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"I laugh and say I have 'Earthquake Brain!': Resident responses to the September 2010 Christchurch Earthquake

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This paper reports on a qualitative analysis of 191 Christchurch residents' written responses to the September earthquake of 2010. The data comes from Wave II of the New Zealand Attitudes and Values Survey (NZAVS) collected in November and December of 2010. When completing the NZAVS, participants in the Canterbury region were given the opportunity to provide open-ended responses about how the earthquake affected them. Qualitative responses were analysed using inductive thematic analysis, and common themes in participant's responses were identified. Four main themes emerged: *psychological impacts; material/financial impact; coping strategies; and "the silver lining"*. These themes are presented and discussed alongside their implications for disaster research. A series of recommendations for future disaster relief are provided. We hope that this research may provide a voice for some of the participants in the broader NZAVS project who experienced the 2010 Christchurch earthquake. These are voices that need to be heard.

KEY WORDS. disaster relief, psychological impacts, Christchurch earthquake 2010, residents' responses, thematic analysis.

On September 4, 2010 at 4:34am, a 7.1 magnitude earthquake hit the city of Christchurch in New Zealand. There was no loss of life as a result of this earthquake, however many people were seriously injured and countless more left homeless. There was widespread damage to property and local infrastructure. Thousands of aftershocks of varying intensity were recorded in the following months (Kuijer, Marshal, & Bishop, 2014). Geonet records showed 780 aftershocks in the first week alone, and most of these were 4.0 in magnitude (Roome, n.d). This paper reports on a qualitative analysis of Christchurch residents' open-ended, written responses to the September earthquake of 2010 provided as part of a larger ongoing national survey (the New Zealand Attitudes and Values Study, or NZAVS).

The psychological outcomes of natural disasters have been extensively investigated. We know that natural disasters affect people in a number

of ways, resulting in a range of short-term and long-term stressors that affect individuals' health and well-being (Bonanno, Brewin, Kaniasty & La Greca, 2010). Given the right resources and responses to need, most people return to a reasonably stable level of mental health (Mooney et al., 2011). A small minority, however, will experience long-term and persistent psychological distress (Bonanno et al., 2010; Freedy, Saladin, Kilpatrick, Resnick, & Saunders, 1994). Pervasive and significant mental health difficulties are more likely to occur when a natural disaster results in large-scale injuries or mortality, mass devastation and property damage, interruption in the provision of social services, and continued economic turmoil within the community (Shultz, Marcelin, Madanes, Espinel, & Neria, 2011). Psychosocial difficulties linked to the aftermath of different natural disasters include: Post-traumatic Stress Disorder (PTSD), depression, anxiety, suicidal ideation, substance use, sleep

disturbances, various psychosomatic ailments, domestic violence and divorce, cognitive impairment and diminished task performance (Bonanno et al., 2010; Kemp, Helton, Richardson, Blampied, & Grimshaw., 2011; Helton & Head, 2012; Morrissey & Reser, 2007; Freedy, Shaw, Jarrell, & Masters, 1992).

Psychological Impacts

a) Post-traumatic Stress Disorder (PTSD)

PTSD is a severe anxiety disorder commonly found following a traumatic experience or event (APA, 2000). Features of PTSD include intense fear resulting in vivid recollections or reliving of an event; avoidance of people, thoughts, feelings, or places associated with the triggering event; and long-lasting periods of increased autonomic arousal (APA, 2000). Two of the strongest predictors of PTSD, and ongoing psychological distress, are physical injury and perceived threat to one's life (Schultz et al, 2011). Research found high incidences of acute and chronic PTSD in adults following the 2004 Indian Ocean Tsunami (Kreamer et al., 2009), and following the Iceland earthquakes in 2000 (Bödvarsdóttir & Elklit, 2004). However Bonanno and colleagues (2010) report that high incidences of severe psychological difficulties are only observed in a relatively small percentage of the population and rarely exceed the 30% mark.

High rates of PTSD are often reported in studies where the participants have been recruited following the disaster. This may result in a sampling bias which risks overestimating PTSD. Bonanno et al., 2010 argue that a major

limitation of most research assessing PTSD is the use of "convenience samples" which have been found to report higher figures of difficulty than those found in community or population based samples. Kuijer and colleagues (2014) found that, in a sample of Christchurch residents recruited prior to the earthquakes as part of a longitudinal study, only 15% scored at or above the cut-off score for being at risk for PTSD after the earthquake (cf. Osborne & Sibley, 2013). Proximity to the epicentre of an earthquake has been identified as a significant predictor of PTSD, with higher levels of PTSD being reported in individuals with greater degrees of disaster exposure when compared to non-exposed individuals (Shultz et al., 2011; Kiliç & Ulusoy, 2003; Bonanno et al., 2010; Suar, Mandal & Khuntia, 2002).

b) Fear

Fear is common both during and following a natural disaster (Berginnaki, Psarros, Varsou, Paparrigopoulos & Soldatos, 2003; Bødvarsdóttir & Elklit, 2004; Verela, Koustouki, Davos, & Elini, 2008). Research on earthquakes has highlighted accounts of fear for one's own life and the lives of family members (Berginnaki et al., 2003; Bødvarsdóttir & Elklit, 2004), fear during tremors in the aftermath, and fear of subsequent larger earthquakes (Bødvarsdóttir & Elklit, 2004). Major earthquakes are often accompanied by ensuing aftershocks which may result in recollections of the initial quake and elicit fear and anxiety (Bødvarsdóttir & Elklit, 2004; Verela et al., 2008).

