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An Observational Study Of The Pain Tolerance In Children Of Northeast Ethnicity At A Primary Health Care Center Of Southern India.

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ABSTRACT

This qualitative study explores the perception of pain among children belonging to north east India, aged from 4–18 years. Data was obtained from 54 children presented to the emergency clinic. The visual analogue scale, a simple ,1 dimensional scale that measures pain intensity. The study was conducted over 1 year and children (boys and girls) who presented with simple injury were and within age 3- 14 years were studied and data analyzed. The research found that children belonging to north east India had a higher pain tolerance. There are around 220 ethnic groups in north east India. The seven sisters, are predominantly inhabited by native ethnic communities with a high degree of diversity even within the ethnic groups. The research found that children of northeast ethnicity have a higher tolerance and endurance for pain and are less expressed.

Keywords: children, North-east India, pain, qualitative.

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INTRODUCTION

Pain is defined as "An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage," and is expanded upon by the addition of six key Notes and the etymology of the word pain for further valuable 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 activity in sensory neurons.
- Through their life experiences, individuals learn the concept of pain.
- Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being.
- Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain [1].

Pain tolerance is the maximum level of pain that a person is able to tolerate. Pain tolerance is distinct from pain threshold (the point at which pain begins to be felt).[1]The perception of pain that goes in to pain tolerance has two major components. First is the biological component—the headache or skin prickling that activates pain receptors. Second is the brain's perception of pain—how much focus is spent paying attention to or ignoring the pain.[2] The brain's perception of pain is a response to signals from pain receptors that sensed the pain in the first place. Culture shapes many aspects of the experience of pain, including pain expression, lay remedies, social roles, expectations, perceptions of the medical system, when/how/where to seek care, healthcare practices, illness beliefs and behaviors, and receptivity to medical care interventions.

There are around 220 ethnic communities in the Northeast India and more than 220 dialects. The eight sisters (Assam, Arunachal Pradesh, Meghalaya, Tripura, Manipur, Mizoram, Nagaland and Sikkim) are predominantly inhabited by native ethnic communities with a high degree of diversity even within the ethnic groups [2].

The terms 'race', 'ethnicity' and 'culture' are frequently used interchangeably but represent different concepts. Race is used to distinguish groups of people according to physical characteristics, biological disposition or ancestry. The term ethnicity focuses on the distinction between groups of people who share a certain social background, distinguishing behaviors, culture, history, beliefs, conventions and traditions as well as physical characteristics. Culture typically refers to behavioral and attitudinal norms, inherited ideas, beliefs, values and knowledge transmitted and reinforced by members of the group .As described by Edwards and colleagues, 'ethnicity' is likely the most appropriate term in most research studies on the topic, given the importance of the biopsychosocial model, as 'ethnicity' is comprised not only of race, but also refers to social, psychological and cultural characteristics, all inseparable from one's self-identification as a member of a particular group [3, 4].

Meghalaya is tucked away in the hills of eastern sub-Himalayas and it is one of the most beautiful states in the country. Nature has blessed her with abundant rainfall, sun-shine, forests, high plateaus, tumbling waterfalls, crystal clear rivers, meandering streamlets and above all with sturdy, intelligent and hospitable people. Emergence of Meghalaya as an Autonomous State in April 1970 and as a full-fledged State in January 1972 marked the beginning of a new era of the geo-political history of North-Eastern India.

PATIENT AND METHODOLOGY

A total of 54 children who were studying at a residential school and presented to their emergency clinic in South India were selected for the study. The children were between 3 and 14 years of age were observed in to our study between 1 August 2023 and 28 Feburary24. The inclusion criterion was children between the ages of 3 and 14 years, children who presented with sports injury, non-grievous, lacerated wound requiring minimal suturing and OPD care only. Exclusion criteria included patients requiring admission for more than 24 hours, if the child was consoled for more than 5 minutes, demonstrated agitated movements, or developed muscular rigidity. The exclusion criteria -3 children were excluded yielding a final sample of 51 children. In this prospective study, the cases were for signs of

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pain and were marked using Wong-Baker FACES Pain Rating Scale to evaluate pain. The Wong-Baker scale measures the pain experienced during medical procedures by presenting patients with different facial expressions that are scored from "no hurt" (0) to "hurt worst". A score of ≥3 has been accepted as representing severe distress.

Figure 1: Wong-Baker pain scale.

OBSERVATION

Table 1: Gender

Sr.no	Male	Female	Total
1	47	4	51

Table 2: Ethnicity

Sr.no	Ethnicity	No.
1	Khasis	35
2	Jaintias	13
3	Garo	3

Table 3: Trauma inducing activity

Sr.no	Activity	Male	Female
1	Football	26	0
2	Wrestling	10	0
3	Tree climbing	6	1
4	Indoor games	5	3

Table 4: Trauma Endured

Sr.no	Trauma	Male	Female	Total
1	Cut	31	2	33
2	Sprain	11	2	13
3	CLW*	5	0	5
4	Total			51

*Contused Lacerated wound.

