'It could have been a lot worse': the psychological effects of farm-related serious injury in Victoria

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ABSTRACT:
**Introduction:** The psychological response to injury is an important factor in recovery, and the development of psychological problems can result in a delay or inability to return to pre-injury function, including return to work. Farming is widely acknowledged as a stressful occupation, with non-injured farmers already at an increased risk of developing significant psychological problems, including high levels of stress and depression, and increased rates of suicide. This study aimed to investigate the psychological effects of serious farm-related injury on farmers, and how these influence their recovery.

**Methods:** This was a qualitative study of 31 farmers in the state of Victoria, Australia, who sustained major trauma between 2007 and 2013. Participants were identified using the Victorian State Trauma Registry and underwent an in-depth, semi-structured telephone interview. Recruitment continued until data saturation was achieved, and thematic analysis was used to identify important themes from the data.

**Results:** For many farmers, the traumatic circumstances and ongoing impact of their injury are life-changing. In this study, the psychological effects of sustaining a major farm-related injury varied between participants; however, four major interconnected themes were identified: importance of a pragmatic outlook; grief, helplessness and loss of independence; traumatic thoughts post-injury; and the importance of the support network and community. The findings of this study highlight both a reluctance for psychological assistance as well as the importance of psychological resilience and support networks to recovery.

**Conclusion:** Overall, a positive outlook was found to be the primary enabler in the farmers’ recovery. It is recommended that injured farmers should be provided with additional psychological support and advice to aid in their recovery. Additionally, psychological support services should be extended to include both the family network and the broader farming community, as these were found to experience significant short- and long-term stress following farmers’ injury.

**Keywords:** agriculture, Australia, farm injury, mental health, resilience, trauma.

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**FULL ARTICLE:**

**Introduction**

The agriculture industry has one of the highest workplace injury and illness rates in Australia, with an incidence rate of 18.7 serious injury claims per 1000 employees. The nature of the farm environment results in a high number of farm-related injuries, with reported figures representing only a fraction of the actual number of people affected. Hazards present on the farm may include machinery, chemicals, animals and those associated with extreme weather conditions. This, combined with an ageing workforce who often work alone and are reluctant to engage in farm safety activities, contributes to the high rates of farm-related accidents.

The psychological response to injury is an important factor in recovery, and the development of psychological problems can result in a delay or inability to return to pre-injury functioning, including return to work. A number of psychological factors can play a key role in delaying a person’s return to work after sustaining a serious injury, such as post-traumatic stress disorder, acute stress disorder, depression and anxiety. A descriptive study by Buodo et al. evaluated injured workers and found that 49.4% reported both depressive and post-traumatic symptoms following an occupational injury. Farming is widely acknowledged as a stressful occupation, with non-injured farmers already at an increased risk of developing significant psychological problems, including high levels of stress, symptoms indicative of depression and increased rates of suicide. A study by Judd et al. examined the factors contributing to the increased risk of suicide amongst Australian farmers, and found that barriers to seeking help from formal health providers included limited accessibility within a rural location, and the stigma around mental illness. A general reluctance for farmers to acknowledge and seek help for any health problems was also reported, although, in her work on health, wellbeing and safety of farmers across Australia, Brumby found farmers were interested in their health and wellbeing but the context to engage and seek assistance was important. Farmers were more likely to turn to their own families and communities for support. This reluctance to seek outside help for themselves has the potential to be detrimental to their health in the long term.

Despite their reluctance to seek help, personality traits such as conscientiousness, resilience and determination have been found to be significantly higher amongst farmers compared to non-farmers. It is suggested that these characteristics may help protect farmers against psychological distress, with studies highlighting an individual’s psychological resilience as a good indicator of their ability to cope with their injuries. Resilience amongst farmers is also fostered by the support within their rural community. Informal networks within most farming communities have been found to give farmers with disabilities the encouragement needed to access both social and hands-on support. An exploratory study by Robertson et al. found that farmers often experienced emotional anguish as a result of serious injury and that practical help from community members was crucial to the survival of the farm.

In addition to valuable community support, returning to work either on the farm or to off-farm employment has demonstrated a decrease in the levels of distress experienced by farmers. The Australian Rural Mental Health Study found that those unemployed and permanently unable to work had the highest distress rates and those who were retired had the lowest rates. A similar finding was observed by Reed who reported that farmers with upper-extremity amputations who had returned to working full-time on the farm experienced an improvement in their overall recovery. In addition, farmers who experienced a significant delay...
in returning to work after sustaining an injury were more likely to present with symptoms of depression. The presence of enduring psychological symptoms post-injury has been found to be a predictor of workers who will experience delays in returning to work.