Long-term effects have also been identified by researchers (Akason, Ólafson & Sigbjörnson, 2006; Lazaratou et al., 2008; Kraemer et al., 2009). There was evidence of earthquake induced fear and anxiety two and a half years after the South Iceland earthquakes in 2000 (Akason et al., 2006) and even as long as three decades after the 1958 Cephallonia earthquake on the western coast of Greece (Lazaratou et al., 2008).

c) Stress and Anxiety

Stress and anxiety are also frequently experienced by survivors of natural disasters with death anxiety, phobia and panic disorders being reported (Bonanno et al., 2010; Aslam & Tariq,

2010). Stress can arise as a result of ongoing aftershocks following the 'main' earthquake or fear of another earthquake occurring which has been shown to be more emotionally taxing than a single event (Shultz et al., 2011; Varela et al., 2008). In an important and insightful study, Dorahy and Kannis-Dymand (2012), conducted a study comparing two different suburbs of Christchurch after the 2010 earthquakes. They found significantly higher levels of anxiety and symptoms of depression in residents of the most extensively impacted suburb, compared to their peers from a less affected suburb. Both groups, however, showed elevated levels of acute stress resulting from the ongoing aftershocks. The authors also reported a strong association between resident's anxiety and their perceptions of being unable to control their responses to the aftershocks.

d) Depression

The devastation and destruction caused by natural disasters can result in a number of symptoms associated with mood disorders, a sense of helplessness, exhaustion and withdrawal (Bonanno et al., 2010). Displacement or forced relocation due to property damage further increases the risk of psychological distress with research showing higher levels of depression, anxiety, hostility and sleep disorders due to a disruption in social networks and relationships (Kiliç et al., 2006; Bland, O'Leary, Farino, Jossa & Trevisan, 1996). Research conducted following the 2010 Christchurch earthquake found higher levels of depression in the more affected areas characterised by major damage, prolonged loss of utilities and displacement of residents (Dorahy & Kannis-Dymand, 2012). The persistent aftershocks that characterised the Christchurch earthquake were also identified as impacting on the psychological recovery of the residents, by prolonging the impact of the initial event and causing elevated levels of mood disorders (Garwith, 2013).

e) Sleep Disturbance

Another commonly reported impact of earthquakes is sleep disturbance (Varela et al., 2008; Wood, Bootzin, Rosenhan, Nolen-Hoeksema, & Jourden, 1992), with insomnia and

nightmares being the most commonly cited difficulties. Garwith (2011), reported that, at the time of her writing there were still reports of a lack of quality, deep sleep following the 2010 Christchurch Earthquake.

Individual Differences

Individuals respond differently to natural disasters based on a number of factors. Prior exposure to disasters, the individual's psychological disposition, susceptibility to psychological distress, resilience, as well as their mental preparedness all impact the individual's coping ability during and after the event (Morrissey & Reser 2007; Suar et al., 2002; Bergiannaki et al. 2003; Benight et al., 1999; Mooney et al., 2011). Research has indicated that community engagement following an earthquake has an important role in individual's psychosocial recovery as well as the recovery of the community (Collins, Glavonic, Johan & Johnston, 2011). Such engagement gives people a sense of being active participants in the rebuilding of their community, along with a sense of control and purpose. The coming together of people, the sharing of feelings and experiences, and communal coping may act as a safeguard against the negative outcomes of uncertainty in natural disasters, which has been shown to be related to increased psychological distress (Afifi, Felix & Afifi, 2012). Deterioration of social networks and support in the aftermath of a disaster has been shown to increase the prevalence of psychological difficulties (Shultz et al., 2011).

Post-Trauma Growth

Research also suggests that trauma has the potential to increase positive psychological growth which reduces anxiety and produces an enhanced quality of life in the future (Kraemer et al, 2009; Sattler et al., 2000; Tang, 2006). Positive responses following a disaster include a sense of greater resilience and spirit, a more balanced and greater appreciation for life, stronger family and community bonds and an enhanced sense of self-efficacy (Sattler et al., 2000; Tang, 2006). Positive adjustment and outcomes following a disaster are thought to be the product of an active coping style and support-

seeking behaviours, which counteract the impact of negative affect and arousal (Tang, 2006).

This current research seeks to add to the literature on disaster research and specifically, Christchurch earthquake research. We analyse a group of participants' open-ended written responses to the 2010 Christchurch earthquake. The participants were part of an ongoing project that began before the 2010 earthquake. We hope that the presentation and analysis of these responses may contribute to understanding the outcomes of natural disasters (specifically earthquakes) on New Zealand residents. The open-ended nature of these responses allows analysis of the responses in the participants own words and for us to convey people's written responses, exploring their experiences, ideas and affective reactions to this natural disaster.

Method

Participants

Participants were residents in the Christchurch region, and ranged from 19 to 93 years of age, with mean age of 53 years. There were 132 female and 59 male respondents. Of these participants, 86% were European or Pakeha, 8.9% were Maori, 1.6% were Asian, 1.6% were "New Zealander", 1% were "other" and 0.5% were Pacific Islanders.

Data collection

The data analysed here were collected as part of the pre-planned 2010 wave of the longitudinal New Zealand Attitudes and Values Study (NZAVS) collected at the end of 2010 and early 2011. In total, 865 participants from the Time 1 (2009) sample resided in the Canterbury region, with 594 of these in the Christchurch City territorial authority. These 865 participants from the Canterbury region were contacted as part of the pre-planned 2010 wave of data collection. They were invited to also complete an additional open-ended response questionnaire about their experiences and opinions regarding the Christchurch earthquake of September 4th 2010. The open-ended response questionnaire was administered before the second major Christchurch earthquake of 22nd February 2011. Participant responses

thus reflect experiences in response to the first earthquake only.

