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**ABSTRACT**

**Purpose:** To describe the cultural factors that are related to children's pain based on research findings reported in scientific articles 1995-2009. These factors are important to identify to conduct culturally sensitive care for children suffering from pain.

**Methods:** In this literature analysis, altogether 14 studies were analysed by using content analysis with Leininger's Culture Care Theory (technological, religious and philosophical, kinship and social, cultural values and lifeways, political and legal, economic, educational factors) was used as framework for the analysis.

**Results:** Religious and philosophical factors, kinship and social factors, cultural values and lifeways, political and legal factors, and economical and educational factors were found to be related to children's pain. The relation was focused on both acute, recurrent and chronic pain.

**Discussion and conclusions:** In a global view, there are several cultural factors that are related to children's pain in different settings. Many of these factors are culturally valued and could be difficult to modify. More research is needed to understand specific cultural influences that maintain traditions and practices leading to children's suffering from pain.

**Implications for practice:** Nurses should be aware of cultural factors that may have influence on children's pain. By providing information to children and their parents some of these traditions and cultural factors might be modified.

Key words: child, pain, cultural factors

**Background of the Study**

The purpose of this study is to describe the cultural factors that are related to children's pain based on research findings reported in scientific articles 1995-2009. Culture is one of the main elements in nursing care, and cultural nursing can be considered to be the humanizer, diversifier and unifier (Leininger, 1997). Additionally, there is a need to study how culture influences e.g. care associated with pain. It is essential to

understand the cultural context from which the meanings, behaviors and expressions of pain can be understood. (Villaruel, 1995.) Therefore, it is important to identify cultural factors that may have influence on children's pain.

Culture is described to have influence on children's responses to pain, because they are learned from parents and other people within the family and a culture (Beyer & Knott, 1998). Thus, parental beliefs, standards and norms

influence a child's expressions of pain and selection of coping strategies (Beyer & Knott, 1998). As defined by Leininger (1991), culture is the learned, shared and transmitted values, beliefs, norms and lifeways of a group that guides their thinking, decisions and actions. Leininger's Cultural Care Theory includes cultural factors that might have influence on children's pain. This theory was chosen as a framework for this literature analysis because it provides elements that can be analysed to identify specific factors that could have influence on children's pain. The theory includes technological, religious and philosophical, kinship and social, cultural values and lifeways, political and legal, economic, educational factors.

Earlier research in children's pain has been conducted in several cultural contexts and has focused on e.g. cultural validation of children's pain measure instruments (Romsing et al., 1996, Beyer & Knott, 1998, Ger et al., 1999, Gharaibeh & Abu-Saad, 2002, Beyer et al., 2005) showing the need for culturally valid pain measurement tools. Additionally, research has been conducted about Korean males' knowledge of and attitudes towards children's painful procedures, such as circumcisions (Oh et al., 2004), ethnic variations in Latino and Asian parents' expectations for antibiotics (Mangione-Smith et al., 2004), and nurses' use of non-pharmacological pain alleviation methods in China (He, 2006). The findings indicate that there are cultural factors that might have influence on children's pain, it's assessment and alleviation.

Ethnic background is found to be strongly related to differences in children's pain expressions and pain management. Chinese babies aged two months showed greater response to pain while receiving immunisation when compared to Canadian babies (Rosmus et al., 2000). Chinese mothers considered soothing methods, such as touching and distraction to be effective with children while they rarely used pain medication (Nielson Natapoff, 2000). Malawian family members valued traditional medication while Spanish and American families favored Western medicine (McDermott, 2000). Additionally, ethnic background seems to be related to the prevalence of painful symptoms. African-American children had more earache, pain in the jaws while chewing and pain at jaw opening than did Caucasian children (Widmalm et al., 1995). Similarly, Finnish students aged 11 to 15 years reported the highest prevalence of complaints, such as head- and backache and abdominal pain while compared to students in Norway, Poland and Scotland. The findings may reflect cultural norms and willingness to report illness (Haugland et al., 2001.)

