Health and Quality of Life Outcomes

Research

Facilitating post traumatic growth

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Abstract

Background: Whilst negative responses to traumatic injury have been well documented in the literature, there is a small but growing body of work that identifies posttraumatic growth as a salient feature of this experience. We contribute to this discourse by reporting on the experiences of 13 individuals who were traumatically injured, had undergone extensive rehabilitation and were discharged from formal care. All participants were injured through involvement in a motor vehicle accident, with the exception of one, who was injured through falling off the roof of a house.

Methods: In this qualitative study, we used an audio-taped in-depth interview with each participant as the means of data collection. Interviews were transcribed verbatim and analysed thematically to determine the participants' unique perspectives on the experience of recovery from traumatic injury. In reporting the findings, all participants' were given a pseudonym to assure their anonymity.

Results: Most participants indicated that their involvement in a traumatic occurrence was a springboard for growth that enabled them to develop new perspectives on life and living.

Conclusion: There are a number of contributions that health providers may make to the recovery of individuals who have been traumatically injured to assist them to develop new views of vulnerability and strength, make changes in relationships, and facilitate philosophical, physical and spiritual growth.

Background

For the year 2001 in Victoria, Australia, it is reported that 189,735 individuals were involved in a traumatic event that caused significant disruption to their lives [1]. Although the overwhelming majority of these events were caused by motor vehicle accidents, others were caused by industrial accidents, falls (i.e. among the elderly or from heights such as balconies or building sites) and acts of aggression. The impact of traumatic events is daunting, both to the individual concerned and to their families, with Watson [2] reporting that the total lifetime cost of death and hospital-treated injury in Victoria, Australia for 2001 was estimated at $3.1 billion. Lifetime costs are defined as those related to treatment of injury (direct costs) and those related to loss, or partial loss, to society of the productive efforts of the injured or their caregivers (indirect costs). The direct treatment cost of traumatic injury to Victoria was reported for 2001 at $952 million

[2]. These figures reveal the enormity of the cost burden associated with injury. However, they only reveal the tip of the iceberg, as they do not account for social costs such as loss of wellbeing, recreational opportunities, or capacity for leisure or work, which are important considerations for an injured person. Given that the burgeoning costs of trauma care to the Australian community involves great financial burden, as well as emotional costs, due to extended hospital stays, intensive rehabilitation, loss of earning capacity, domestic dependence and long-term therapeutic care, this qualitative study was conceived to further explore the consequence of a traumatic injury to the person involved. In total, 13 people who were non-head injured were interviewed. The period of time between participants' respective interviews and accidents ranged from 18 months to 4 years.

The purpose of this study was to explore participants' initial and subsequent experiences of recovery following traumatic injury. Learning about the recovery period from the perspective of the person involved is imperative because it enables caregivers to refine their caring practices by focusing on issues that are of importance to the patient. This is particularly important given the increase in the number of survivors of critical and multiple injuries that have resulted from advances in technology and trauma care.

Review of the literature

Negative end points of traumatic injury, such as functional disability, self-care limitations, loss of mobility and Post Traumatic Stress Disorder (PTSD), have been reasonably well documented in the literature [3-6]. However, surprisingly little is known about how survivors of critical trauma fare, from a social perspective, during their post-trauma years. Questions such as "Will this person be able to engage in recreation or leisure to a level that is satisfactory to them?" have not been sufficiently investigated, nor has the capacity of the person to resume gainful employment within their chosen occupation. Also under-explored are questions regarding the impact of injury on the person's ability to sustain relationships, and the person's ability to participate in things that were a part of their every day life, such as going shopping, kicking a football with their children, going to the beach or swimming at the local pool, and going to the pub or local tavern for "a beer with mates". These are important considerations within the context of the Australian culture, where mates, camaraderie and leisure are highly coveted and prized [7]. They are also important considerations to the person who is recovering from traumatic injury, as this person will often judge personal outcomes of traumatic injury more critically and thoughtfully than their treating physicians or significant others.