A total of 540 from the Canterbury region responded to the Time 2 NZAVS questionnaire (62.4%), with 369 of these people specifically from the Christchurch City territorial authority. Of the total 540 respondents in the Canterbury region, 191 (35.4%) returned the completed open-ended response page along with their completed NZAVS questionnaire (140 of these were from participants in Christchurch city specifically). The open-ended page was included with the standard NZAVS questionnaire, and asked respondents "If you wish to include any comments about how the earthquake affected you or the people around you, then please add them below." The full text and pre-ambule for the open-ended page is included in the Appendix. The typed responses from these 191 respondents yielded 53 pages of typed data and 20,402 words.

The central aim of the current project was to summarise and report back on the responses provided regarding the experiences of NZAVS participants during the Christchurch earthquake of September 4th 2010. Our analysis focused on the accounts of people's own experiences, ideas and affective reactions to a natural disaster (in this case an earthquake) in their own words.

Mode of Analysis

Data was analysed using thematic analysis (Braun & Clarke, 2006) from a realist epistemological position, assuming a direct relationship between language, meaning, events and the implications of this for individuals (Braun & Clarke, 2006). Themes were identified in an inductive manner, which means they were closely tied to the data, without seeking to fit them into pre-defined categories. Themes were analysed at the semantic level, involving a surface reading of the data, identifying the explicit meanings and significance of what has been said with minimal interpretation and expansion beyond what was stated.

The process of analysis involved repeated reading of the data, which was coded by the first author, focusing on recurring issues and ideas within the text. Once the data had been coded, candidate themes were identified and a

thematic map developed. At this stage the codes were sorted into possible candidate themes. Once candidate themes had been identified, themes were reviewed and refined in relation to the entire data corpus and an initial thematic map developed, and additional subthemes coded and identified. Themes were then defined and named. The entire process of analysis was carried out in consultation with the second author.

Data are reported using direct quotes from the responses received, [...] denotes removal of unrelated data.

Results and Discussion

Four key themes were identified across the entire data corpus: *Psychological Impacts*; *Material/Financial Impact*; *Coping Strategies*; and *"The Silver Lining"*. All themes, apart from theme two, had a number of subthemes that will also be discussed.

Psychological Impacts

Responses detailed a number of negative psychological impacts on the residents of Christchurch and those close to them. These impacts were described in a number of different ways, including accounts of mental and emotional strain. Many responses indicated on-going difficulties, reporting that even though a number of months had passed since the earthquakes people were still struggling. Several key subthemes were identified within the broad theme of Psychological Impacts. These were: (a) Fear; (b) Anxiety; (c) Sleep Disturbances; (d) Hypervigilance; (e) being in limbo; (f) guilt; and (g) tending to the needs of others. These are discussed in turn.

a) Fear

Intense fear is common following traumatic events (Foa, Stein & McFarlane, 2006). Respondents describe immediate terror as the earthquake struck, along with longer term fear in response to the aftershocks. Accounts of the initial fear centred on being woken with a shock, and the sensory experiences of the earthquakes such as the ground shaking and the sound of glass breaking:

All I could hear was things crashing and breaking. It was pitch black as the power went off [...] my neighbour arrived and we huddled and shook with shock.

(Participant 5)

Some participants also expressed a fear of dying:

Very scared when the earthquake struck. Thought I was going to die. (Participant 32).

Fear of dying may possibly be linked with the subjective sense of helplessness experienced by individuals during an earthquake, which is associated with increased risk of psychological distress and PTSD symptomology (Bödvardsóttir & Elklit, 2004).

After the main earthquake, accounts of ongoing trepidation related to the aftershocks and concern of another earthquake happening were reported:

Daily fear deep down in stomach, another jolt may hit us. (Participant 13).

Responses indicate terror during the main earthquake, however, there was a sense that on-going aftershocks were more devastating and difficult to bear. Both elderly parents and young children were mentioned in these accounts, highlighting fear as a common response across all age groups.

b) Sleep Disturbances

A large proportion of the responses indicated difficulties with sleep in the weeks following the earthquake. Sleeplessness was related to fear (ostensibly in anticipation of another earthquake or aftershock):

I went to the Doctor after about 10 days and got some sleeping pills, but they did not make me sleep as I was afraid to sleep. (Participant 182)

The earthquake happened in the early hours of the morning while most people were still asleep, which might explain this difficulty in going to sleep. Other participants attributed their sleep difficulties to the on-going aftershocks and being woken up during the night with a “jolt”:

Many, including myself, felt very tired through being woken with aftershocks and taking ages to get back to sleep (Participant 51).

Accounts of sleep disturbances in family members, particularly children, were also very common:

The biggest impact at home

was that our 6 year old boy was traumatised by the whole thing [...] for about a month he was out of bed every 45-60 minutes and this impacted on the whole household. (Participant 161)

In children, sleep disturbances may be linked to frequent dreams and nightmares about the earthquake as well as fears of the dark (Miller, Kraus, Tatevosyan, & Kamenchenko, 1993). Sleep disturbances may have multiple implications with regards to well-being and recovery after a traumatic event and is linked to increased anger, irritability, distractibility, difficulty concentrating and general worry (Miller et al, 1993). Responses indicated the pervasive nature of the sleeping difficulties and the toll it was taking on residents.

c) Anxiety

Another key psychological impact that was common across the responses was reports of anxiety. Anxiety in these accounts largely occurred as a result of the continuing aftershocks in the weeks following the initial earthquake, and the uncertainty around when or where more aftershocks (or another earthquake) might occur:

Every aftershock in the first three weeks or so was strong and I was in an almost permanent state of anxiety and fear of it being another huge quake and could not sleep or relax at all. (Participant 182)

Aftershocks are a continuous reminder of the initial earthquake, often elicit flashbacks and recollections of the event, and bring to the surface all the physiological reactions experienced during the initial earthquake (Shultz et al., 2011). The constant feeling of ‘dread’ around the potential of a reoccurrence of an earthquake or aftershocks also increases anxiety (Bödvardsóttir & Elklit, 2004; Dorahy & Kannis-Daymond, 2012).

