A study on posttraumatic experience of road traffic accident afflicted maxillofacial trauma patient at tertiary hospital

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Abstract

Objectives: Patients are usually left in a vulnerable state after an accident. Because of this, they long for a good encounter when they are brought to the hospital. Physical impairment and psychological morbidities are some of the complications that can occur to them. Traditionally, surgeons tend to pay little attention to a patient's emotional and psychological perspective. The aim of this study was to understand the experience of oral and maxillofacial trauma patients due to road traffic accident right from immediate after the accident till the end of definitive treatment. **Materials and Methods:** Phenomenological approach of qualitative study was used to explore these patients' experience. Twenty subjects involved in road traffic accidents without any cognitive impairment aged 18 and above were recruited. Purposive sampling was used to include maximal variation sample regarding age, gender, types of injury, and types of treatment received. Semi-structured and open-ended interview approach was used to obtain in-depth information. **Results:** Seven themes were identified to describe the patients' response to and experience after meeting with a road traffic accident; they are unreal experiences, emotional responses, need to inform and need for information, need for assistance, their perception toward the maxillofacial injury, their experience on treatment and staff-patient interaction. **Conclusion:** This qualitative study has provided an in-depth understanding of patients experience during maxillofacial trauma and treatment, which otherwise cannot be obtained by the use of surveys and test questions.

Key words: Maxillofacial, posttraumatic, road traffic accident, treatment

INTRODUCTION

The main causes of maxillofacial trauma worldwide are road traffic accident, interpersonal assault, falls, sports, and industrial related accident. Most of the maxillofacial trauma cases in developing countries including Nepal happened due to the road traffic accident,[1] in contrast to most developed nations which interpersonal assaults has become the main cause of maxillofacial trauma. Therefore, managing patients with maxillofacial trauma are considered the main workload for an oral and maxillofacial surgeon in Nepal.

The impact of maxillofacial trauma includes disruption to a number of important functions of the head and neck region. This includes facial appearance, sight, smell, hearing, speech, breathing, and eating. These specialized functions are highly important for a normal daily living of a person.[2] Therefore, any impairment of the functions mentioned above can affect the quality of life of a patient and become a burden to their

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families. This can subsequently lead to psychological distress in the patient after trauma. Psychological morbidities are one of the complications following road traffic accident and maxillofacial trauma. The common psychological disorders include acute stress disorder, posttraumatic stress disorders (PTSDs), and major depression.[3-5] These posttraumatic psychological problems may occur either immediately or later after trauma and worse, some patients are left without appropriate diagnosis and treatment. Without proper treatment, these psychological problems can become chronic[6] and they can adversely influence the treatment response and overall social function.[7]

After an accident, patients are usually left in a vulnerable state where they long for good encounter when they are brought to the hospital.[8] To improve the quality of care, good communication between health-care staffs and patients is vital. It is important for the health care providers to understand how the patients feel and what they experience during the period right after the accident to the end of definitive treatment to improve this communication and thus to develop more personalized care for the individual patient. Medical ethics has always emphasized that surgical care should include collaboration between surgical care and mental healthcare. Therefore, a patient should be evaluated from both physical and psychosocial perspective. Research on improving the maxillofacial trauma care has been always focused on surgical perspective. Surgeons tend to pay little attention to their patient's emotional and psychological perspective. Poor documentation due to low awareness of posttrauma psychological disorders among the surgeon has been observed.[9]

In recent years, qualitative study has been used to explore patients' experience on trauma care at different stages after an accident. Patient's feeling and perception toward the nursing care have also been explored using qualitative study. The advantage of qualitative study is that it allows the researcher to explore people's behavior, define what is important to them and identify how people feel and think about a particular event.[10] Although there is a number of research carried out on the impact of oral maxillofacial injury or postroad traffic accident experience; however, only a few of them are qualitative in nature. In addition, none of them were specifically done on a sample of postroad traffic accident maxillofacial trauma patient.

The aim of this study was to explore and understand the experience of an oral and maxillofacial trauma patient after a road traffic accident. A qualitative study method which involves interviews with a convenient/purposive sample of postroad traffic accident maxillofacial trauma patients was employed. The finding of this study should help us to further improve our patient care and communication.

