

## Ethnic differences in the perception of pain: a systematic review of qualitative and quantitative research

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### ABSTRACT

**Aim** To investigate existence of scientific support for linking differences in the experience of pain to ethnicity.

**Methods** The study was designed as a systematic literature review of qualitative and quantitative studies. The inclusion criteria were scientific studies published in scientific journals and written in English. Studies that described children's experiences and animals were excluded. There were 10 studies, one qualitative and nine quantitative.

**Results** The result was divided into two main sections. The first section presents the results of investigated material regarding different ethnic groups, the groups' different experiences with regard to pain and its treatment focusing entirely on the patients' perspective. Several studies have revealed major differences in the way individuals perceive their pain, using various pain evaluation tools. The second section explained different coping strategies depending on ethnicity and showed that different ethnic groups handle their pain in different ways.

**Conclusion** Healthcare professionals have a duty to pay attention to and understand the patients' experience of their disease and suffering and, as far as possible, mitigate this using appropriate measures. For this purpose, ethnic, cultural and religious differences between different patients need to be understood. It is necessary to continue to study ethnic differences in reporting and predicting pain and its consequences, including the assessment of variables associated with pain, as well as examining the use of prayer as a form of dealing with pain, with an evaluation of various effects of such different influences.

**Key words:** ethnicity, health care professionals, pain perception, pain treatment

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## INTRODUCTION

Ethnic differences in the perception, reporting, experience, discussion and impact of pain have attracted growing attention in recent years. Today in Sweden there is an increasing number of patients from all cultures with different needs. According to the Health Care Act (1), healthcare professionals must provide care on equal terms, and in order to do so, it is very important that healthcare professionals have knowledge of the differences between ethnicities. Health care should be provided with respect to the equal value of all people and the dignity of the individual. Patients with different nationalities, ethnicities, income, gender and age should be given the same care. As today's society becomes increasingly multicultural, it is necessary for healthcare professionals to understand their patients on the basis of the culture they bring with them, especially their values and lifestyle (1). In a previous study, the authors wrote that ethical principles, such as the autonomy principle, the principle of justice and the principle of doing good and not harm, are part of our mind-set. It is important that healthcare staff are aware of this principle in their work (2). Unfortunately, sometimes there is an ethical dilemma where two principles come up against one another and a compromise of some kind is necessary (2). Well-functioning pain treatment is considered of great importance when working with patients (2). There are different situations in practical care work suggesting that nurses make different assessments of pain expression depending on the patient's ethnic background (2). We therefore wanted to investigate whether there are really differences in the experience of pain in patients with different ethnicities. In their study, a group of researchers stated that pain is a complex symptom that occurs within all medical services (3). Pain is a subjective experience as the patient him/herself is able to evaluate it. Different pharmacological studies often neglect the cultural and psychosocial effects of pain such as group cohesion, financial status and the patient's confidence in the treatment (3). Often, healthcare professionals are too interested in physiological and clinical causes of pain and neglect to consider the psychological and cultural components (4). If healthcare professionals do not perceive the description of pain as credible, this increases the patient's loneliness, helplessness and suffering (4). Healthcare

professionals often rely on the patient's expression of pain beyond their own experience, which can make an open and outward reaction appear natural, while another healthcare professional might react completely differently (5). There are other studies from many countries about the way different groups report and experience acute pain, including postoperative pain (6), acute low back pain (7) and exercise-induced angina (8). Moreover, non-white ethnic groups report more pain than whites; African Americans demonstrated lower thermal pain tolerances than whites, that the stimuli are more unpleasant and showed a tendency to rate it as more intense than whites (8). In addition, African Americans had smaller slopes and larger intercepts than whites for ratings of pain unpleasantness (9,10). Women showed a tendency to rate the stimuli as more unpleasant and more intense than men (9,10). Systolic blood pressure was inversely related to pain intensity. After statistically adjusting for systolic blood pressure, gender differences in pain unpleasantness were reduced and gender differences in pain intensity were abolished; race differences were unaltered (9,10). There are also differences between ethnicities in their experience of the severity of chronic pain (11), for example, patients from Africa and the USA, together with Hispanic ethnic groups, claimed greater level of pain than patients with cancer (12), from spinal injury (13), vulvodinia (14), migraine (15), arthritis (16), non-specific chronic pain (17,18) and muscular and skeletal disorders (19-21). It has been suggested that differences in experiencing and communicating pain and distress may arise partially from ethnic differences (22,23).