Participants also indicated anxiety around being in unfamiliar places or buildings during aftershocks:

You didn't enter a room or building without first casing it to see where you would go if a big one hit. (Participant 130)

I do have a brief moment of apprehension if one hits when

I am in an unfamiliar building. (Participant 76)

Before an earthquake individuals may hold a firm belief in the strength and stability of buildings. Witnessing buildings collapse during natural disasters causes people to re-evaluate this belief and leads to anxiety around being in unfamiliar places, sometimes impacting on an individual’s ability to function in their everyday life (Bödvardsóttir & Elklit, 2004).

Separation from family members during aftershocks also caused anxiety among participants. Participants commented on the fact that they wanted to know where family members were at all times:

I am now neryv and always need to know where both of my children are at any given moment. (Participant 115)

Separation from family members during, or after, the earthquake or aftershocks has been shown to increase overall distress and is linked to persistent mental health difficulties (Shultz et al., 2011). Responses indicated that being surrounded by family lessened the effects of the anxiety and gave a sense of comfort.

d) Hypervigilance

Hypervigilance was another common feature mentioned in a majority of the responses. Most participants reported that even when there were no ‘shakes’ or aftershocks, they were constantly on edge waiting for the ‘next one’:

Every bang or drumming noise [...] now sounds like an earthquake coming so you're constantly on edge. (Participant 22)

My mind is subconsciously waiting for movement to happen all the time, no matter how trivial and then analysing it, finding likely causes. (Participant 15)

Following an earthquake survivors often expect (and dread) additional earthquakes and aftershocks, and as a result are likely to experience tension and anxiety (Varela et al., 2008). This is likely to manifest in individuals being hypersensitive and alert to the slightest

sounds, sensations and movement. Respondents gave the sense of this experience of vigilance being pervasive and disruptive leaving them feeling drained and exhausted from constantly 'being on edge'.

e) 'Being in Limbo'

The feeling of uncertainty and 'being in Limbo' in the aftermath of an earthquake is a common experience (Bödvarsdóttir & Elklit, 2004). Many of the participants reported feeling insecure and uncertain about the future:

There is a feeling of uncertainty about the future. The quake has also meant I have had to delay important life decisions and may ultimately influence these decisions. (Participant 31)

The accounts indicate the sense of being unable to move forward, prolonging and increasing the stress. This sense of uncertainty about the future may have affected residents' sense of efficacy. Diminished perceptions of coping ability have been shown to prolong and add to distress, increasing the risk of PTSD (Benight et al, 1999). Some of this 'limbo' was related to awaiting property evaluations and possible insurance reimbursements. Participants report feeling 'stuck' and unable to proceed with repairs, some even being unsure of whether they would be able to continue living in their homes.

f) Guilt

Reports of guilt were also quite common among participants, and largely related to feelings of having 'gotten off lightly'. Many participants reported feeling guilty over suffering such 'minor' damage and negligible loss whereas others seemed to have lost a lot more:

I felt guilty that I hadn't suffered as much as a lot of other people. (Participant 5)

I was not affected at all. I felt some guilt about that for a number of weeks. (Participant 134)

Guilt was also experienced in cases where participants had not been present when the earthquake occurred and not being there to support or help friends and family:

I was in hospital at the time so feel as though I left my family and friends to cope on their own which has left me feeling guilty at not being able to help. (Participant 28)

In events where there is a perceived lack of control and fear, such as natural disasters, there may be guilt around the failure to protect those close to you or for surviving the event (O'Connor et al., 2000). Survivor guilt has been linked to feeling better off than others or having a greater degree of health and wellbeing and has been shown to increase rates of depression, pessimism, low self-esteem and addiction (O'Connor et al., 2000).

g) Tending to others

One psychological impact of the earthquake related to the emotional and mental demands placed on individuals by family members. Many participants gave accounts of having to tend to the needs of others and needing to provide increased emotional support whilst still struggling to come to terms with the impacts themselves:

Stress initially personally then having to stay with daughter at her home until she coped (solo mum with two boys) with damaged home... and providing support for neighbours who weren't coping. (Participant 33)

Earthquakes can significantly affect a person's perception of their capabilities, reducing confidence in even the most independent of people (Tang, 2006). This can increase people's reliance on others for day-to-day needs and emotional encouragement. The constant provision of support without the reciprocal offering of support could be argued to increase the risk of individuals "burning out" (Tang, 2006). Where people are providing increased support to others it is important to ensure that they themselves have a support network.

h) Other responses

While almost all the participants reported feeling impacted by the earthquake in some manner, there were a small number who felt unaffected or had positive responses. Some participants felt that the earthquake had been "exciting":

Was an awesome experience, a great thing to live through. (Participant 7)

Time off Uni-Yeah Boi! (Participant 187)

Overall, the earthquake had a significant psychological effect on the residents who responded to our study. Intense fear, stress and anxiety, uncertainty, as well as complaints of sleep disturbances were frequently discussed. Guilt and the burden of supporting loved ones also contributed to distress. While a vast majority of the participants commented on the psychological impact of the earthquake, not all reported negative reactions or experience significant distress.