MATERIALS AND METHODS

This study received approval from the Institutional Ethical Committee.

Design

Phenomenological approach of qualitative study was used to explore the patients' experience after sustaining maxillofacial trauma following a road traffic-related event. During the process of this study, prior beliefs about the phenomenon are temporarily put aside so as not to interfere with seeing the elements or structure of the phenomenon.[11,12]

Study setting and study participants

The study was conducted in the Department of Oral and Maxillofacial Surgery. Inclusion criteria were oral and maxillofacial trauma patients who sustained their injury following a road traffic accident. The inclusion age of the patient was 18 and above.

Data collection

Purposive sampling was used to include maximal variation sample in term of age, gender, types of injury, and types of treatment received. Before the interview, patients were screened using mini-mental status examination (MMSE) to rule out any cognitive impairment. Written information about the study was provided accompanied with detail explanation from the interviewer to ensure patient understood the information provided. At the same time, confidentiality of the patients' identities was assured, and they encouraged to freely expressing themselves during the process of interview.

Data were collected during May 2015 to December 2015. Semi-structured and open-ended interview approach was used to obtain in-depth information about the patients' experience. Twenty patients were interviewed at the end of their definite treatment when they returned for the final review appointment at the Department of Oral and Maxillofacial Surgery. One to one interview took place at the department's seminar room. There was only one interviewer who is the first author of this research. The interview was recorded using a digital voice recorder (Sony Stereo IC Recorder ICD-UX523F) and later, a transcribed verbatim was prepared for the purpose of analysis by the same author. The interviewees were guided by a set of semi-structured interview questions to aid the interviewer focused on the research questions. The patients were encouraged to express their feeling with some follow-up questions by the interviewer, such as "what did you think?" and "how did you feel?." Questions like "what do you mean?" and "can you explain a little bit more?" were constantly used to clarify the patients' response.

Data analysis

All recorded data were transcribed into textual data by one researcher. After transcribing the interview, the data were imported to NVivo 10 software (QSR International Pty Ltd., Doncaster, Victoria, Australia). The transcripts were read a few time so that the researcher got familiarize with the context of the interview. At the same time, they were analyzed line by line to identify keywords and phrases. These keywords and phrases were coded by creating nodes as meaning unit. After analyzing the results for the first patient discussion with the second researcher was done to verify the nodes created. Then analysis was continued up to the data of the fifth patients. After analyzing the findings for five patients the first and second researchers reviewed the transcripts to verify the nodes and categories together with one independent expert in qualitative methods. This was followed by continuingly analyzing the data of the remaining 15 patients. After completing the encoding process for nodes quotes from the Nepalese language transcripts were translated by the first researcher and was then checked by the second researcher., thematic analysis was performed to categorize the nodes into broader categories or themes as reported in the result. This was again double check and verified by the second researcher before reporting. During reporting, quotes from the Nepalese language transcripts were translated by the first researcher and was then checked by the second researcher.

RESULTS

Demographic

A total of twenty patients were interviewed at the end of their definite treatment. This period ranged from 1 week to 13 weeks posttrauma. Depending on the type of injuries the patient sustained, those with soft tissue injuries/dental injuries only were interviewed after 1 week posttrauma while one patient with fractured maxillofacial bones was interviewed at 13 weeks after arch bars were removed. Each session of interview lasted between 22 and 64 min.

The majority of the patient interviewed was male, making up 19 of the subjects. Eighteen Nepalese, one Indian and another one from other ethnics were included in the study. Most of the patients were below 40 years of age (18–30 years old = 11; 31–40 years old = 6). Most of the patients were motorcyclists who were involved in accident concerning the vehicles they were riding on. Only two patients were car passenger and one who was riding a bicycle that met with an accident. Among the twenty patients, 15 of them sustained facial bone fracture, four of them had soft tissue injuries and only one sustained dental injuries only. Of the 15 patients with fractured facial bone, 10 of them were treated with open reduction internal fixation (ORIF) and another three were treated with close reduction using intermaxillary fixation (IMF). There were eight patients who also sustained concomitant traumatic brain injuries, six patients with orthopedic injuries, three patients with chest injuries and one patient with abdominal injuries.