Further, there is a paucity of studies that identify how the subjective well-being of an individual is maintained. Little is known about personal perceptions of recovery following traumatic injury; that is, how aspects of the recovery process are experienced and managed, and whether they are perceived to inhibit or facilitate the person's recovery process. Such perceptions constitute the experience of recovery and may determine the efficacy of rehabilitation programs and the speed and success of recovery. A lack of in-depth knowledge of the recovery process is of serious concern because, as Bradford [8] points out, lack of understanding of how dimensions of the self are affected can lead to neglect of the emotional needs of trauma patients and ultimately have negative long-term effects on their recovery.

In a 5-year follow-up of severely injured ICU patients, it was found that, overall, patients experienced reduced social wellbeing and also changed their professional and recreational activities post-injury [9]. This study highlighted the complexity of recovery from traumatic injury, clearly indicating that recovery is more than the sum total of physical and mental well being.

Notwithstanding the lack of knowledge about how people recover over time from traumatic injury, some important discussion has begun to emerge on how to recognize and promote posttraumatic growth. Common elements of posttraumatic growth include:

...a changed sense in one's relationships, a changed sense of self, and a changed philosophy of life. Posttraumatic growth can involve an experience of deepening of relationships, increased compassion and sympathy for others, and greater ease at expressing emotions. The change in self-perception may include an increased sense of vulnerability, but an increased experience of one-self as capable and self-reliant. Finally, some individuals report a greater appreciation for life, a changed set of life priorities, and positive changes in religious, spiritual or existential matters [10] p16.

The phenomenon of posttraumatic growth is not new, and has been reflected upon by philosophers, theologians, social scientists and populist writers [11-14]. However, systematic investigation of this phenomenon is a recent occurrence, with various writers contributing to the discourse [15-18]. Given the emergence of literature that focuses on positive aspects of recovery from traumatic injury, we thought it timely to consider the possibilities recovery holds for the Australian population.

Whilst there remains a paucity of information about the characteristics, duration and consequences of traumatic injury, as well as factors that influence the extent and rate

of recovery, health-care providers will continue to be hampered in their efforts to plan rehabilitation services that meet the ongoing care needs of their patients, particularly for care that extends beyond the physical realm. This study was conceived to bridge this knowledge gap.

Methods

This qualitative interpretive study explored the recovery experiences of 13 people who had been in a rehabilitation program at a hospital located in Victoria, Australia, following traumatic injury. A qualitative interpretive approach was selected because it enables researchers to give priority to human experience and to determine how people interpret their experiences and give them meaning [19,20]; the main aims of this study.

Sample and setting

A number of criteria for eligibility were established. The participant must have:

• been able to speak and comprehend English;

• been between the ages of 18 to 35 years;

• been engaged in a formal rehabilitation program for a period of over 12 months but discharged from this program; and

• been living within metropolitan or regional Victoria, Australia.

Exclusion criteria

People were excluded from participation in this study if, following their injury, they were not cognitively able to understand the study, respond to questions or give informed consent. This information was ascertained from patient records prior to recruitment.

The participants

As mentioned previously, thirteen individuals volunteered to be interviewed for this study. Each person selected or was given a pseudonym. Participants are as follows:

Mary was a university physical education major at the time of her accident. She had agreed to transport her sister to a party, and when travelling on a back road in a semi-rural area, her car was hit head on. Her father and brother happened to be returning home on the same road and were the first to arrive at the scene of the accident. They telephoned for assistance and an hour and a half later a helicopter arrived to transport Mary to a shock trauma centre located in Melbourne, after an emergency rescue team cut her car open to pry her out.

David, a single man was travelling home from work on his motorcycle when he was struck by a car. He was thrown into the gutter, where he lay for some time as the car that struck him sped away. He described his injuries as minimal although he noted that he had a short leg as a result and now walked with a limp.

Rebecca was a middle manager in the computing industry at the time of her accident. She lived alone in her own flat, but found after the accident that she needed to move into a house owned by her sister, because she could no longer manage stairs. As a consequence of her accident she experienced on going mobility problems.

Fred was an industrial chemist who was asleep in the car of a work colleague whilst travelling home after an exhausting night shift. The next thing he remembered it was a week later, when he woke up in an intensive care unit, with a tracheostomy and respirator insitu.