Material costs and financial impact

The second key theme that was identified related to the financial and material repercussions of the earthquake. Participants reported on the significant financial implications on an economy already affected by the economic recession and the global financial crisis:

I have a number of friends and associates who have been significantly financially affected by the quake, especially those with retail businesses who were affected by the city cordon. This has led to stress and weight-loss and insomnia. (Participant 147)

Economic turmoil and unemployment are significant risk factors for psychological disorders (Toukmanian, Jadaa, & Lawless, 2000). Decline in trade and industry is common in the aftermath of a natural disaster as most of the major infrastructure 'grinds to a halt'. Job losses as a result of business closures can have serious implications on resource availability. Literature shows that resource loss or shortage can reduce an individual's coping ability and increase distress (Freedy et al., 1992). A number of participants commented on the financial consequences for the elderly community and for those who did not have comprehensive insurance:

Many people have been financially ruined, particularly in my experience, the elderly and retired. (Participant 122)

There are still a lot of people worrying whether they have enough insurance to repair the damage to their properties (Participant 188)

While the financial implications have been identified as a separate theme from the psychological impacts of the earthquake, there is an important link between the two. Financial loss and ongoing difficulties following a natural disaster are recognized as contributing to as well as escalating the risk of psychological morbidity (Foa et al., 2006). Resource loss has a direct impact on the emotional well-being of an individual and influences their perceptions of efficacy (Freedy et al., 1992; Benight et al., 1999). Financial losses could potentially take a long time to recoup and therefore psychological distress as a result of this could be quite long-lasting.

Damage to properties was also a significant issue raised in many of the responses. Responses indicated concerns around the financial cost of repairs and whether insurance settlements would be received efficiently:

Have had continual worry over getting my house repaired [...] still no contact from EQC (Earthquake Commission) as to what we are to do and whether we can go ahead and fix things up before winter hits. (Participant 25)

Many participants also commented on the demolition of landmarks and the changing landscape of Christchurch:

Christchurch and Canterbury will never be the same, the landscape in some areas has been totally altered [...] familiar buildings have gone or are in the course of demolition. (Participant 192)

Responses related to property damage gave the sense of participants grieving the loss of familiar surroundings and a sadness that Christchurch was forever changed. Widespread property damage has been associated with increased psychological distress as it serves as a reminder of the event itself as well as personal impacts and loss (Schultz et al., 2011). Concern over the well-being of one's property after each aftershock has been shown to increase levels of depression and

anxiety (Dorahy & Kannis-Dymand, 2012). People's homes represent, not only their dwelling place, but also their “financial security, their personal history and their place in the world” (Gawith, 2011, p. 125). Property damage could also increase individuals' sense of uncertainty as familiarity brings with it a sense of comfort and reassurance. Unfamiliar environments, combined with the disruption of services and social networks, have been shown to increase the likelihood of emotional distress following a natural disaster (Aslam & Tariq, 2010; Foa et al., 2006).

Coping Strategies

Literature has suggested that in the midst of a natural disaster, there are a host of tactics people employ as a means of handling impacts and regaining a sense of ‘normalcy’. A number of coping techniques were identified in our data: (a) Calling on Faith/Religion, (b) Being prepared, (c) Positive thinking, and (d) Sympathy for those worse off.

a) Faith/ Religion

About 10% of the participants identified their faith as being an asset in getting them through difficult times in the aftermath of the earthquake:

My faith in Jesus Christ was really my foundation in that time. He constantly reminded me that as out of control as the situation felt, He was in control and I could trust Him whatever the outcome. (Participant 130)

This is also consistent with Sibley and Bulbulia (2012), who reported in other quantitative analyses of NZAVS data that religious affiliation in the Canterbury region increased significantly following the earthquakes. Research indicates that faith and religious beliefs may tend to reduce stress and increase psychological well-being following a traumatic experience such as a natural disaster (Meisenhelder, 2002; Elliot & Pais, 2006). Religion may bring a sense of comfort as people seek God in making sense of the experience and obtain meaning for the event (Meisenhelder, 2002; Sibley & Bulbulia, 2012). Religious beliefs often imply that an individual is part of a faith community placing that person in a supportive environment where pain and

anguish can be shared (Meisenhelder, 2002; Elliot & Pais, 2006; Sibley & Bulbulia, 2012).

b) Being prepared

Feeling prepared by having an emergency kit and plans in place, often heightens people's sense of control and increases self-efficacy (Livanou et al., 2005) and this was evident in participant accounts:

Having a radio, batteries and emergency bottled water made me feel prepared and gave me the comfort that we would be okay for a few days. (Participant 19)

Still feel apprehensive about another earthquake but feel better prepared emotionally have emergency items gathered and safety systems in place. (Participant 137)

Self-efficacy and the belief that one can cope in traumatic experiences has been shown to enhance motivation for restoration, increasing the likelihood that an individual will engage in active coping strategies, such as intentionally seeking extra resources, thus reducing feelings of anxiety or helplessness and negative affect (Scott, Carper, Middleton, White, & Renk, 2010; Sumer et al., 2005). People who are more prepared for disasters are found to be more resilient and able to recover faster after the event (Collins et al., 2011).

c) Positive thinking

Optimism lessens the impact of severe stressors and negative life events and increases the subjective sense of well-being (Carver, Scheier & Segerstrom, 2010; Cruess et al., 2000). There were a number of different facets of positive thinking that were conveyed in the data. These were: (i) Minimal property damage or destruction, (ii) no deaths, (iii) comparisons with disasters overseas and (iv) sympathy for those worse off.