Ethnic background is also found not to have any influence on children's pain responses. Dutch children receiving local anaesthesia, sensory and procedural information and involvement of the parent displayed less distress during venepuncture regardless of their ethnical origin (Kolk et al., 2000.)

Additionally, ethnic background was not related to Dutch children's assessments of relative importance of health problems, such as headaches and stomach pain (Assink et al., 1996).

The patients' ethnic background is found to have influence also on nurses' and doctors' assessments of patients' pain. Black and Hispanic patients with long-bone fractures were less likely than white patients to be treated for pain. (Todd et al., 1993, 2000.) The manner in which the patients express their pain reflecting cultural variations are not always appreciated by hospital staff (Rupp & Delaney, 2004).

In conclusion, several studies have been carried out to highlight the importance of ethnicity and race in individuals' pain expressions and experiences. However, no earlier research was found focusing on cultural factors (Leininger, 1991) influencing children's pain.

### Data and Methods

Research articles was searched from data bases Cochrane, ERIC, Sociological abstracts / Social services abstracts, Cinahl and PubMed by using "children + pain + culture" as key words. The search was limited between years 1995 and 2009, and only research articles reporting empirical study findings published in scientific journals were searched. Children's age was limited to 0-18 years. Search in Cinahl produced 75 and in PubMed 374 references, while search in Cochrane, ERIC and Sociological abstracts / Social services abstracts provided no relevant references. In the first phase, all abstracts of these references were read through. Research reports (N= 404) were excluded based on the following criteria: 1) focus of the study was on organisational culture (n= 35), nursing culture (n= 16) or evidence based culture (n= 2), 2) the study was published as a PhD thesis (n= 12), 3) culture referred to diagnostic meaning, such as urine culture (n= 72), pain (n= 43) or culture (n= 51) was not mentioned in the abstract, 4) the study was not empirical, such as pictorials, editorials (n= 16), 5) the study was not reported in English, Finnish or Swedish (n= 15), 6) no abstract was available (n= 25), the study was not focused on child's pain, such as studies focused on adult's pain, health care seeking, emotional pain (n= 117). Full text of research reports relevant for this study (N= 45) were read through, and finally, 14 of them were included in the analysis (see Table 1). 32 out of the 45 articles were excluded because they were focused on ethnicity and race which were considered mainly as biological, not cultural factors influencing children's pain.

Deductive-inductive content analysis was used to analyse the existing literature. The studies included in the analysis were focused on children's acute, recurrent and chronic pain in different cultural settings. The data had been collected by using both qualitative and quantitative methods (Table 1.).

Leininger's Cultural Care Theory (1991) was used as framework for analysis in this study. The theory is specific for nursing care and research, but also broad enough to identify cultural factors influencing children's pain in different cultural contexts. Each article was analysed to find out if any of cultural (technological, religious and philosophical, kinship and social, cultural values and lifeways, political and legal, economic, educational) factors related to children's pain could be identified.

### Results

Cultural factors related to children's pain in existing studies were mainly cultural values and lifeways (n=10) and economic factors (n=5). Fewer studies were focused on religious and philosophical factors (n=1), kinship and social factors (n=2), political and legal factors (n=2) and educational factors (n=3). Technological factors were not identified in the studies (Table 1.)

#### Religious and philosophical factors

Religion was related to pain among Mexican-American informants. Adults and children considered God as a source of pain, but also as a provider of help. To get help for the pain, they used prayers, visits to religious shrines and promises to saints or the Virgin Mary (Villarruel, 1995.)

#### Kinship and social factors

Kinship and social factors were identified among informants in USA and Taiwan. Mexican-Americans described feeling the pain of others, reflecting the interrelation of pain experienced by the individual, family and community. They linked pain with inability to perform expected roles within the family. Additionally, they tried to manage the pain within the context of the home. Especially men relied on others in caring for self (Villarruel, 1995.)