The aim of this study was to investigate whether there is any scientific support for linking differences in the experience of pain to ethnicity.

## MATERIALS AND METHODS

### Study design and participants

The study was designed as a systematic literature review of qualitative and quantitative studies describing all kind of pain in different ethnic groups. The inclusion criteria were scientific studies published in scientific journals (including an abstract) and written in English, limiting to adult men and women aged from 35 to 65 years.

Exclusion criteria were the studies describing other socially defined groups (besides ethnicity). The studies describe that other socially defined groups, which we found interesting, were used as background and in support of our reasoning in the discussion and conclusions. Also, we excluded studies that described children's experiences and animals as well as studies of experimental pain.

### Methods

The search databases we used were PUBMED, CINAHL and Blackwell Synergy. In addition, books were searched for facts about different ethnicity, differences in the experience of pain to ethnicity, and the Internet was also used as a source of information. During the project planning work, a pilot search was made to see whether there were sufficient substrates to write an entire essay on the chosen topic. The search began with the words: pain, ethnicity, healthcare professionals and perception.

After the articles had been subjected to an initial review, 26 remained. To select the top 10 answers to our questions, the problem was defined using a further exclusion criterion. Since the word "race" is primarily used in American articles, we first thought about excluding these, but, after careful consideration we came to the conclusion that the concept of race in America is sometimes used as a synonym for the concept of ethnic group. Despite the reduction, 13 articles remained and they were checked for quality. We found that two of them were of poor quality. One was rejected after the entire article had been read, when, upon closer examination, we found that it did not answer the questions we had. All authors reviewed the articles individually before they were combined into a common assessment (gradation). The gradation of articles was made depending on how much information we received from each article and how much data was available in each article. The gradation of studies was inversely proportional to the data quantity (key words) in the studies. Depending on the number of key words in the studies, the selected studies were graded as I, II or III: studies with the highest number of key words were graded as grade I, studies with the smallest number of key words as grade III.

Of the ten articles examined, one was qualitative and nine quantitative. The ten were graded and,

when the quality assessment was made, it was found that four were grade I, five grade II and one article was grade III. To make the results more transparent, we chose to divide them into different parts according to content and we undertook so-called thematization (24). In addition, for convenience, we divided the results into two main sections, each representing one issue.

### RESULTS

The first section presents the results of the investigated material regarding different ethnic groups, the groups' different experiences with regard to pain and its treatment focusing entirely on the patient's perspective.

In the second section different coping strategies depending on ethnicity showing how different ethnic groups handle their pain were explained.

#### Estimating pain from an ethnic perspective

Several studies have revealed major differences in the way individuals perceive their pain using various pain evaluation tools.

One study has shown that Asians indicate greater pain in relation to African Americans, white Americans and Latin Americans (25). Another study reported that African Americans indicate higher levels of pain than white Americans (26). The same result was found in another study, but there the comparison was with non-African Americans (27). In contrast, other studies have not been able to show any differences in the evaluation of pain (28). Other studies have investigated whether there are differences when the experience of pain is divided into pain intensity and pain relief. They showed that pain intensity does not vary depending on ethnicity, while painfulness varies. It has been shown that the pain rate is greater for African Americans compared with white Americans (29,30).

#### Different coping strategies depending on ethnicity

Different ethnic groups handle their pain in different ways. African Americans show a greater tendency to handle their pain with the help of prayers and hope. There was a general tendency among those who participated in the investigation to amplify their pain and African Americans were more likely to do this. These results are in contrast to white Americans (29). The same result

emerged from a study which also reported similar results for Latin Americans (28). In a survey comparing Asians, white Americans, Latin Americans and African Americans, the Asians showed the lowest belief that pain is controllable (25). Another study showed that Indians were found to believe that pain is something that is part of life and therefore not controllable. They often express the will to die because of unbearable pain. Death is nothing to be afraid of as it is a natural part of life (31). One study found that expressions of feelings in relation to pain differ between African Americans and white Americans. African Americans have a stronger connection between their feelings and their pain, feelings such as depression, anger, anxiety and fear. The frustration in a painful situation, on the other hand, was equally strong in both the groups (30). A study also indicated that African Americans showed a greater need for attention for their painful situation from the people around them (29).