Mental health issues following a severe physical injury have been widely reported in the literature and range from general anxiety and distress to psychiatric diagnoses such as post-traumatic stress disorder. However, limited research has investigated the psychological impacts of sustaining a farm-related serious injury. Additional qualitative research is necessary to provide in-depth knowledge and understanding about farmers’ experiences post-injury.

This article is an extension of a larger study conducted by Beattie et al. and aimed to specifically explore the psychological impacts of sustaining a farm-related serious injury, and whether the experiences of farmers suggest areas for improvement in post-injury psychological care.

**Methods**

**Participants**

The Victorian State Trauma Registry (VSTR) was used to identify adults (aged 18 years or over at the time of injury) who had experienced a farm-related major trauma between January 2007 and December 2013 in the state of Victoria, Australia. A more detailed description of the inclusion criteria and methodology can be found at Beattie et al. The VSTR is used to routinely follow up all survivors to hospital discharge by telephone interview at 6 months, 12 months and 24 months post-injury to collect information about return to work, function, pain and health-related quality of life. The VSTR database identified 323 patients who met the inclusion criteria, and they were subsequently sent a letter from VSTR staff inviting them to participate in the study.

**Data collection**

Thirty-one people agreed to participate in the study and took part in an in-depth, semi-structured telephone interview, which focused on their experiences since the injury. Interviews were conducted between August and October 2016, recorded by a digital voice recorder, were transcribed verbatim and collated using the qualitative data analysis software NVivo v11 (QSR International; http://www.qsrinternational.com/nvivo). Participant recruitment continued until it was determined that data saturation had been achieved and no new themes were identified.

This article focused specifically on the analysis related to the psychological effects of sustaining a farm-related serious injury. Interview topics employed during in-depth semi-structured interviews with participants took the form of the following questions:

- Has there been any impact of the injury on you emotionally?
- How would you describe the impact of your injury on your life so far?
- What do you feel helped your recovery the most?
- What, if anything, has made it harder for you to recover?

**Qualitative analysis**

Two researchers (JB and MM) conducted thematic coding independently, coding each interview to generate initial themes. Common themes were discussed in collaboration with the entire research team and a thematic framework was developed. This framework revealed a subset of themes relating to the psychological effects of a serious farm-related injury, which is the focus of this article. A more detailed description of this framework can be found at Beattie et al.

**Ethics approval**

The study was approved by the Deakin Human Research Ethics Committee (project number 2016-054) in July 2016.

**Results**

**Demographic data**

Demographic data, including type and cause of injury, were extracted from the VSTR database for all eligible participants. Eighty-two percent of participants were male and the mean age of participants was 58 years. A complete analysis of the patient demographics of the study participants and the eligible VSTR cohort has been published previously.

**Key themes**

Four themes related to the psychological effects of major farm-related injury were identified: the importance of a pragmatic outlook; grief, helplessness and loss of independence; traumatic thoughts post-injury; and the importance of the support network and community.

**The importance of a pragmatic outlook:** Farmers frequently credited their ability to recover to their own determination and resilient nature. Post-injury, many farmers reported their emotional outlook shifted towards having a greater appreciation for life and feeling fortunate that they survived the incident.

*Any near-death experience makes you feel happy today that you’re still here. (Male, quad bike, multiple fractures)*

*It could have been a lot worse. (Male, fall from structure, fractured pelvis)*

Responses reflecting the importance of maintaining a positive outlook were particularly evident among farmers who described themselves as having an optimistic predisposition prior to injury. What characterised their statements was the general belief that a pragmatic mindset would help them through their recovery.
I’ve got a good outlook. Don’t whine about anything, just look forward and get on with it. If it hurts, it doesn’t matter, just do it. (Male, firearm incident, chest and abdominal injuries)

I’ve always looked at the glass half full and I think that does help. Just your general outlook on life helps you when you run into tough times. (Male, fall from a horse, spinal injury)

As an adjunct to a pragmatic outlook, farmers acknowledged the importance of intrinsic motivation as an enabler in the recovery process.

If you had no motivation you’d be in serious trouble. You’d just drop into an abyss. (Male, fall from structure, multiple fractures)

In particular, the farming enterprise was acknowledged as a strong motivating factor in recovery. The sense that the farm came first, before their own health, was expressed by a number of farmers and was a recurring theme throughout the interviews. In particular, a number of farmers expressed their concern that, despite experiencing an impact on their psychological wellbeing, they simply did not have the time or resources available to focus on their mental state.