Taiwanese children were concerned about pain and hospitalisation because they prevented them from being with their friends. Additionally, they were worried about being hospitalised because of pain because it would weaken their academic performance at school (Cheng et al., 2003.)

#### Cultural values and lifeways

Mexican-American informants identified culturally accepted pain expressions, including withdrawing, going to bed and a change in activity or demeanor. They described expectations to hide pain from others. (Villarruel, 1995.) Additionally, cultural health beliefs were widely maintained among Hispanic population living in USA. One of the most common reasons for illness was "strong eyes", indicating that a person looking at the child with strong eyes would heat up the child's blood and lead to inconsolable crying and pain. Caregivers used traditional herbs and a "curandero's" medicine to children's pain relief (Risser et al., 1995.)

Cultural values were found to have influence on how nurses assessed pain in children. 75 percents of children assessed to have pain were boys. It is possible that boys expressed their pain more than girls, but also the staff's and parents' cultural tradition to favour and give attention to boys might have had influence on the results (Buchanan et al., 1997.) Additionally, some culturally embedded barriers for children's cancer pain management were found among hospital staff in Morocco. Suffering was considered to be normal, and especially boys were expected to endure it (McCarthy et al., 2004.)

The practice of circumcision was found to influence children's pain in several studies. Pacific parents and boys felt that circumcision should be performed mainly for reasons of culture and hygiene, even if pain was the main problem after the procedure. The boys wanted the procedure because of culture, religion and not to be different from other boys. All parents wanted the boys to be circumcised, and 71 % of the boys would have their own sons to be circumcised (Afsari et al., 2002.) Additionally, 88 % of Korean parents wanted their sons to be circumcised because of hygiene reasons. Parents thought that anaesthesia is not needed for neonate circumcision because babies do not feel pain (Lee et al., 2003.)

Culture and tradition were most common reasons for female genital mutilation among Nigerian women. Most of the procedures were conducted by medically untrained persons and 69 % of the women had experienced severe pain and bleeding. Yet, a fifth of the women wanted their daughters to undergo female genital mutilation (Dare et al., 2004.) Similarly, male circumcision is used to reduce the risk of HIV acquisition by approximately 60% of males in sub-Saharan Africa. In Kenya, the males circumcised traditionally by untrained practitioners had more adverse events, such as excessive pain compared to the males who were circumcised by clinical practitioners (Bailey et al., 2008)

Cultural values seemed to shape pain experiences in Taiwanese children. The children defined pain as "crying", which was understood mainly as facial expressions, not only vocalization. In southern Taiwan children are taught to cry without a vocal sound which may have influence on how children define their pain (Cheng et al., 2003.)

Living in rural or urban area seemed to have influence on children's pain. The prevalence of recurrent abdominal pain was higher in Malaysian rural schoolchildren (12.4 %), while it was 8.2 % in urban schoolchildren (Boey & Goh, 2000). Contrary to earlier findings indicating severe pain during female genital mutilation, mothers living in a rural area in Egypt reported that only three percents of girls had any pain. Obviously these mothers, who were mostly illiterate, underestimated and underreported their daughter's pain and considered it as a normal part of the procedure (Sayed et al., 1996.)

### Political and legal factors

Legal and political issues were found to be related to children's pain. A fifth of Nigerian women who had undergone female genital mutilation wanted their daughters to undergo the same procedure. However, more than half of them did not know that circumcision is illegal in Nigeria. It is obvious that agencies working on female genital mutilation reach only a small percentage of people for whom circumcision is a traditional practice (Dare et al., 2004.)

Nurses and physicians working with children having cancer criticised legal and political system of health care in Morocco, where access to pain medication is limited by government restriction, complex policies and cost factors. They thought that Moroccan law should be liberalized so that medications, such as morphine can be more available. Therefore, greater awareness among decision-makers, such as hospital directors and the ministry of health staff was needed (McCarthy et al., 2004.)