Despite the high magnitude of the September earthquake, damage to some properties was relatively small. Most participants conveyed surprise and relief that destruction was not on a larger scale:

Our family was largely unaffected by the earthquake, structurally we had no damage but found it an

amazing experience to be in such a large earthquake with limited building damage or injuries. (Participant 93)

In this instance, the relatively small scale of damage to some of the properties would act as a buffer and potentially counteract a great deal of trauma and negative affect. Some participants also expressed a sense of gratitude that the situation was not more severe:

Appreciative that the consequences of the quake have been a lot less than they potentially could have been. (Participant 10)

Focusing on the positive outcomes, rather than on the negative may enable residents to offset any potentially negative psychological outcomes of the earthquake.

One of the most remarkable features of the September 2010 Christchurch earthquake was that there were no fatalities. Many participants stated that even though the earthquake had been a traumatic experience and they were experiencing some distress, the fact that there were no deaths gave them comfort:

Thank God there was no loss of life is all we can say! Roll on the rebuild of Canterbury and our lives! (Participant 49)

The timing of the 7.1 was as ideal as it could be if we were going to have an earthquake. I am grateful I was at home with the family and that no one at all was fatally injured. (Participant 10)

Research has shown that bereavement and significant loss of life following a natural disaster is associated with increased psychological trauma, reduced well-being and is linked to a pervasive sense of helplessness (Xu & He, 2012; Osborne & Sibley, 2013). The lack of fatalities in this earthquake could also have worked as a buffer against severe and prolonged trauma. It would also reduce the likelihood of PTSD and complicated grief as a consequence (Xu & He, 2012).

A number of participants took comfort that support structures and systems were generally well developed in New Zealand, even though there has been little exposure to natural disasters

in recent years. Comparisons were made with other countries with less developed infrastructure and support services:

In general the support structures seemed to operate as well as could be expected in the circumstances [...], living in Christchurch NZ beats the hell out of living in Port-Au-Prince Haiti. (Participant 16)

Similarly, many participants expressed sympathy for those who were worse off than them. Participants referred frequently to those who had major house and property damage:

Personally it made feel very appreciative of what I have in life and my loved ones, but also very sorry for the less fortunate (Participant 157)

A number of participants also expressed gratitude that they still had a home to go home to. Accounts were given of friends and colleagues who had been forced to leave their homes because of severe damage:

We have family and friends whose homes have been written off because of damage and this makes me realise how lucky we are. (Participant 80)

A positive outlook following a natural disaster has been shown to reduce depression, overall distress and PTSD symptoms (Vázquez et al., 2005; Carver et al., 2010; Cruess et al., 2000). Optimism can strengthen an individual's sense of resiliency, producing better psychological functioning, less anxiety and stress, following a disaster (Aslam & Tariq, 2010). It could also be suggested that 'looking at the bright side' may also be a way in which individuals are able to make sense of the disaster experience and their circumstances in the aftermath. Research has suggested that people actively engage in meaning making and rationalising the negative events that occur. This is seen as critical to personal growth and the development of resilience (Vázquez et al., 2005). In empirical analyses of NZAVS data, Osborne and Sibley (2013), for instance, reported that the personality trait of emotional stability buffered people from experiencing psychological distress following the Christchurch earthquakes. Related to this, work by

Milojev, Osborne and Sibley (in press) using NZAVS data indicates that most core aspects of people's personality were remarkably stable following the Christchurch earthquakes of September 2010 and February 2012.

"The Silver Lining"

Besides optimism, a large number of responses focused on the positive outcomes of the earthquake and mentioned that despite the distress and devastation in the weeks following the earthquake, there was a general sense that some good had come out of it. Within this theme a number of subthemes were identified: (a) community spirit, (b) re-evaluating priorities, and (c) more paid work.

a) Community Spirit

A large majority of the participants commented that the earthquake gave the residents of Christchurch a "common experience" (participant 62) that brought them together and created a sense of connection between people that did not exist before. There were accounts of people sharing their grief and terror with neighbours and community members with a new found honesty and openness.

A surprisingly good outcome of the earthquake and subsequent aftershock was the degree of honesty and sharing of feelings among colleagues-way beyond what occurred earlier. (Participant 57)

People coming together and supporting each other has been shown to increase perceptions of control and self-esteem, lessening subjective feelings of helplessness and allows people to feel like they are active participants in the recovery of their communities (Collins et al., 2011; Sattler et al., 2000). Communal support and coming together can also enable discussion about changes that have taken place as a result of the event. Open and frank discussion about feelings and difficulties can allow for different perspectives to be offered and potential solutions devised (Tedeschi & Calhoun, 2004).

a) Re-evaluating priorities

Many participants also discussed how the earthquake changed the way they see the world:

The earthquake [brought] us closer together as a family and put the important things in life (family, love, caring for each other) in top priority. [It] literally shook us up and opened our eyes to the fact that life is short and precious (Participant 137).

Many residents reported that this 'shake up' led to a drastic change in priorities, bringing to the fore the importance of family and 'loved ones' over material assets.

"Family has become more important than money-how important is money vs a life that helps others?" (Participant 39).

A change in priorities and what one views as significant is a common outcome for many people who have experienced traumatic events. A closer and deeper relationship with others is also commonly reported following trauma (Tedeschi & Calhoun, 2004; Garwith, 2011) and can be seen as one of the positive outcomes of such events.

b) More paid work

A small number of participants also saw the earthquake as having a positive effect on the job market in Christchurch. The earthquake caused significant damage to roads and buildings which require repair and redevelopment:

The building and associated industries had ground to a halt pre-earthquake, so for all the business people in these industries it created a silver lining. Where there was high unemployment now the economy is starting to thrive again. (Participant 177)

An increase in employment opportunities would minimise the impact of resource loss following a disaster, as people would be in a better position financially to rebuild and replace lost possessions.