As stated in methods, MMSE was used to rule out any cognitive function impairment in the potential patients before interview. All patients who are included in this study scored more than 25 (out of 30) indicative of normal cognitive function.

Postmaxillofacial trauma experience

Seven themes were identified under this heading. They were an unreal experience, emotional responses, patient perception toward injury, need of being informed and to inform, need for assistance, staff-patient interaction, and experience on treatment received.

DISCUSSION

This study has explored the experience of postroad traffic accident maxillofacial trauma patient from the day of the accident until the last review day of definite treatment. Besides that, we have probed the perception of these patients toward the impacts of the accident and injuries on their life and enquired on how they cope with the sudden changes in their life after the accident. To answer the research questions, we have analyzed the data and categorized the results into three main topics. They are (1) experience on postmaxillofacial trauma, (2) psychosocial sequelae after the trauma and (3) coping strategies postmaxillofacial trauma. Their impacts are discussed in details in the following paragraphs.

Postmaxillofacial trauma experience

This study found that some of the patients had unreal experience, a finding that has also been described[13] who studied patient's experience with prehospital emergency care 5 years ago.[13] Drifting of a patient's mental state in and out from unconscious to conscious state can be perceived as "like dreaming" by the patient. This state can happened as a side effect of traumatic brain injury or the influence of the sedative medication. Besides reduced level of consciousness, confusion, and amnesia were often mentioned by patients. This is not surprising as most of the maxillofacial trauma patients had sustained traumatic brain injury which ranged from cerebral concussion to intracranial bleeding.

The importance of giving information to patients who had just woken up from a state of loss of consciousness has been emphasized by a number of patients. This finding is in agreement to that reported by Elmqvist *et al*.[13] Explaining and giving information to the patients about the "missing period" of their life's gives them a sense of control over their current situation. This can be assisted by the person who is beside the patient when heregain consciousness; he can either be a family member, a friend or a health care provider. Giving good information must not stop after one explanation. Therefore, health care providers and caregivers should patiently repeat the explanation whenever necessary to assist their patient understand what was happening to them at a particular period. Another aspect that had been described by patients was their need to inform others (family members, friends, or employers) regarding their condition and to make the necessary adjustment for their disrupted daily living. A similar need has been described[14] where patients tried hard to make arrangement on their daily living before calling for ambulance help from home. In addition, patients also called to seek assistance during treatment and to arrange for someone to take of their belongings. To have someone they trust and close by during the acute phase gives patients a sense of security.[15]

However, from the finding of this study, we noted that there was a patient who chose to inform his sibling over his parents to avoid making them worry and avoid getting nags from his father. Patients' perception toward maxillofacial injury during the initial stage can be divided into two groups; one that is not aware of the injury on the face during the initial posttrauma and another group was patients who were well aware of the injury to their faces. Those who noticed injury on face reported that they noticed there were bleeding from mouth, pain, difficulty to open their mouth and seeing deformity on their face and teeth. Those who were not aware of their injury were noticed to have other distracting painful orthopedic injuries, and some seemed to be preoccupied with their worry on head injury.

Two common treatment modes were highlighted in this study, which was ORIF under general anesthesia and IMF under local anesthesia. The majority of patients in this study were motorcyclist and most of them expressed their concern on the financial burden of ORIF in the process of choosing treatment options. The advantage of ORIF under general anesthesia was described by a patient as fast, no pain and no memory.

However, some patients did expressed worry on the possible complications of general anesthesia, such as awakefulness during surgery and death under anesthesia. Preoperative education given 1 day before operation somehow was not helpful in reducing their anxiety. This finding was different from the result of other preoperative education study where a reduced preoperative anxiety was reported.[16] In fact, one of the patients showed increased anxiety after an explanation of risks and complications of the surgery was provided by the surgeon. This finding was also shown in a study[17] where they found that preoperative education which was not carefully done according to an individual patient's need and social background might cause more anxiety to the patient.