### Economic factors

Low income in the family and lack of resources seem to be related to children's pain management. The prevalence of recurrent abdominal pain was higher in Malaysian children (13.6 %) whose family income was low while it was 7.2 % in children with higher family income (Boey & Goh, 2000). Additionally, headache and abdominal complaints were frequently found symptoms among children in Kenya. The children used both pharmaceuticals and herbal remedies in self-treatment of their symptoms. Boys were three times likely to use pharmaceuticals, which reflects higher income potential for boys, who can earn money by fishing (Geissler et al., 2000.)

The use of health care system in pain management was limited because of economical reasons among Mexican-Americans (Villaruel, 1995). Additionally, lack of resources was the reason why cancer pain was undertreated in children living in Morocco. Minor analgesics, considered ineffective for cancer pain were used because they were available and less expensive than other medication (McCarthy et al., 2004.) In addition, comparison between children with sickle cell disease living in London and Jamaica showed that children living in Jamaica had larger numbers of episodes of severe pain but painkillers were used more among children living in London. The findings indicate that there is relative lack of resources in Jamaica, which may cause untreated pain in children (Chakravorty et al., 2004.)

### Educational factors

Education of parents and hospital staff has been found to have impact on children's pain management. The prevalence of recurrent abdominal pain was higher in Malaysian children (12.4 %) whose fathers' educational attainment was lower compared to children (6.9 %)

whose fathers had undergone college or university (Boey & Goh, 2000). Contrary to those findings, father's educational attainment and occupation were not related to the prevalence of children's physical abuse in Hong Kong (Lau et al., 1999).

Lack of training for medical staff, including nurses and physicians was one of the major obstacles to assessing and managing pain in children with cancer in Morocco. Some physicians described lack of scientific ways to assess children's pain (McCarthy et al., 2004.)

## DISCUSSION AND CONCLUSIONS

### Discussion of the findings

The findings of this literature analysis showed that research focusing on cultural factors related to children's pain has been fairly limited and theories or methods of transcultural nursing have not been used widely. It is possible that these cultural factors are difficult to study, especially in the context of children. However, all cultural factors, despite technological factors have been found to be related to children's pain in earlier studies, and most studies have focused on cultural values and lifeways that maintain practices and traditions that may cause pain to children. These studies, conducted all around the world provide empirical evidence for Leininger's Culture Care Theory suggesting that cultural factors have direct or indirect influence on children's pain in different countries and cultures. However, it was interesting to find out that research has been conducted mainly within a few cultural factors, but technological factors have not been studied. Although modern technology can be utilised in children's pain management, its implementation has not been studied.

Several studies showed that children's pain is not always managed in the most effective way. Use of traditional medication (Risser et al., 1995), such as herbs and limited access to analgesics (Geissler et al., 2000, Chakravorty et al., 2004, McCarthy et al., 2004) or health care system (Villaruel, 1995) are major challenges in children's pain alleviation. These findings indicate that children's right for effective pain relief can be supported mainly in Western societies and many children's suffer from pain due to lack of resources. Additionally, it has been shown that even 43.6 % of children receiving herbal medication e.g. for abdominal pain in South Africa died for intoxication, and most of the children younger than six months (Tindimwebwa & Dambisya, 2003). These findings indicate the need to improve safe and effective pain management among children.

The practice of circumcision remains a challenge in children's pain experiences. It seems to be embedded deeply in cultural values (Sayed et al., 1996, Afsari et al., 2002, Lee et al., 2003, Dare et al., 2004) and, therefore highly accepted among fathers, mothers and children despite the fact that the procedure may cause severe pain.