Corrine worked for her parents in a family owned business. She was going home from work when she was struck, head on, by a car travelling on the wrong side of the road. She was pinned down in the car and recalled that they had to cut her car apart to free her. After being freed from the wreckage she telephoned her mother to let her know what had happened, but said she must have passed out after that, because the next thing she remembered was her parents arguing over her head in the intensive care unit.

Francis was a university student who lived in a rented house with his girlfriend. He was coming home from his part time work and was struck by a car. Although he felt his injuries were not severe, he relayed that he felt unable to return to his studies, instead taking on a number of part time positions that were not very meaningful.

Bradley was the heir to the family business and was on a golfing vacation in rural Victoria when he had what was a 'stupid accident'. He was transferred from the scene of the accident in the family car to the local hospital, where he waited for several hours to be seen. He was advised at the hospital that they did not have the facilities to treat him and recommended that he return to Melbourne for treatment and ongoing care. He subsequently undertook a 5 hour journey, unmedicated and again in the family car, to be treated in Melbourne.

Richard said he was minding his own business travelling home on his motorbike, when a car suddenly veered into his pathway, hitting is bike and throwing him into the gutter. He attempted to get up but discovered that he could not support his own weight, so an ambulance was called by bystanders, so that he could be transported to the nearest hospital.

Teresa decided to end her life and was steering her car, at a speed in excess of a 140 km/hr, towards a cement pylon on the freeway. At the last minute she veered, causing her car to hit the pole on the passenger's side instead. She remembered she passed out and her next memory was of her being in the hospital and it was several days later.

Hal was a self employed business man who was cruising on his motorcycle on a street that was noted for its night life, when suddenly a car ran a stop sign and struck him. Although thrown from his bike he initially thought he was alright and stood up with the intention of going home. Ironically an ambulance was passing by and stopped to render assistance. He passed out and his next memory was of waking up in an intensive care unit, several days later.

Max, a university student and volunteer worker, was on the roof of a house when a mini tornado swept through, causing him to be thrown off the roof to the next level, which was several meters below.

Helen was an international university student undertaking a Bachelor of Business degree at the time of her accident. She lived with a host family who were away on holiday when the accident happened. She was struck from the rear on a major freeway, injuring her and 3 of the 4 passengers whom she was transporting.

Eden was a single girl 'out for a good time' on the night of her accident. She claimed she had drunk excessively and was looking for someone to take her home when she saw someone attempting to break into her car. Rather than let them smash her window to gain access, she agreed to drive them where they wanted to go. On the way she smashed into a telephone pole. It took 4 hours to pry her out of the car before she could be transported to the hospital via ambulance.

Further information regarding the participants can be found in Table 1: Participant details

Procedure

Within Australia, patients who have sustained serious and often multiple injuries following a road, workplace or domestic accident are usually transferred from various hospital trauma units for rehabilitation at specialists hospitals. In the year 1999, 454 patients were admitted to the rehabilitation unit of the hospital that was affiliated with this study. Of these, 140 had a head injury, 266 had orthopaedic injuries resulting from road accidents, and 48 had orthopaedic injuries resulting from work place accidents. Collectively, these patients used a total of 13,921 bed days. Whilst the ages of patients admitted to this hospital varies, the predominant age range of patients with traumatic injury falls into the 18-to-25-year bracket. They are cared for within the Rehabilitation Unit, generally for a considerable length of time, and may progress to the Community Integration Centre and finally return home to independent living, or to a carer at home. Frequently, these people live with long-term disabilities and chronic problems, which they self report as a "struggle".

Having obtained ethics approval to conduct this study, the researchers accessed the hospital database for patient admission details. Letters outlining the study and inviting participation were sent to patients who met the selection criteria. Thirteen individuals responded positively. A statement that explained in plain language the participation requirements and consent form were enclosed with the letter, along with a stamp-addressed envelope for return of the signed consent form.

The 13 individuals who responded were contacted by a member of the research team to arrange an in-depth interview at a mutually convenient time and place. Where the participant chose to travel to the hospital for this interview, travel expenses were reimbursed.

