

PRE-HOSPITAL PAIN MANAGEMENT:  
THE PARAMEDICS' PERSPECTIVE.

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## ABSTRACT

Current research studies regarding pre-hospital pain management focus on the range and efficacy of analgesics available. The attitudes and perceptions of other health care professionals towards patients in pain has been explored, however this is an area of neglect in pre-hospital research. The aim of this study was to explore paramedics' perceptions of patients in pain and the paramedics' perspective of pre-hospital pain management. This qualitative exploratory study utilised semi-structured interviews to collect in-depth data from six paramedics working in a UK urban ambulance service. The interviews were audio tape recorded, transcribed and then analysed using a thematic content analysis framework.

## INTRODUCTION

Pain, an unpleasant sensory and emotional experience, associated with actual or potential tissue injury is the most common reason for patients seeking medical attention (Springhouse corporation, 1997 and Paris and Phrampus, 1999). The management of pain is a vital aspect of patient care and of equal importance in the pre-hospital environment to avoid the psychological and physiological consequences associated with its mismanagement.

In the opinion of Clarke et al (1998b:52) “the use of pre-hospital analgesia has evolved rather than been developed.” There is currently only a limited amount of research available concerning pre-hospital pain management, with the majority of these studies focusing on the variety and effectiveness of analgesics available. Only one qualitative study has been conducted to elicit paramedics’ perceptions of pain relief (Clarke et al,1998a). Once again this concentrates on the analgesics available and their side effects rather than the paramedics’ perceptions of patients in pain and factors affecting the decision to administer analgesia.

This is an important area to investigate as the paramedics’ perception of the patient’s pain experience determines the subsequent care and treatment given. “A common fallacy is providers’ belief that they can objectively determine a patient’s level of pain and subsequently withhold or administer analgesic relief based on their well intentioned ‘interpretations’” (Leduc and Paris, 1996:81). The aim of this study therefore, is to explore paramedics’ perceptions of the evaluation of patients in pain and the factors which influence their pain management decisions.

## METHODS

Using a purposive sampling strategy six paramedics were selected from a UK urban ambulance service which serves a large population of mixed cultural and socio-economic backgrounds. This method, whereby participants are selected by the researcher, enabled the recruitment of paramedics who were knowledgeable, reflective and, most importantly, willing to talk about their experiences and provide detailed information. This sampling method aims to “recruit the respondents most likely to contribute to the understanding of what is being researched, even if they are not representative of the population from which they come” (Parahoo, 1997:238). Ethical approval and written permission were obtained to access the participants, who were fully informed about the study and asked to sign a consent form.

Semi structured interviews were considered as the most appropriate method to collect in-depth data, with the use of identification numbers to maintain confidentiality. Interviews

“can enable greater depth of understanding and allow access to complexity and detail not amenable to other forms of data collection” (Clarke, 1999a:248). Although a topic guide was followed, the conversation was allowed to diverge and participants raised their own issues and introduced new ideas. Nine open-ended questions were asked, each with probes to facilitate detailed discussions. The participants were asked to describe what factors they felt influenced a patient’s experience of pain and if they believed that patients were always honest when describing their pain. They explained how they recognised pain and assessed its severity and described the types of injury or illness for which they give analgesia. The factors which influenced them when deciding whether or not to administer analgesia were discussed and finally their opinions obtained as to methods of relieving pain without the use of drugs.

The topic guide was critically reviewed by an experienced researcher and pre-tested on two paramedic students and a qualified paramedic. Interview data were recorded on audio tapes and transcribed, with all identifying details removed. Once transcribed the data were analysed using thematic content analysis, based on a fourteen stage framework by Burnard (1991). This method transforms the blend of thoughts, phrases, concepts and ideas in the raw data into manageable components for further analysis. It is a method of identifying similarities and differences in the data whilst still maintaining the individuality of respondents’ views (Sim and Wright, 2000).

## RESULTS

The data analysis identified four main themes which emerged from the transcripts, within these themes were seven categories comprising of several linked issues.