I couldn’t afford the time to waste on depression because I had a business to run, even when I was sick, and it was just time I needed. (Male, fall from structure, multiple fractures)

I just don’t have time to feel sorry for myself. (Female, fall from a horse, multiple fractures)

**Grief, helplessness and loss of independence:** Despite the reported importance of maintaining a pragmatic mindset for recovery, due to the severity and traumatic nature of their injuries, many participants experienced ongoing emotional impacts. Helplessness emerged as a prominent theme and was often accompanied by frustration and grief for the loss of their pre-injury life on the farm.

Grieving the loss of your life you used to have. Even now, I don’t go outside much because I don’t like seeing people from the old life, people you used to know. I feel embarrassed. (Female, fall from a horse, fractured vertebrae)

In particular, farmers with an ongoing physical disability spoke about an overall lack of independence experienced as a direct result of their injuries. Despite an overall aversion to asking for help and an avoidance of relying on others and being a burden, farmers reported having to rely on both family and carers throughout their recovery.

You lost all your independence. You rely on everyone else to help, otherwise, you’re a dead loss. (Male, injured by cattle, brain injury)

I’m an independent person, I don’t need a great deal. I’ve got a very good family and they help. I’ve never asked for much. I don’t ask for much help. I don’t like to try to burden anyone else. (Male, injured by cattle, brain injury)

**Traumatic thoughts post-injury:** The farmers reportedly became more aware of their vulnerability and experienced vivid mental replays of the event. Particularly in the months immediately following the trauma, they would replay the events leading up to their injury in their minds. This was reported to contribute to the feelings of anxiety during their recovery. A number of farmers who experienced this anxiety reported that their fear gradually subsided over the following weeks and months.

I suppose its Post-Traumatic Stress Disorder to a certain extent, but occasionally, in the middle of the night, I’ll relive it all … it’s still up front and centre sometimes. (Male, quad bike, multiple fractures)

I had a mental replay of the whole incident, which went round my mind endlessly, every waking hour. And then that slowly became less, to where it would just become a snippet. (Male, fall from a horse, multiple fractures)

I struggled with anxiety whilst being out amongst people, particularly at shopping centres that were very busy, towards the start. Definitely, at the start, I just panicked. (Female, kicked by a horse, isolated head injury)

**The importance of the support network and community:** The majority of farmers referred to individuals in their immediate environment, including partners, family members, friends and other individuals who impacted their life (such as medical professionals and community members), as being crucial to their ability to psychologically recover from their injuries.

If I didn’t have family it may have been a different ballgame. It’s hard to say, isn’t it? But I know they did a lot … I don’t know how people survive without it really, without a friend or a family member. (Female, fall, multiple fractures)

I wanted to do things on the farm but I couldn’t do it. Without support from my wife I wouldn’t have been able to cope with it. (Male, injured by cattle, brain injury)

Various coping strategies were employed by the farmers to aid in their recovery. In particular, maintaining their connections to the outside world by meeting with friends for a coffee, or visiting the general practitioner for mental health consultations, were frequently reported.

And I think if people come or you make an appointment to go, or you make plans to meet somebody for a cup of tea or coffee or something. That helps. To talk to someone, I think. (Female, fall, brain injury)

The GP [helped], I was there every month, and he did a mental health check for me as well. (Male, injured by cattle, brain injury)

Some farmers felt the injury had more of a psychological impact on their partner than it did on them. Often farmers could not remember the immediate aftermath of the injury, but the witnesses who were either present or found the injured farmer were left...
traumatised by the event. There were situations where the farmers had to cease the activity in which they were injured, not because of their own anxiety, but due to the anxiety of their partner. In some cases, the traumatised family member required counselling.

It’s had an effect on other people, it’s not so much me. It stopped me doing stuff I want to do because I’m not allowed to [by family] … it’s had an effect on a lot of other people. (Male, firearm incident, chest and abdominal injuries)

She’ll [wife] just keep reflecting on it. She’ll keep saying how lucky I was and it was the worst day of her life. (Male, firearm incident, chest and abdominal injuries)

Through the whole process it was pretty tough on her [wife] because she had to do a lot of running around, and a lot of not knowing what’s going on. It’s often easier for the patient. (Male, injured by cattle, spinal cord injury)

It’s affected my wife more than me, quite a bit more. We did get her to go for a bit of counseling for post-traumatic stress. (Male, injured by a horse, multiple fractures)

Discussion

For many farmers, the traumatic circumstances and ongoing impact of their injury are life-changing. The findings of this study highlight both a reluctance to lose their independence, as well as the importance of psychological resilience and support networks on their recovery.