A single in-depth interview using a semi-structured questioning technique was used to explore the participant's experiences of having sustained traumatic injury and having been rehabilitating over a period of time. Interviews were audio-taped with permission, and took between 1 and 2 hours, with breaks as appropriate so as not to tire participants. Participants were asked what the journey to their current stage of recovery had been like for them, and to give examples of people who, or events that, had helped or hindered their journey to recovery. Participants were asked what the concept of recovery meant to them, and if their definition of recovery had altered since they were injured. Bearing in mind that questions that asked were in response to each individual's story of recovery, a rigid interview schedule was not used. Rather, the interview questions were focused around gaining an appreciation for factors that either aided or hindered the recovery process. Some specific examples of questions that were asked, but not necessarily in the order presented were:

• Can you tell me what happened to you and why you wound up in hospital?

• What is the first thing you remember after the accident happened?

• Tell me what you remember about your rehabilitation program. What did rehabilitation actually consist of for you?

Table 1: Participant details

NAME	AGE AT TIME OF ACCIDENT	TYPE OF ACCIDENT	LENGTH OF TIME SINCE INJURY	INJURIES SUSTAINED
Mary	19	car	3 years	Compound fractured right femur; left femur shattered
David	30	motorcycle	3 years	Fractured tibia; large skin loss to leg
Rebecca	25	car	3 years	Fractures to spine, pelvis and ribs
Fred	25	car	2 years	Lacerated liver, punctured diaphragm, lung contusion, fractures to ribs, sternum, ankle, wrist, and cervical vertebra, knee; pancreas inflamed
Corrine	20	car	2 years	Closed head injuries, fractures to tibia, fibula, ankle and wrist
Francis	30	motorcycle	2 years	Fractures to humerus, femur, fibula, wrist, elbow; severe gouge to ankle
Bradley	29	Fell from moving truck	1 year	Fractured tibia, severe gouge to knee
Richard	25	motorcycle	2 years	Fractures to ulna, radius, femur, ribs and sternum; torn ligaments in knee; lacerated liver
Teresa	26	car	4 years	Fractures to humerus of both arms, femur, knee, foot and pelvis
Hal	34	motorcycle	4 years	Torn aorta, punctured lungs, fractures to ribs and thumb
Max	18	fell from roof	1 year	Fractures to tibia, fibula and foot
Helen	20	car	2 years	Fractures to femur, torn knee ligaments, severe bruising
Eden	26	car	2 years	Fractures to clavicle, ankle, tibia, both femurs, ribs; leg partially amputated

• So how did it happen that you went from a person who was severely injured to the person that you are today? What was that experience all about?

• Looking back on your recovery, were there any things in particular that you believe helped you to recover? If so what were they?

• Were there any things in particular that hindered your recovery? If so what were they?

• While you were recovering, what sort of things were going on in your mind about your recovery and what was ahead for you.

• Looking back on your experience now, do you think your understanding of recovery from your injury changed over time?

At the outset of their involvement in this study, each participant was advised that should they find the retelling of their story of injury in any way stressful or traumatic, they would be offered an opportunity to debrief, at no charge to them, with a formally trained counsellor. Although two participants did indicate during their interviews that they might take up this option, they did not do so. Follow-up conversations with these participants revealed that they had resolved the issues that arose, and that they did not feel they needed to avail themselves of this option.

Data analysis

The interviews were transcribed verbatim in order for both members of the research team to be involved in data analysis. Analysis involved the iterative process of reflective listening to the tapes to gain a sense of the whole and of reading and re-reading the transcripts in order to be fully immersed in the contextual features of each interview [20]. Statements and phrases that seemed essential or revealing were identified and clustered as themes or sub-themes in patterns. Each researcher independently identified the core themes; both researchers subsequently met to come to agreement on the core themes and sub-themes.

Results

Whilst a number of themes were identified from the study, two in particular related to the notion of posttraumatic growth. These were: "the strength of willpower" and "altered perspectives". Each of these had sub-themes, which are now described.

The strength of willpower

Although each of the participants of this study was considered recovered, and had been formally discharged from the health-care sector, all were still undergoing significant transitional problems in respect of conducting their every day affairs. Yet, despite what were at times overwhelming difficulties, almost all participants reflected on the numerous ways their accident had changed them in some fundamental way, enabling them to become a better or different person. For example, every participant spoke of willpower in some way. All spoke of themselves as fiercely independent and resistant to the ways in which their accident had rendered them in need of other's assistance for intimate care. None had any intention of allowing dependency states to be their future. They described the ways in which they set about restoring their independence.