Strengths, Limitations and Future Research

A strength of this study is that the sample used in this research had already been recruited for separate research prior to the September 2010 earthquake. This reduces the risk of an overrepresentation of traumatised participants that can occur when recruitment is done post

disaster (Bonnano et al., 2010). Some of the practical limitations of this research included the data gathering method. Participant responses were received in written format and some were difficult to read due to the illegibility. Difficulty reading such responses lead to these being necessarily excluded during coding and analysis. Invitations for responses were sent out a number of months after the September 2010 earthquake, leaving room for perceptual and memory distortions to influence the responses provided. Participants may have over-reported on difficulties, if such memories were more salient, while under-reporting on examples of strengths and resilience (or vice versa). It is also likely that those who had strong feelings about the earthquake (in either direction) were more likely to respond than those with minimal distress or impact.

The Christchurch earthquakes are unique in that they occurred within six months of each other and had significantly different outcomes. Future research may also benefit from an in-depth analysis of the impacts of earthquakes and natural disasters on older children and adolescents using a similar method. Future research and a qualitative analysis of the outcomes for the elderly community would also be helpful in deciphering whether there are age differences in responses to natural disasters. Such research would benefit clinicians in providing the best support for specific age groups. We also wonder if a future research project interviewing Christchurch residents about their experiences with the Earthquake Commission and the links between such experiences and rates of recovery might be warranted.

Conclusions and Recommendations

This project has highlighted the impacts and effects of the September 2010 Christchurch earthquake on residents, as articulated by themselves in written responses. Key themes were identified and analysed, highlighting the significant psychological and financial impacts as well as outlining the coping strategies that emerged and positive outcomes of the earthquake for the residents of Christchurch. By analysing

these experiential accounts we aim to extend the breadth of understanding related to the outcomes of natural disasters, particularly in the New Zealand context.

Our analysis indicates that an emphasis on preparation would be beneficial in reducing negative psychological affect and outcomes following disasters. There have been efforts, through media and advertising, to encourage New Zealanders to have an emergency kits and plans in place. Additional strategies could also be useful here, including education around what to expect in various natural disasters and their associated disturbances (such as long-term aftershocks, and seismic instability following earthquakes). Preparedness can help individuals reduce initial levels of shock and stress. Individuals would thus be better equipped and prepared for how to respond and what they would need to manage in the days following the disaster. Furthermore, education around best safety practices during a disaster would be beneficial in minimizing physical injury. Preparation and strategies to minimize resource loss after a disaster will prevent undue distress and minimize the risk of depression and PTSD.

Self-efficacy and emotional stability are pivotal factors in a person's ability to respond adaptively in a disaster situation and in the aftermath. As such, strategies to enhance self-efficacy should be beneficial in reducing long term and persistent distress. This is a strong theme that we think runs through the discourse and commentary provided by Christchurch residents. Given the evidence of long-term impacts and distress following a natural disaster, it is important for clinicians and support services to ensure on-going support for residents.

Community spirit and cohesion also emerged as a strong buffer against prolonged distress, and initiatives aiming to increase community support networks and outreach interventions should, and are helping, to reduce negative psychological impacts for residents. More work assessing the efficacy and outcomes of such initiatives is definitely needed, however (cf. Sibley & Bulbulia, 2012). We hope

that summarizing and presenting the thoughts, feelings and experiences of NZAVS participants who weathered the September 2010 Christchurch earthquake and its immediate aftershocks may help with this. The striking thing to us as researchers is that people tended to have similar experiences, even if expressed or described in very different ways. There is a common voice to such experiences, and we hope this comes through in our summary of residents' responses. Finally, we hope that we have provided a voice for some of the participants in the broader NZAVS project who experienced the 2010 Christchurch earthquake. These are voices that need to be heard.

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- research team to track the resilience and psychological recovery of people affected by the Canterbury earthquake. Please note that a summary of any comments you offer may be included in a report summarizing people's experiences and recovery after the Canterbury earthquake. Any comments you offer will be protected in the same way as all other data in the study, and are subject to the conditions outlined on the information and consent forms.

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Appendix

Full text for the additional page included in the 2010 wave of the NZAVS inviting open-ended responses about the Christchurch earthquake.

You may have noticed that the New Zealand Attitudes and Values questionnaire did not ask about whether you or the people around you were affected by the recent earthquake in Canterbury.

The New Zealand Attitudes and Values study is planned and prepared a long time in advance. Because of this, the survey can miss asking about recent and unforeseen events. The Canterbury earthquake affected many people, and the New Zealand Attitudes and Values study may fail to pick up on this. This could have a big impact on the way the data from the study is interpreted unless care is taken.

If you were affected by the earthquake, and would like for this to be taken into account when considering your answers to the questionnaire, then please feel free to write any additional information about how the earthquake affected you below.

By responding you may help our

Cognitive Assessment during a Course of Electroconvulsive Therapy - A National Questionnaire Survey of Current Practice in Aotearoa, New Zealand

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Objective: To shed light on current practice regarding cognitive assessment during electroconvulsive therapy (ECT) across Aotearoa.

Design/Participants: 24 medical professionals representing all ECT administering district health boards responded to an electronic questionnaire.