### Theme 1: The patient’s experience of pain.

All of the paramedics commented that older patients may perceive pain differently to younger patients, with some suggesting that older people may be more used to living with pain and less likely to seek immediate help. Gender was not considered to be a significant factor influencing pain experience and there was a difference of opinion as to whether the pain from childbirth gave women a higher pain threshold.

Out of the six participants, five stated that they considered the cultural background of the patient to have a major impact on their pain experience. They recognised a cultural difference to exist in the way that pain was expressed with some cultures thought to be more vocal and emotional in expressing their pain.

“You will find that some ethnic groups will tend to appear to be more dramatic about their pain” Participant 4.

One of the participants reasoned that some cultures may magnify their pain as they feel they are going to be ignored, due to language barriers and related issues. Two participants also remarked that generalisations should not be made,

“one has to guard against being prejudiced, just as casting these people off as making a fuss about nothing” Participant 6.

## Theme 2: The evaluation of pain

When asked how they recognise that a patient is in pain the overall response was that there is no classic sign and recognition was based on the experience of seeing many patients in pain. It was also commented that an element to their recognition of genuine pain was based on the patient’s behaviour and their co-operation in trying to relieve the pain.

“People who are in a lot of pain try to help you as much as they can, as opposed to just wailing on the floor. People who are genuinely in pain, if you ask them to talk they’ll talk because they want to get rid of the pain” Participant 7.

Displays of non-verbal communication were described as the most obvious signs, including facial expressions, guarding of the area in pain and withdrawing from examination. The amount of verbal interaction was also noted, particularly when the patient is quiet and withdrawn, as described by participant 2:

“focused on dealing with their pain management so they will be quiet, almost reclusive, will answer your questions but won’t make conversations because they will be concentrating too much on their pain.”

Physical signs, such as deformity, swelling and loss of mobility were also highlighted as indications of pain. Other participants commented on physiological signs, such as tachycardia, tachypnoea, grey skin colour and in particular sweating.

When asked specifically how they assessed pain, five out of the six participants stated that they used the 1-10 verbal scale. There were mixed views as to its suitability, two participants considered that most people always answer 10 as they want to be treated as soon as possible. One participant commented that the verbal scale was the easiest but not the best method of assessing pain, due to a lack of detail and depth.

Another category within this theme concerned the participant’s doubts as to the validity of some patients’ pain descriptions. The majority of participants do not perceive all patients to be honest and feel that some patients exaggerate their pain, whilst others try to deny it. One participant questions the patients’ claim to be in pain if their physical signs do not correspond. Another describes how they sometimes question the honesty of the patient’s description based on their verbal interaction:

“if they are able to... talk as I am talking to you now that says to me.... They can control their breathing quite well and either they’ve got the ability to manage the pain they are in or they are not in pain at all, or they are not in as much pain as they are telling me” Participant 3.

Some participants reasoned that patients may feel they need to increase their explanation of pain to be believed and taken seriously by the paramedics. Others felt that pain descriptions were exaggerated by patients with minor ailments so that they can justify calling an ambulance, also thinking that they will be seen more promptly at hospital. Participant seven gives an example:

“People think if they’re in more pain they’ll be seen quicker in a casualty so whereas they’re quiet on the journey on the way to hospital, on the corridor in the hospital up to see the nurse they start screaming, that’s a classic.”

### Theme 3: Decision making

The decision to give analgesia appeared to be patient-led with one participant identifying that if a patient is in pain then analgesia should be made available. The need to relieve anxiety and the physiological effects of relieving pain were also recognised.

The types of injuries and illnesses which the participants considered to require analgesia included limb trauma, cardiac pain, burns, back pain, labour, abdominal pain, sickle cell crises and fractures. Some of the participants disagreed on when they would administer analgesia, however one person did not discriminate:

“If the patient requires it whatever the condition then pain relief is what is warranted” Participant 2.

Factors such as travelling time to hospital, nature of the roads to drive on and possible delays at the hospital were all identified as considerations in the decision-making process to give analgesia. The participants also identified that one of the principal reasons they administer analgesia is to assist in getting a patient out of a situation and to aid their removal to hospital, as opposed to purely because they are in pain.