However, it is stated that circumcision as a practice that is culturally valued does not mean that it is morally acceptable. On the other hand, cultural and religious considerations should determine whether circumcision is performed. (Benatar & Benatar, 2003.) Severe pain is always present during circumcision conducted without pain management or anaesthesia, and most physicians do not use anaesthetics during CCC (Goldman, 1999). Additionally, most circumcisions are conducted at home and by traditional circumcisers in Turkey (Verit et al., 2002). It is obvious that the practice of circumcision without medical reasons, being physical abuse, should be more discussed by health care staff in the societies. Additionally, contemporary education programs do not seem to be effective enough to stop these traditions causing suffering among children.

Circumcision was not found to be the only form of physical abuse directed to children. In Hong Kong, physical abuse seemed to be fairly common (Lau et al., 1999), and especially fathers' education or occupation did not have influence on children's physical abuse. These findings indicate that rights of children as an essential part of humanity (UNICEF, 1990) are not met in all societies because of cultural traditions accepting physical abuse.

Children's gender was found to have influence on their pain management. Boys' pain was identified more than girls' in USA (Buchanan et al., 1997), and boys had better access to analgesics in Kenya (Geissler et al., 2000). These findings are contrary to those identified in Finland, where parents wanted especially their boys to learn to tolerate pain (Kankkunen et al., 2003a) and they implemented several non-pharmacological pain alleviation methods mainly with their daughters (Kankkunen et al., 2003b) during postoperative period. The findings indicate differences in parental perceptions and management of children's pain in different cultures, which might be due to the children's different status in the families.

### Study limitations

This literature analysis provided evidence for Leininger's (1991) Cultural Care Theory by showing that cultural factors have influence on children's pain. However, the amount of existing literature was fairly limited which is a challenge for study reliability. Additionally, children's age varied significantly, which may have influence on the findings. On the other hand, fairly similar cultural factors influencing children's pain have been identified all over the world which provides evidence for the results of this literature analysis.

Existing studies provided information of values, practices and traditions influencing children's pain. However, based on this literature analysis, we do not know what are the basic, embedded elements in each culture that lead to beliefs, values and perceptions of

children's pain. Knowing the ethno-history of each culture would provide a deeper understanding of factors influencing children's pain. Additionally, several issues, such as physical punishment can be considered both legal factors and cultural values. Physical punishment is legally forbidden in many countries, but also a cultural tradition in several settings. Therefore, more research is needed to clarify the relationship between the elements of Cultural Care Theory

### Conclusions

Cultural factors were found to have influence on children's pain in several ways:

- 1) Certain cultural factors, such as kinship, religion and economic resources may promote children's pain management.
- 2) Cultural traditions, such as circumcision and physical abuse may serve as major reasons for children's pain acceptance, experiences and occurrence.
- 3) Parents' low level of education and occupation and living in rural areas may be reasons for children's poor pain relief and parents' acceptance of pain.
- 4) Leininger's Cultural Care Theory can be utilised universally while studying factors influencing children's pain.

The findings of this study provided challenges for further research:

- 1) More cultural research is needed to understand ethno-history influencing tradition in the context of pain in different cultures.
- 2) Research is needed to identify those nursing interventions that can be utilised to enable the most effective pain relief in children.
- 3) Further research should be conducted by using cultural research methodology.

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Table 1. Studies focusing on cultural factors influencing children's pain.