Individual volition and personal values were found to have contributed significantly to a farmer’s ability to recover from their injury. In particular, a number of farmers commented that their situation could have been worse and they were grateful to be alive. However, despite many farmers believing in the effectiveness and importance of maintaining a pragmatic outlook post-injury, previous research has identified farmers as being reluctant to speak about any psychological distress due to stigma and concern of being labelled as a ‘whinger’. Farmers are known for their stoic nature; however, this characteristic could potentially have an adverse impact on their psychological health in the long term.

Programs and services aimed at improving the long-term mental health of farmers are paramount in rural communities, and such services must be tailor meets the needs of this particular population group (ie be farmer-friendly). In rural communities there are many opportunities to contribute to the health and wellbeing of farmers and these opportunities exist not just in the health and medical domain. As Brumby highlighted, the health and wellbeing of farmers and their families rely on a broad group of people and institutions who play a role in rural communities, including educators, agribusinesses, vets, government departments, fire services, trusted advisors, and health and medical practitioners. All of these people interact with farmers and their families. Current services available to Australian farmers include community-based programs such as Look over the Farm Gate, which aims to increase mental health awareness, build community resilience and encourage local action by farmers looking out for each other. The present study highlights the need for additional targeted psychological support services to be made available, particularly focusing on injured farmers, noting that the context for engagement of farmers is vital to encourage participation. A peer-to-peer support method could also be helpful to engage reluctant farmers.

Returning to work following a serious injury can have a significant impact on a person’s psychological wellbeing and has been linked to positive mental health outcomes. Following their serious injury, the farming cohort in this study experienced frustration and a sense of grief for the loss of their pre-injury life. Regaining the ability to return to work on the farm was reported as a key motivator for their psychological recovery and helped foster feelings of independence, which many farmers felt they had lost. However, similar to other occupations, farmers require additional support in order to return to work on the farm. In particular, safety and rehabilitation specialists with a knowledge of different farming enterprises are ideally placed to facilitate this support. A farmer’s mental recovery can be aided by amending daily farming tasks to assist in their ability to return to work before they are fully physically recovered. Additionally, early psychological intervention has been shown to improve the chances of returning to work after an occupational injury. This requires the identification and management of psychological morbidity post-injury by healthcare professionals who are treating their physical injuries. Farmers then need to receive access to appropriate psychological support that meets their individual needs and diagnosis, and is based on evidence-based principles. Farmers who regained their independence following their injury also highlighted the importance of receiving much-needed emotional support from their partners, family, and community members. This finding is also supported by Gerbic, who identified that encouragement received from family and friends is crucial to recovery.

Mental health professionals may be well situated to help improve the personal, social and occupational function of injured individuals; however, it was more often family, friends and community who provided the injured farmers with everyday support. While the support of family and friends makes a positive contribution to recovery, the ongoing impact of a farm injury is not isolated to the individual who sustains the injury. A partner or family members, friends and the wider community are often directly impacted as a flow-on effect of the injury, as carers, helpers on the farm or picking up extra tasks at a community level, as reported by Brumby. In some cases, the trauma was found to have a more profound psychological effect on the spouse or family member. This happened for myriad reasons, including witnessing the incident or the immediate aftermath and fear for the health of the loved one, combined with additional stressors such as caring for the injured spouse or family member, day-to-day running of the farm, and increased financial concerns. This suggests that families, as providers of care and support, are not only extremely important in the rehabilitation process, but are also vulnerable to experiencing stress and often require additional support themselves. Specific areas of improvement for the management of farm-related injuries are recommended and include the provision
of additional support to manage the farm in the short term\textsuperscript{16}, as well as easily accessible financial and psychological support for the affected spouse and family members.

**Limitations**

The present study’s results reflect the individual experiences that have been captured at a particular point in time. However, due to the time elapsed between the injury and subsequent interviews the accuracy and completeness of patient recall is a potential limitation\textsuperscript{29}. Although attempts were made to accurately represent the experiences of the farmers through the interview process, recruitment may not have accurately reflected the demographics of the entire VSTR farm injury cohort\textsuperscript{20}. In particular, the variability of the cause of farm injury for the participants makes comparisons with populations who sustained traumatic injuries tentative. Additionally, participants were only recruited from one Australian state: Victoria.

**Conclusion**

Overall, a pragmatic outlook was found to be the primary enabler in the farmers’ recovery. It is recommended that injured farmers be provided with additional psychological support and advice to aid in their recoveries. Furthermore, specific psychological support services should be extended to include both the family network and the wider farming community, as they were found to experience significant stress both short- and long-term after the farmers’ injuries.

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