Two sub-themes related to this theme. The first is *staying resolute*. This related to the phenomenon of willpower, with the participants' using words such as "determination", "motivation" and "stubbornness" to describe their willpower. Each one had, within the first year of their rehabilitation process, decided that they would face their journey towards recovery positively. They determined they would somehow find the strength to keep a positive attitude in order to face what lay ahead and keep working to their goal. Corinne said that she was depressed at first, but then she "took charge" and became determined (C p18). David said that he believed he would get back to what he was doing before and that belief sustained him. When the staff at the hospital told him that he would never progress beyond the point he had reached, his reply was "Want to bet?" (D p16). He continued to progress, step by step. Bradley took matters into his own hands, deciding that the physiotherapists were not moving fast enough. He did his own self-devised exercises, which were separate from and different to those prescribed by his physiotherapist, to progress more quickly (B p11). He knew that he was exceeding the parameters of recovery that were set for him, but felt that he knew his own body best. Mary also felt like this, saying "It's being independent, which is good. You have got to do it yourself" (M p14). Eden was quite clear. She said "I am going to win and that's it!" (E p19).

The second sub-theme that related to the strength of willpower was called *strategizing recovery*. Each participants spoke of either independently or in collaboration with their physiotherapist, setting goals and working, step by step, to the next goal. Fred noted that at first he could only manage to think about survival, for him it was "minute by minute or day by day" (F p5). Sometimes the goal was just to get through a particular day, while other times the goal was to move from the wheelchair to sticks, as illustrated by Rebecca: "I had to go from the frame to the crutches, to the stick and then get rid of the stick. Once you are on the stick you are home and hosed and everything is easy from there – or so I thought" (R p18).

Sometimes this reflected the strength that the person always had. For example, Mary (M p15) said:

It is scary, but I take things on as a challenge, so to me this was something else in my life that I had to overcome ... I had an aim. I knew what I had to do to get there, so I pushed myself hard ... and when I got out [of hospital] I would set myself another aim.

At the end of her interview, Mary commented about strategizing her recovery and displayed her extraordinary willpower. She said "I did what I had to do to get back" (M p84). Fred agreed when he said "It's just what you have to do. You just do it – work past it, you know?" (F p15).

Staying resolute and strategizing recovery accurately depicts the experiences of these participants throughout their recovery process. This is not to romanticize the journey, however, or to suggest that the journey was smooth sailing. Indeed, for most, the journey was long, tortuous and filled with setbacks and disappointments. Mary (M p17) described a time where she "cried for two weeks, ..., blubbered, non-stop". Somehow, though, as they looked back over time, these participants were able to see that they had held on to their resolution and stuck with their strategies, with the bigger goal leading them. In the end, for most of them, their strength of willpower won over.

Altered perspectives

As participants reflected on the outcomes of their journeys to recovery, the second theme of "altered perspectives" became evident. Every participant spoke of some alteration to how they saw themselves and their world, not in the immediate aftermath of their injury, but as a consequence of reflecting over time in the intervening years. Some participants were stronger than others, in terms of acknowledging the power of change or alteration to their lives. Two sub-themes expanded on this core theme. The first is *self-understanding*. Participants spoke about how they had to grow quickly after their accident, and partly this was about taking responsibility for finding and holding on to their strength of willpower in order to start the journey to recovery. They learned a great deal about themselves in the process of recovery. All felt changed in some way. Some felt they had a more positive outlook; for example, Bradley said that he felt he was a nicer and more expressive person. Another described herself this way: "I think I have a fitter attitude ... I don't know whether you compensate more in the mind or the spirit or something because of the physical [loss] ... I have a healthier attitude now" (R p21). Mary said that if she could only remove the pain it caused other people, she would go through it again, for she liked the person she had become because of her accident. She said "I can't see my life without it now. It is very character building, and I like the person I am now ... I wouldn't want to be another person" (M p51.) Fred also said he thought he had changed: "I have come a long way. I've become better as a person ... more compassionate" (F p46).

