their tribe, cultural background and the attitude of caregivers and their financial status influences their mode of pain expression. Most painful among these factors was the attitude of caregivers, especially that of the Nurses who spent more time with them by their bedside.

Hypotheses testing

The hypothesis was tested at a significant level (p=0.05) and chi-square values 1.377, 5.738, 1.227 and 2,026 were got. Therefore the hypotheses were accepted and concluded that there is no significant relationship between characteristics of the patients and pain perception and expression.

Discussion

The discussion is based on three areas: how patient's experience and responses to pain related to that of other studies, contributing to the current study to knowledge and implication to health professionals.

From the result shown above regarding the perception of pain and the related factors, psychological pain, physical pain, and combination of psychological and physical pain, where the common forms of pain experienced by the respondents. However the degree of experience varied among them. As regards the factors affecting their response to pain; finances, culture, lack of knowledge regarding the outcome of disease, family support and attitude the of the health professionals. This finding is in line with the findings of a study by Encadela [9] which stated that the experience of pain has many cultural dimensions for instance, the way in which one experiences and responds to pain is related to socio-cultural characteristics, such as gender, ethnicity and age. An aging adult may not respond to pain in the way that a younger person would.

The expression of pain varied widely among the respondents and the methods they used equally varied. From the data gathered, the respondents used the following methods to express any form of pain they experience at each point in time; frowning, crying and groaning, gnashing of teeth, other forms of shouting, being moody and through other means like smiling and all of the options. The majority of the respondents said their tribe allows verbalization of pain while some of the respondents said their tribes do not allow verbalization of pain. The respondents expressed that attitude of the nurses prevents them from expressing their pain. This finding is in line with the study by Keefe et al. [11] which revealed that the experience of pain is often represented by changes in facial expression. People who have pain may vocalize their distress by moaning, crying or complaining, frowning etc.

Chapman and Jones used heat to evaluate the pain reaction. They noted that the pain reaction end point was readily observed by watching from the beginning of contraction of the eyelids at the outer canthus, only a small number of participants could make any appreciable alteration even when asked to keep from wincing as long as possible. These observations are interesting because they implicate the facial region surrounding the eyes as carrying important information about pain expression which in a way agrees with the findings of the current study.

The current study raised awareness of the people's response to an experience of pain and the factors which affect their pain perception and expression. It equally unveiled the fact that these methods of pain expression and perception and the factors that affect them vary greatly which must be taken into consideration when attending to patients in pain. While previous studies dwelled on pain expression and the related factors, this study went further to look at the individual patient's response to pain, what affects their pain expression and the types of pain common to each of them. It was able to create an atmosphere that enabled the participants to express themselves freely without reservation as regards what affect their pain perception and the attitude of the health workers. In the current study, participants were recruited from all the hospital wards, including pediatric ward unlike previous studies.

This study therefore imply that health professionals should care for patients as a bio psychological and sociocultural being, give timely and accurate explanation to the patients about their health condition, should no overlook patient while in pain, develop positive attitude towards patients, involve patient's relative in their care as this promotes family building and maintenance, they should know that pain is subjective term felt and expressed differently by people hence cares should be planned to suit each individual. However, further qualitative review of the patients should be done to determine those factors that promote effective pain management.

In conclusion, pain is a common symptom in both medical/surgical condition which could be psychological and physical in nature. And it could be perceived or expressed in different ways by different individuals due to various factors such as individual's personality, socio-cultural background and environmental factors.

References