All patients who have had the placement of IMF under local anesthesia claimed that the procedure was painful and was unbearable. However, there was one patient who claimed the pain during the injection was most painful, after which he claimed that there was no pain during the procedure of wires and arch bars insertion. Eating was a big problem for patients on IMF. Side effects of IMF treatment included the loss of weight, weakness because of low oral intake and difficulty to speak clearly during the initial period. In terms of staff-patient interaction, the patients emphasized that a trust between the health care workers and patient is important in the hospital setting. Patient's trust was gained with caring qualities that were described as friendly, patient, treating them as family members, motivating, explaining about the procedure and always being concerned and asked about the pain suffered. This study found that pain management in the ward was insufficient due to the patients' and staffs' attitude toward pain medication. Some patients raised their worry over taking too much of pain medication which was believed to cause harm to their general health. This finding is similar to that reported where half of their patients did not wish to ask for more analgesics after having initial analgesict[18] Staffs' attitude of not giving regular doses for patient who had consistent pain did not help either. Besides that, limited knowledge of pain management on the part of the staffs, and patients wanting to be a good patient with no complaints also add to this worrying problem.[19]

Psychosocial sequelae

Emotional responses reported after traumas are fear, shock, anger, frustration, sorrow, irritated, and feeling guilty. Similar emotion has reported[13] where patients experienced the feeling of impending threat to their life in addition to the fear of dying during the prehospital stage. Anger and frustration were observed in those who blamed others for causing the accident.

Symptoms of insomnia and hypervigilance were described by two patients. However, they only partially fulfilled the criteria for anxiety stress disorder (ASD) or PTSD. Unfortunately, no proper screening tool was used to screen the patient for the psychological disorders in this study, as this is beyond the scope of this study. Postroad traffic accident specific phobia was observed in the majority of patients, but most of them claimed that they would slowly come out of it as they needed to return to their routine mode of transport for their daily living. Posttraumatic growth is gaining more attention recently as it shows positive growth in patients after a traumatic event. In this study, almost all patients showed at least a small degree of posttraumatic growth as they were grateful and appreciated the help received from the others. Similar observation has been reported[20] in 99% of their patients.

Coping strategies

Emotional focused coping strategies such as avoidance, denial, blame, and anger have been used by some patients to reduce the intensity of their distressing emotion during the initial phase after trauma.[21] A few studies showed that blaming the other party after an accident was associated with poorer psychiatric outcome,[22,23] and in agreement to this, we observed a linear association between blaming others and the level of anger felt by the patients. On the contrary, when the patients blamed themselves or did not bother to blame anyone, they were found to show more association with positive emotions such as positive thinking. This is consistent with findings[24] where those who blame themselves for the injuries experienced less anxiety and recovered faster after an accident.[24] Interestingly, this study also observed posttraumatic growth in a patient who believed that the accident met was a test from God. This is similar to the observation[25] where they noted spiritual involvement such as praying positively predicted posttraumatic growth among patients.

Passive copings that were used by the patients in this study during their recovery period were avoidance, deviation, and denial. Previous studies have shown that there is a positive relationship between avoidance coping and PTSD symptoms.[24,26-28] Thus, Winje[29] recommended that patient should be adequately informed regarding their condition after an accident so that they can have a better psychological adjustment afterwards. Active coping strategies such as self-assisting and positive thinking were also demonstrated in this study. This group of the patient was observed to be able to identify and develop problem-focused coping behaviors that led to improved psychological adjustment and ability to return to work earlier, and is similar to that reported in the western population.[24]

Patient's coping strategies toward their facial disfigurement include having different emotional responses during the initial stage, where patient they cried, or felt sad and/or angry when they first saw their face on the mirror. Such emotion-focused coping was found to be associated with better satisfaction with facial appearance during initial stage after trauma, but it was also noted to be associated with a higher incidence of ASD symptoms particularly arousal and avoidance afterward.[30] An individual's ability to cope with the facial disfigurement depends on the social meaning of disfigurement, life history of the patient, social and family support and developmental stage of the patient.[31] These factors, however, were not explored in this study.

CONCLUSION

In this study, there were seven themes identified to describe the patients' response to and experience after meeting with a road traffic accident. These themes are unreal experiences, emotional responses, need to inform and need for information, need for assistance, their perception toward the maxillofacial injury, their experience on treatment and staff-patient interaction. By understanding their experience after an accident, the clinician can provide better personalized care to their patient. This includes a strategy of giving information to the patients and assisting them to inform their family members, colleagues or friends, to make personal arrangement.

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Conflicts of interest

There are no conflicts of interest.

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