Rebecca found her values had changed, and what was real and important was clearer to her. She spoke of being wiser, and said "I think ... my life philosophy is a little bit more forgiving. I am a bit more able to understand other people [with problems]" (R p37). Rebecca also expressed that she "feels good at a soul level ... I guess I look deeper at things, and from less of a me perspective" (R p50–52).

Hal spoke of himself as more tolerant and patient, saying that he had grown, and felt he was a better man. He found the journey to the person he became challenging, and remarked:

My sense of satisfaction (with myself) slowly started to unravel ... I had a sense of real isolation or desolation ... lacking any purpose any more. Like I said, I don't want to be a missionary, but I want to try to find something that has more meaningfulness about it. I feel more whole now (H p54).

The second sub-theme is *being with others*, and this expressed how much more the participants valued their friends and family. Most had become quieter, liked being with special people, and had no real goals for big things. They expressed that they were more content with things and with the people who mattered to them. Hal described how he spent more time with his son than he had previously and that he realized the importance of "taking time to smell the roses" (H p19). He spoke of how the pace of his previously hectic, work-driven life had slowed considerably (H p20). Fred spoke of how he reprioritized his life for what he now saw that mattered. He found his family was a newly emerged priority. This wanting to be with others was not always easy: many participants spoke of themselves as independent and private, and said it was hard to learn that they needed the help of others just to manage their day. They did not always appreciate that they had to become open and gracious to receiving help from others, although they expressed that they knew this was true. Rebecca described herself previously as "like an island ... [but then] I had to accept help from other people, and that was really hard for me to do. So (now) I am a bit more open to that" (R p26). Their altered perspective with new self-understanding, and a need to be with others, came from recognizing that they were not invincible: they were mortal, lucky to be alive and as able as they were.

Discussion

There are some similarities between the discourse of the participants of this study and that reported in other studies. However, some exciting new ideas have also emerged. Although negative endpoints of recovery have been documented in the literature [3,4] the participants of this study did not dwell on negative endpoints. Instead, their discussion focused, to a large extent, on their sincere desire to not only get better, but to reach new levels of achievement in their lives.

A question that might legitimately be raised regarding the findings of this study is "To what extent are the participants' responses to trauma usual or unusual"? In one sense the answer to this question is unknown, in that the participants' were not asked to reflect on whether their positive responses to trauma were usual or unusual for them. However, when taken at face value, almost all participants whilst telling their story expressed that they believed they had grown and become stronger because of what had happened to them. They talked at length about how their injury and recovery had caused them to view others, particularly those with disabilities, with compassion and how their relationships with others had changed for the better. This is not to suggest that the participants were naive or simplistic in their views of recovery. Indeed, they voiced a realistic understanding that life would not be the same; however, they were resolute that they would forge new pathways in their journey towards recovery. It is important to note that there are few mentions in the literature of the journey to recovery. That is, recovery literature neglects or ignores, in the main, discussion of long-term implications of what it means to be injured and how people recover socially from an injury. This is an important consideration, because it is not appropriate to plan care on a belief that there is a finite period in which people ought to recover from traumatic injury, implied by the fact that the overwhelming majority of recovery literature limits its exploration of the sequela of traumatic injury to the first eighteen months post injury. The narratives of the participants of this study demonstrate that recovery ought to be seen in terms of years rather than in terms of months, as is frequently the expectation of the health-care system [21].

Although a number of the participants of this study did experience a need to reorient themselves vocationally following their accident, they did not dwell on this in a negative sense, as the findings of Frutiger et al [9] suggest they might. Rather, they recognized that there would be challenges that they would have to face in their recovery, and they resolved to use the strength of their willpower to do whatever it took to get better. Sometimes doing whatever it took required the participant to engage in vocational reorientation. This was the case for a number of the participants, who recognized that their injury had left them with residual disabilities that would not permit them to do what they had done previously. Richard, for example, had previously been a chef and Mary had been a physical education major at University. Both of these participants felt that they could not pursue their chosen career any longer; describing alternate choices they had had to make to secure their livelihood. An inability to continue in one's chosen career is an important consideration for health-care providers to acknowledge, for as some of the participants highlighted, vocalization of negative expectations by health care staff had the potential to induce self-doubt and confusion regarding future possibilities. Alternately, the participants' of this study also expressed their gratitude to the few health care workers, most notably physio-

therapists, who enthused and motivated them to believe they would recover, however small in increments their steps might be. They spoke of times when they were flat and how important it was for them that their therapist acknowledged their feelings of frustration and encouraged them to press on. However, they also stressed that what helped them the most was to maintain a strong locus of control, a point that is elaborated upon shortly.