Table 5: Treatment received

Sr.no	Treatment received	Male	Female	Total
1	Suturing	31	2	33
2	Splint	11	2	13
3	Wound Dressing	5	0	5
4	Total			51

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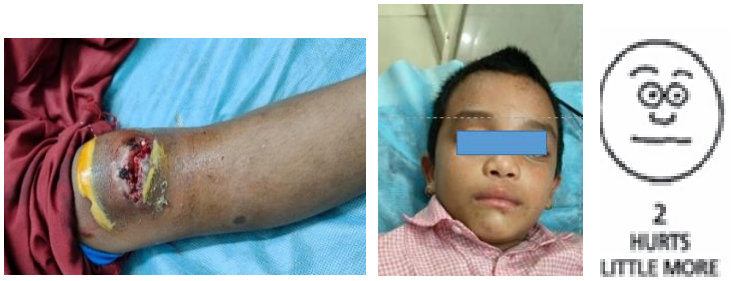
Table 6: Wong –Baker Pain scale

Score	Pain Scale	Male	Female
0	No hurt	0	0
1	Hurts Little Bit	22	2
2	Hurts Little More	23	2
3	Hurts Even More	0	0
4	Hurts Worse Lot	0	0
5	Hurts Worse	0	0

Image 1: Cut, Suturing and pain scale 1

Image 2: Sprain, swollen wrist, pain scale 2

Image 3: CLW and pain scale 2



DISCUSSION

The experience of pain is more complicated than simply a nerve's perception of the point where tissue breaks down or is attacked by a disease. There are many factors affecting people's perception and

reaction to pain that do not correlate with their objective level of sensation. A person's reaction depends on their subjective perception of pain, which is influenced by sociocultural and emotional factors; for example, cultural norms that discourage the overt expression of pain.

Meghalaya is the homeland mainly for the Khasis, the Jaintis and the Garo. The language is Khasi, Pnar, Garo and English. To our knowledge, only a few studies have been conducted to document pain perception or tolerance among the common ethnic groups in this part of the world. Most of the remedies in Meghalaya for cuts and wounds consists of bandaging 77%, no home remedy 12.1%, applying turmeric or coffee powder 1.1% or any other treatment 9.8% [5]. The main reasons reported for not seeking/treating ailments as- "not serious enough to seek treatment" (80%) [7].

Research studies support the view that sociocultural factors are significant, not only in the immediate response to pain, but also in the construction of perception patterns that influence future responses to pain[6]. There are certain cultural norms that discourage the overt expression of pain [6].

Kikiyu and Masai tribes in Kenya and Tanzania respond to pain with silence. Similarly, Kleinman (1988) suggests that people in pre-industrialized or predominantly agricultural countries like Thailand tend to be more patient and less likely to express their pain. This is supported by a more recent study by Wils and Wooton (1999), who observed that some East Asian patients were reluctant to report pain because of their desire to be considered "good" patients by health-care professionals. Expression of pain in Isan families (Thailand) is characterized by avoidance and endurance [6].

Pain has been defined as an unpleasant sensory or emotional experience associated with actual or potential tissue damage.1 Although the perception of pain is affected by cognitive, emotional, and social factors, it has been reported that the emotional component is more important in children.2 A child who experiences pain in an unsecure environment (i.e., away from his or her family) can suffer from a lack of confidence and stress that is comparable to the pain associated with the wound itself. If the child has experienced a prior painful event, exposure to a similar situation can lead to severe anxiety that even renders the application of topical analgesics ineffective in preventing fear of the pain.3 Thus, inadequate relief of pain and distress during painful childhood medical procedures may have long-term negative effects on future pain tolerance and pain responses [8, 9].

Children perceive and learn through their experiences of pain until the point where they have developed and internalized a "meaning disposition". Pain can be seen as a holistic phenomenon that affects a person's body, mood, social participation, and spirit, and it demands a unique response.

Theories about the occurrence of pain are complex and relate to the person's approach to life and psychological and physical functioning. From a purely physical perspective, pain occurs when there is a stimulant on a receptor that transfers the nerve impulse through the sensory nerves to the spine, which then translates to the somatosensory system in the brain. The pain "mechanism" consists of three major components; namely, the noxious stimulus, the pain receptor, and the nerve impulse (Boss, 1992). However, family, community, nationality, and culture all play significant parts in a person's response to pain, which is shaped by the values and beliefs of the social group with which they identify. Family factors include parents' attitudes towards pain and previous experiences of pain. Society and culture also influence a person's pattern of response to pain, which develops in the context of the attitudes, values, and expectations of the society in which the person has been raised. For example, research by medical anthropologists has shown that nationality plays a part in a person's perception, description, and response to pain.

Spirituality as a concept has been included into the BPSM. As the biopsychosocial- spiritual model (BPSSM) suggests illness disrupts the biological, interpersonal, and spiritual relationships unique to the individual. The BPSSM recognizes the potential impact of spiritual and religious variables that may increase or decrease experience of illness and pain responsiveness.

CONCLUSION

In conclusion, our study of pain shows that children of north east ethnicity have a higher pain tolerance which is represented by 2. There is no significant gender difference for pain tolerance among the children.

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