#### **Pain associated with wellbeing**

It has been shown that Latin American pain patients exhibit higher levels of wellbeing, the greater the pain is (25). Another study indicated that Afro-Americans, white Americans and Asians, on the other hand, report less wellbeing, the more pain they experience. Indians find proximity to their relatives more important than the treatment, in this case for cancer pain, while Americans see safety in finding the right doctor and the right treatment. The results in the study showed that there was a major difference in the way different groups in society, including people of minority origin, were treated for their pain (31). It was also found that both open and subconscious prejudices existed in the staff in relation to how they treated pain in their patients (27,28,30). In a study conducted in the United States, a comparison was made of different experiences of cancer pain amongst the largest ethnic groups through specific online forums. By allowing patients to discuss their pain with one another in the forum, researchers could see how different groups experienced their pain. What also emerged was that nurses need to be more vigilant in relation to the cultural differences in pain and not treat everyone equally. According to the study, increased attention to differences in pain experience and pain management in different cultures

would give nurses a better opportunity to treat all patients well (29). In the study examining attitudes and problems experienced by Italian nurses in the care of patients with different ethnic and cultural backgrounds it was found that 44.9% of participants had the perception of having a different attitude towards foreign families and their children compared with those who did not have a different ethnic background. Nurses felt that there could be communication difficulties, due to language mediation, and that there were cultural differences that complicated the relationship between the nurse and the patient. They perceived that parents had a more tolerant attitude towards their children's pain (17). In contrast, a study examined whether waiting time and the ethnic background of the patients influenced the assessment of pain management on emergency admission showed major differences, despite equal pain, in how long patients had to wait for pain treatment, depending on their ethnicity; on average, additional 35 minutes passed before Hispanic patients received treatment compared with European-Americans, in terms of both analgesic and opioid treatment. It was also found that men with Hispanic background had to wait much longer for their pain to be documented in patient records (9).

#### **DISCUSSION**

As ethnicity and pain are investigated as a phenomenon, a conscious or unconscious theory arises that ethnicity is linked to the way pain is perceived and described (32). The complexity of medical science can be seen from the perspective of one researcher that pain linked to ethnicity is an idea that is influenced and shaped by doctors, nurses, patients, relatives and research institutions. Other things that affect this idea are the material infrastructure, hospitals, universities, healthcare uniforms and credentials (32). Another study shows that, if pain is interpreted as a social construction, this is reflected in the expression of pain and its management. It has been found that pain is a social and cultural phenomenon. Among other things, people who come from Somalia, especially the men, are relatively untouched by pain. Patients' methods of dealing with their pain differ according to their ethnicity (33). A study of Latin Americans showed that they experience greater wellbeing with greater pain (25). Some

researchers consider that greater wellbeing may be a strange result and believe it is the result of the fact that showing a positive external attitude attracts more attention and therefore results in better care (25). Latin Americans also expressed the greatest satisfaction with their care in the same study, which possibly confirms our assumption (25,31). Asians showed the greatest level of acceptance of their pain, because their beliefs include pain as a common occurrence and something one cannot control. This socially constructed perception could explain why they see pain as uncontrollable in comparison with other ethnicities (25,31).