Perhaps the finding of this study that is most clearly echoed in the literature is that a changed sense of self and philosophy of life can emerge from a traumatic injury, as suggested by Calhoun and Tedeschi [10]. Clearly, most of the participants of this study reflected that their lives had changed over time, and mostly for the better, following their injury. Their heightened perspectives of the goodness that life had to offer was refreshing for us to experience, and affirmed our desire to critically examine our caring practices when interacting with those who faced life-altering circumstances. Often, the circumstances that dictate the conditions of caring for others determine that health-care providers do not have the time or opportunity to form relationships with those for whom they are caring [22], and this is particularly so within acute care environments. This unfortunate circumstance may leave both the recipients of care and their providers with a sense of detachment, providing them with a less than satisfactory opportunity to enact or accept a caring relationship. Whilst it is difficult to challenge mandates of care that are driven by economic imperatives, it is important for health-care providers to capitalize on every opportunity to genuinely and authentically know their patients.

The participants of this study clearly demonstrated that the locus of control regarding their recovery rested with them. Although this may seem an obvious point, it is sometimes easy to forget – in a health-care delivery system that emphasizes the importance of moving patients into and out of the system according to predetermined criteria – that recovery is highly individualized. Recovery is dependent upon a myriad of variables, including a strong desire to remain resolute in the face of obstacles, a point that was strongly emphasized by the participants of this study.

The importance of strategizing recovery cannot be emphasized enough, as the findings of this study clearly demonstrate. The participants strongly vocalized their need to be involved in devising their own recovery pathway, identifying that not being involved made them feel as if they were not important to those who were delivering care. This finding is supported both by Mattingly [23] and by Cox, Turner and Penney [21], and highlights the importance of providing sensitive care that involves recipients in the reconstruction of their lives. Whilst this may seem self-evident, in a fast-paced health-care delivery system it is all too easy to give care based on the lowest common denominator without giving due consideration to the implications of what that care means to the person who is on the receiving end.

Conclusion

There are a number of contributions that health-care providers can make to the recovery of an individual to assist them to develop new views of vulnerability and strength, make changes in relationships, and facilitate philosophical, physical and spiritual growth. Actions such as recognizing the worth of each individual, helping them to envision a future that is full of promise and potential, actively involving each person in their own care trajectory, and celebrating changes to each person's sense of self are important actions that each health-care provider can take to assist or facilitate the recovery process. Each of these actions has the potential to facilitate posttraumatic growth, which is essential to the person's recovery.

It is acknowledged that the findings of this study are based on a small sample size and, therefore, are not generalizable. It is important to acknowledge that this study was carried out retrospective to recovery, at entry points that that were variable to each participant. That is, some participants were within the first 18 months of their recovery, whilst others had been recovering for 4 years. With this in mind, a larger project is being planned that will strategically explore, at set intervals, the long-term consequences of recovery. The new project will challenge or affirm the findings of this study, particularly focusing on such aspects as control over self and body as a cultural phenomenon.

The researchers are grateful for the open and transparent way the participants told their stories of recovery. Sometimes the retelling opened old wounds, but importantly, it provided an opportunity for participants to describe how they would have liked to experience their recovery care. It is difficult to imagine what life will be like after a traumatic event, whether the event brings about changes that last a lifetime, which is sometimes the case when one experiences a stroke, or whether it is of a more transient nature, such as those that are experienced when one has limited mobility resulting from a lower limb fracture. Regardless of whether changes brought about by a traumatic event are transient or permanent, the participants of this study, whilst sharing their experiences of recovery clearly demonstrated they achieved posttraumatic growth.