Risser et al. 1995 USA	To identify the types of home remedies used for common pediatric problems in a Hispanic population	51 Hispanic caregivers Interview survey	Caregivers held cultural health beliefs. They tended to use traditional herbs and medication by "curanderos" to treat children's symptoms, such as colic and abdominal pain.
Villarruel 1995 USA	To discover Mexican-American meanings, expressions and care associated with pain	20 key informants and 14 general informants aged 10 to 67 years Ethnographic interviews	Pain was usually hidden, and it was managed within the family. Spirituality was related to pain. Economical factors limited the use of health care system.
Sayed et al. 1996 Egypt	To study the prevalence and reasons for female genital mutilation	Parents and grandparents of 1732 girls Survey Interviews	Severe pain was reported in 3 % of the girls. It is obvious that illiterate mothers living in rural areas tended to underestimate and underreport their daughter's suffering. They considered a girl's violence and crying as something normal.
Buchanan et al. 1997 USA	To describe implementation, monitoring and evaluation of a clinical practice guideline for managing pediatric patient pain	240 children aged 1 week to 14 years Questionnaires	Based on their cultural values, parents and the hospital staff may have paid more attention to the boys, because 75 % of the children assessed to have pain were boys.
Lau et al. 1999 Hong Kong	To estimate the prevalence and correlates of physical abuse in adolescents population	3355 school students Survey	6.6 % of the adolescents had experienced physical abuse at home during 3 months. The prevalence rates were 4.9 % for corporal punishment, 2 % being beaten by parents for no apparent reason and 1.1 % being beaten to injury. Nor fathers' education, neither their occupation were related to prevalence of physical abuse.
Boey & Goh 2000 Malaysia	To describe the prevalence of recurrent abdominal pain (RAP) in Malaysian schoolchildren	1549 children aged 11 to 16 years Questionnaires Interviews	Prevalence of RAP was higher in children living at rural area, with lower family income and whose fathers had low education.
Geissler et al. 2000 Kenya	To describe self-treatment of common illnesses among schoolchildren	57 primary schoolchildren aged 11-17 years Interviews	The children had experienced on average 25 illness episodes during 30 weeks. Headache and abdominal complaints were among the most common symptoms. Boys, who earned money by fishing used pharmaceuticals three times more than girls.
Afsari et al. 2002 New Zealand	To describe attitudes of Pacific parents and sons to cultural circumcision	49 boys aged 8-18 years, 37 fathers, 37 mothers Questionnaires Interviews	89 % of the participants felt that circumcision should be performed because it was part of their cultural beliefs, such as health and hygiene and decrease in disease. Circumcision was wanted even if pain was the most often perceived problem after the procedure.
Cheng et al. 2003	To understand Taiwanese	90 hospitalised children aged	Only few differences were

Taiwan	children's pain experiences	5 to 14 years Interviews	found in Taiwanese children's experiences and meanings of pain compared to findings from American children. The interpretation of crying and the way Taiwanese parents talk with their children about pain were the main differences.
Lee et al. 2003 Korea	To evaluate parental concerns on the circumcision for school boys	10 861 Korean parents Survey	More than 40 % of the parents thought that circumcision should be done at elementary school age, because babies feel pain. However, they thought that anaesthesia is not needed in neonate age because babies do not feel pain.
Chakravorty et al. 2004 London, Jamaica	To compare pain experiences in children with sickle cell disease	46 children aged 5 to 15 years Pain diary	39 % of London and 23 % of Jamaican children had days with pain. Children living in Jamaica had more severe pain, but because of lack of resources they did not use painkillers as often than children in London.
Dare et al. 2004 Nigeria	To describe women's attitudes towards female genital mutilation	522 women who had undergone female genital mutilation Questionnaires	The women had undergone type I or II circumcision at the average age of 7 years conducted by medically untrained persons. Severe pain and bleeding were the most common complications. However, a fifth of the women wanted their daughters to undergo CCC. More than half of them did not know that female genital mutilation is illegal in Nigeria.
McCarthy et al. 2004 Morocco	To identify issues in managing pain of children with cancer	14 nurses 11 physicians Focus-group interviews	Lack of resources for obtaining medication required to treat pain, shortage of physicians and nurses and lack of training of hospital staff were the main reasons for children's inadequate pain relief.
Bailey et al. 2008 Kenya	To compare complications after male circumcision in clinical and traditional settings	1007 males Interviews Clinical exams	Of 443 males circumcised traditionally, 35 % experienced an adverse event, such as excessive pain compared with 18 % of 559 circumcised clinically.