When considering the reasons why analgesia is not given, the data analysis showed that whereas some types of injury or illness influence the paramedic to administer analgesia, others had the opposite effect.

“If I don’t think that the injury or illness that they are suffering from should be giving them that much pain then I would tend not to treat them for the pain” Participant 5.

Only one participant said that with the exception of the contraindications, they give pain relief for any condition if the patient states they are in pain. The other participants however, volunteered that they tended not to offer analgesia for conditions such as flu-type aching joints, pain all over the body, back pain or abdominal pain, particularly if it is a chronic condition. It is also suggested that analgesia is under-used for patients with chest pain and that the current ambulance service approach to treating myocardial infarctions (MIs) does not place enough emphasis on analgesia.

Theme two highlighted that paramedics do not always believe patients to be honest when describing their pain. Five out of the six participants stated that this affects their treatment, participant seven gives an example:

“to actually give someone a pain-relieving drug, I have to believe they are in moderate to severe pain so if I don’t think, even, they can scream as loud as they like, if I don’t believe it’s genuine pain I won’t give them a drug.”

It became clear from the data that these are difficult decisions to make as pain is so subjective and the decision to administer analgesia cannot be purely protocol-based.

The side effects of the drugs did not concern the paramedics and prevent the administration of analgesia, although one participant did express concerns about the use of Entonox and the consequences of a related pneumothorax. Apprehension was conveyed by four of the participants in relation to the masking of a patient’s symptoms by administering analgesia. The discussion revealed that some paramedics would rather not treat a patient’s pain if they consider it to be a crucial element in diagnosis.

The difficulty in gaining intravenous access was also a factor preventing some paramedics from administering Nubain. Additionally, three of the participants debated that Nubain is antagonistic to diamorphine and therefore to have an effect the hospital has to give an increased dose of diamorphine if Nubain has already been administered.

#### Theme 4: Alternative Methods

The psychological control of pain was considered important in relation to talking with and reassuring patients. It was felt that it was essential to take control of the situation, relieve anxiety and gain the patient’s trust. Some of the participants considered it possible to talk patients down through their pain and reduce their pain experience without the need for drugs.

Some participants stated that they did not have any knowledge of alternative methods of relieving pain, whilst others had heard of a few, but had no experience or training in their use. When asked for their views on the use of music to relieve pain the participants were all positive, if it was proven to be effective. Participant three, who has a radio in their ambulance, suggested that it improves the environment and atmosphere:

“... with the radio on which gave him something to listen to, distracted

his attention and that actually works particularly well for children.”

The idea of massage, however, did not receive such a positive response with the general opinion that it was impractical, not very effective and not something the participants wished to try. Other ideas proposed by the participants included acupuncture, reflexology, the use of transcutaneous electric nerve stimulation (TENS) machine and particularly aromatherapy.

The overall impression gained from the transcripts was that despite some participants being slightly cynical of these alternative methods, if they were proven to be effective then they would use them in practice. One response to the question was:

“.... definitely. Drug, drug, drug I don't like that. I'm not into alternative medicine myself.... But if we can aid getting someone to hospital without using an invasive procedure that is good... it would be interesting to have different training” Participant 7.

## DISCUSSION

When discussing the patients' experience of pain, some participants believed that both an older age and a previous experience of immense pain gave the patient higher tolerance. Although these views are based on years of experience of dealing with patients in pain, there is no research-based evidence to support them.

The participants' views illustrated their beliefs that a cultural difference exists in the way that pain is expressed. However, they did not consider culture to affect pain perception, as discovered by Karpman et al (1997). There was no evidence from this study to substantiate the findings of Todd et al (1993) who determined an ethnic basis to exist in the prescription of analgesics. However, cultural differences in the expression of pain could lead paramedics to question the validity of some patients' pain descriptions, which as discussed below does affect the administration of analgesics.

The majority of participants stated that they did not always perceive patients to be honest when describing their pain. This is an opposite view to what McCafferty and Beebe (1994) describe as the health care professional's responsibility to accept the patient's report of pain and to respond on a positive manner. The participants' experience of seeing many patients in pain and their gut feeling made them doubt the patient's honesty, although inconsistency of physical signs and verbal descriptions were also considered to be a good indication.