Authors' contributions

dST conceived of this study and was involved in its design. She carried out all interviews and undertook data analysis. HC was also involved in the design of this study and

undertook data analysis. Both authors developed and approved the final manuscript.

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References

1. Clapperton A, Ashby K, Cassell E: **Injury profile, Victoria 2001.** Victoria: Monash University Accident Research Centre; 2003.
2. Watson E: **Cost of death and hospital treated injury, 2001, Victoria.** *Hazard* 2003, **54:**21-24.
3. Dougall AL, Ursano RJ, Posluszny DM, Fullerton CS, Baum A: **Predictors of posttraumatic stress among victims of motor vehicle accidents.** *Psychosomatic Medicine* 2001, **63:**402-411.
4. Richmond TS: **An explanatory model of variables influencing postinjury disability.** *Nursing Research* 1997, **46:**262-269.
5. Girolamo G, MacFarlane A: **Epidemiology of PTSD: A comprehensive review of the international literature.** In *Ethnocultural Aspects of Posttraumatic Stress Disorder* Edited by: Marsella AJ, Freedman MJ, Gerrity ET, Scurfield RM. Washington, DC: American Psychological Association; 1996:33-85.
6. Kessler RC, Sonnega A, Bromet E, Hughes M, Nelson CB: **Posttraumatic stress disorder in the national comorbidity survey.** *Archives of General Psychiatry* 1995, **52:**1048-1060.
7. Mackay H: *Reinventing Australia: The Mind and Mood of Australia in the 90s* Sydney: Angus & Robertson; 1993.
8. Bradford A: **Life in recovery: Rebuilding from trauma.** *International Journal of Trauma Nursing* 2002, **8(3):**70-75.
9. Frutiger A, Ryf C, Bilat C, Rosso R, Furrer M, Cantieni R, *et al.*: **Five years' follow-up of severely injured ICU patients.** *The Journal of Trauma* 1991, **31:**1216-1226.
10. Calhoun L, Tedeschi R: *Facilitating Posttraumatic Growth: A Clinician's Guide* Mahwah, NJ: Lawrence Erlbaum Associates; 1999.
11. Frankl VE: *Man's Search for Meaning* New York: Pocket Books; 1963.
12. Fromm E: *Man for Himself* New York: Holt, Rinehart & Winston; 1947.
13. Nesaule A: *A Woman in Amber: Healing the Trauma of War and Exile* New York: Soho Press; 1995.
14. Seligman M: *Learned Optimism* Sydney: Random House; 1992.
15. O'Leary VE, Ickovics JR: **Resilience and thriving in response to challenge: An opportunity for a paradigm shift in women's health.** *Women's Health* 1995, **1:**121-142.
16. Tedeschi RG, Park CL, Calhoun LG, (Eds): *Posttraumatic Growth: Positive Change in the Aftermath of Crisis* Mahwah, NJ: Lawrence Erlbaum Associates; 1998.
17. Tedeschi RG, Calhoun LG: *Trauma and Transformation: Growing in the Aftermath of Suffering* Thousand Oaks, CA: Sage; 1995.
18. Tedeschi RG, Calhoun LG: **The posttraumatic growth inventory: measuring the positive legacy of trauma.** *Journal of Traumatic Stress* 1996, **9:**455-471.
19. Minichiello V, Aroni R, Timewell E, Alexander L: *In-depth interviewing: principles, techniques, analysis* 2nd edition. Melbourne: Longman; 1995.
20. Neuman WL: **Social research methods: Qualitative and quantitative approaches.** Massachusetts: Allyn & Bacon; 2000.
21. Cox H, Turner dS, Penney W: **Narratives of recovery from traumatic injury: Issues in the nursing care of patients in rehabilitation.** *Journal of Australian Rehabilitation Nurses' Association* 2002, **5(3):**8-15.
22. Lawler J: **Knowing the body and embodiment: methodologies, discourses and nursing.** In *The Body in Nursing* Edited by: Turpin M. South Melbourne: Churchill Livingstone; 1997:31-51.
23. Mattingly C: **Therapeutic emplotment.** *Social Science and Medicine* 1994, **39:**811-822.