Those difficulties may also be seen from a social perspective. As Asians live in the part of the world that is relatively medically underdeveloped, where the healthcare system is less established, their perception of pain management is more old-fashioned (25,31,32). They do not have the same need to take a tablet as soon as they feel a headache, as it happens in Sweden and in the western world today. How wellbeing can manifest itself in a painful situation may be perhaps the result of how different ethnic groups use different ways to achieve quality of life and wellbeing. This is important to consider in this situation, since it may mean a great deal for the patient's pain relief. Reportedly, Indians and Americans prioritise different treatments. Despite suffering the same pain, in case of cancer pain, Indians experience greater wellbeing as they may be with their family. Americans would rather devote their time to thinking about their treatment and the choice of doctors. This may be linked to their respective ethnic background and social structure. Indians are mostly Hindus and they think pain is a part of life. Their pain is associated with past life events and is therefore ineffectual. Living through pain is a way for Hindu people to handle their situation. Americans are mostly Christians and their perception of pain is that pain and suffering are a legacy from the death of Jesus on the cross. Many Christians regard pain as a punishment from God, which aggravates their suffering (31).

In the present study, we believe that this may be an expression of why they are more likely to seek relief for their pain. In Sweden, healthcare professionals usually have the initial responsibility for assessing their patients' pain. It is a

nurse who first assesses the patients' pain. Nurse are primary contact with the patients and healthcare professionals who detect changes in pain symptoms. Healthcare professionals must therefore have great responsibility for understanding cultural differences. All studies used in the present study have American background. This has probably contributed to our results and this might be a limitation of the present study. Some things, such as religion and certain values, are common to certain ethnic groups, but even if these are overlooked, people are always shaped to a certain extent by their social environment. To reinforce this, we relate the example of soldiers (34), where individuals, regardless of their previous background, are conditioned to react in a similar way to pain. If there is no interpretation of previous experience, each situation is similar to other comparable situations, or to what other people think is right, which leads us to imagine how things should be (28). There is therefore a risk that, due to their lack of cultural understanding, healthcare professionals are unaware or uncertain about those patients who do not belong to their own social group. Their lack of knowledge about other cultures may possibly explain why they differentiate between different ethnicities. This is further reinforced by the fact that, in a study by Staton et al. (27), in general conditions they more frequently misjudge the pain of their patients than those with more experience.

The same reasoning can be used to explain why they prefer to give opioid preparations to patients from their own ethnic group, when the cause of the pain cannot be directly linked to visual findings such as fractures (35). There may be several reasons why pain treatment is not discussed to the same extent with all ethnicities (27). Even in this case, inexperience and social construction may be the basis. It is a known problem that different ethnicities in Sweden and throughout the world experience and report pain in various ways. This then poses another problem.

The genesis, how we should report and how those with experience and those of us who work in the field of care should help patients who were born abroad with pain problems on a variety of occasions. Healthcare professionals may be unsure about the way people express pain within their specific ethnic group, or they do not know how the patient

is going to react. Another reason that can also be mentioned is the linguistic barrier on both sides. Healthcare professionals may mistakenly assume that the patient does not understand. At the same time, healthcare professionals may have discussed the issue with the patient, but they do not actually have the linguistic knowledge necessary to perceive their true feelings. Everyone in the Swedish healthcare system should treat all patients from the same point of view and not make any differences based on their own prejudices and values. The more people become aware that there are differences in the way patients are treated because of ethnicity, the greater the opportunity to change this. In order to raise awareness, more knowledge is necessary and nurses need to be more aware of their own values and possible prejudices and those of others, which subconsciously and even consciously affect their professional work. In this context, it can be seen just how important it is that this issue is dealt with and examined more closely during the education of nurses in order to lay a good foundation for their future practice. In this profession, it is important to respond to every human being as an individual and see the person as a whole creating an environment and a relationship with the patient that enables him or her to feel confident and make assessments on the right basis.

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In conclusion, healthcare professionals have a duty to pay attention to and understand the patients' experience of their disease and suffering and, as far as possible, mitigate this using appropriate measures. For this purpose, we need to understand the ethnic, cultural and religious differences between different patients. Through our literature review study, we have aimed to help healthcare professionals provide better, more personal care. Since the majority of the studies we found are from the United States, further research is of the utmost importance in order to improve research in Sweden and Europe. The world, including Sweden, is becoming more and more multicultural. It is necessary to continue to study ethnic differences in reporting and predicting pain and its consequences, including the assessment of variables associated with pain as well as examining the use of prayer as a form of dealing with pain, with an evaluation of the various effects of these different influences.

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