These findings are supported by the work of Nash et al (1999) who discovered that nurses questioned if a patient's pain was real, based on the patient's behaviour and



attitudes. Furthermore, the findings of Heath (1998) concur that nurses do not believe patients if their body language and behaviour is contradictory to the description of their pain. The author suggests that this is when nurses use their clinical judgement and personal attitudes to make decisions, which is similar to the way in which the paramedics describe their assessment, based on their experience, professional judgement and intuition.

When exploring the types of injury and illness for which paramedics administer analgesia, one participant raised concerns regarding the under-treatment of pain in patients having a MI. This study is unable to quantify this, however it is strongly recommended that this is investigated to identify if it is an actual area of neglect in pre-hospital care. Effective pain management is not only important for the patient's comfort but also to minimise the extent of myocardial damage, as described by Cornock (1996). The National Service Framework on Coronary Heart Disease (UK, 2000) lists analgesia as one of the top five pre-hospital interventions for patients with an acute MI. However, one participant expressed the view that the ambulance service does not place enough emphasis on early analgesia. This has clear implications for changing practice and the future training of paramedics in their approach to these patients.

In their decision not to administer analgesia some paramedics were influenced by the type of injury or illness, with chronic conditions, back and abdominal pain commonly not receiving analgesia. The other two leading factors were not believing the patient's description of their pain and fear of masking their symptoms, a possible area to be addressed in the future training of paramedics. There is minimal evidence to support the above views, however the paramedics interviewed by Clarke et al (1998a) did discuss the side effects of intravenous analgesia and raised concerns, unlike these participants who discussed the side effects but considered the need to relieve pain more important.

Of particular interest was the belief that the pre-hospital administration of Nubain affects the timing and dosage of morphine at hospital. This is theoretically possible due to Nubain's agonist and antagonist properties. Initial studies such as the investigation by Chambers & Guly (1999), found no evidence to support this theory. However, Hamilton et al (1999) have discovered evidence of this problem to exist in clinical practice and raise questions concerning the current policy of pre-hospital administration. Clearly further research is required to address these concerns as this belief is already preventing some paramedics from administering pre-hospital intravenous analgesia.

This investigation found a general lack of knowledge concerning alternative methods of pain management, as was discussed by Peterson (1996) with regard to nurses. All participants welcomed a new approach to pain relief in pre-hospital care and although several problems as to its introduction were expressed, such as time available for treatment, it is an area worthy of further investigation.

### Limitations

The most significant bias involved in this study and also affecting the rigor was researcher bias. As described by Polit and Hungler (1999:169), "the researcher's

preconceptions might unconsciously bias the objective collection of data.” As the researcher was a member of the ambulance service in which the participants worked, there was a reasonable possibility that this may have influenced the findings or caused the participants to refine their responses. The participants were constantly reassured concerning confidentiality and it was felt that they were extremely honest with their responses.

The chosen research design was appropriate to explore the subject area and enabled the collection and analysis of in-depth data. The use of an audit trail not only increased the validity of the study but also identified areas requiring improvement and development. One of the weaknesses of the design was the potential difference between what the participants said they did and what they actually did and how they behaved in practice. This could have been overcome through observation of their work and the use of another method of data collection, which would have also improved the validity of the study (Bailey, 1997). This research was further limited by the use of a small sample size, which was not representative of the whole population, therefore these findings cannot be generalised to all paramedics.

## CONCLUSION

This study has presented the paramedics’ perspective regarding patients in pain and its management in the pre-hospital environment. It has explored the paramedics’ attitudes and beliefs and gained an insight into their treatment decisions. Small deficits in knowledge have been uncovered and areas highlighted where additional training would be of benefit.

Future studies could be expanded to include other methods of data collection, for example observation of practice and by increasing the sample size and including both paramedics and ambulance technicians. It would be interesting to include other services, particularly those covering rural areas to identify if there is a difference in responses. Further research is recommended to explore and investigate methods of pain assessment, the interaction of Nubain with morphine and alternative methods of pain relief for pre-hospital use.