Results: 73.7% assess cognitive function at least once during a course of ECT. 27.3% assess at baseline, at least once during the course and again post-treatment. Assessments are primarily conducted by nurses (38.8%), psychiatrists (22.2%) and psychologists (22.2%). 66% of respondents reported cognitive assessment was not conducted frequently or thoroughly enough in their workplace due to a lack of time, resources and sensitive tests.

Conclusion: Respondents recognised assessing cognitive change during a course of ECT was important, though large variations in the nature, frequency and length of assessments existed. Future research should focus on the development of a sensitive screening measure tailored for use with patients receiving ECT to help overcome the current restrictions to cognitive assessment.

Keywords: cognitive assessment, current practice, Electroconvulsive therapy.

This study received ethical approval from the Health and Disability Ethics Committee, New Zealand.

Electroconvulsive therapy (ECT) is an effective treatment for a variety of psychiatric disorders (Mankad, Beyer, Weiner, & Krystal, 2010). It is fast acting and often effective when all other treatments have failed. Up to 50-60% of people who are non-responsive to medication will show clinical improvement from ECT (Prudic et al., 1996). Despite high treatment efficacy, ECT is only prescribed in New Zealand, as in other parts of the western

world, under strict conditions (Ministry of Health, 2004). Central to these restrictions are ongoing reports that ECT may cause cognitive impairment (Ingram, Saling, & Schweitzer, 2008; Nehra, Chakrabarti, Sharma, & Painuly, 2007). In addition, cognitive side effects limit the use of ECT by diminishing patient satisfaction and contributing to the stigma associated with the treatment (Prudic, 2008). Cognitive assessment during the treatment course

is recommended in order to detect and monitor cognitive change (Nehra et al., 2007).

Of the 20 district health boards (DHBs) in New Zealand, ECT was administered at 15 at the time this survey was conducted. The most recent statistics on the number of patients receiving ECT in New Zealand are from 2011, and reveal 286 patients received ECT during this year; 6.5 people per 100,000 (Ministry of Health, 2012). ECT is prescribed as a course of treatments and typically involves six to 12 individual treatments of ECT (MOH; Ministry of Health, 2009). The number of treatments a person may have will depend on the severity of illness and degree of treatment resistance, degree of complicating medical factors, the person's age (elderly patients may require longer courses) and technical parameters such as whether the ECT is administered bilaterally or unilaterally (Ministry of Health, 2012). In New Zealand no regulations exist which oblige treating professionals to monitor or assess cognitive functioning. As there are no enforced guidelines put in place to assess cognitive function, it is unclear what practitioners are doing to assess cognitive function and whether or not practitioners have sufficient resources to do so. The aim of the current study is to

shed some light onto what practitioners around the nation are doing at assess cognitive change during a course of ECT.

Recommendations and Guidelines for ECT Cognitive Assessment

Although there are no strict guidelines around how cognition should be assessed in New Zealand, various national and international organisations have recommended a patient's cognitive functioning is monitored intermittently throughout ECT (Porter, Douglas, & Knight, 2008). See for example, The ECT Accreditation Service (The Royal College of Psychiatrists Centre for Quality Improvement, 2011), the National Institute of Clinical Excellence (National Institute of Clinical Excellence, 2003), the American Psychiatric Association (American Psychiatric Association, 2001), and the Royal Australian and New Zealand College of Psychiatrists (Royal Australian and New Zealand College of Psychiatrists, 1999).

Suggestions for assessment schedules and batteries also exist within the peer-reviewed literature. Porter and colleagues (2008) offer number of useful recommendations: a) to conduct a baseline assessment, reassess early in treatment, and again after the sixth treatment; b) to carry out assessments at a standard time after treatment which should be at least 48 hours post treatment to allow for any transient treatment effects to resolve; c) repeat the same battery 2-3 months post treatment; d) and to include a mood measure alongside the cognitive assessment as mood affects cognitive performance. Porter and colleagues proposed a 55 minute test battery including the MMSE or 3MSE, Hopkins Verbal Learning Test (HVLT; Brandt, 1991), Autobiographical Memory Questionnaire- Short Form (AMI-SF; Kopelman, Wilson, & Baddely, 1989) and the Digit-symbol Substitution Task (DSST; Wechsler, 1997). A brief cognitive battery has recently been suggested by Viswanath et al., (2013) which offers an ECT battery appropriate for use in developing countries where the number of patients receiving ECT per day is high (10-15 treatments)

and resourcing is low. The battery is short (20-30 minutes) and is culturally adapted for use in the Eastern world.

Within the aforementioned national, international and academic guidelines, some common themes emerge: a) the need for frequent and ongoing monitoring of a patient's cognitive functioning; b) the importance of a baseline assessment of cognitive functioning prior to commencing ECT to obtain a benchmark for cognitive change; c) the MMSE is the most commonly recommended cognitive screen but is potentially problematic; d) a report of subjective memory function should also be obtained, and e) a patient's clinical state should be assessed alongside their cognitive function. The recommendations are not clear regarding where the responsibility for doing the cognitive assessments lies (except for ECT Accreditation Service who explicitly state that the onus is on the referring psychiatrist). Another common trend is the inclusion of the Mini Mental Status Examination in the guidelines and suggested batteries, despite research suggesting that short cognitive screening measures such as the MMSE are problematic as they are insensitive in detecting ECT related cognitive change (Robertson & Pryor, 2006).

Benefits of Cognitive Assessment during Electroconvulsive Therapy

Since the introduction of ECT in 1938, efforts have been made to refine the ECT administration technique to increase clinical efficacy and reduce the cognitive side effects of the treatment (Abrams, 2002). Despite these efforts, cognitive impairment remains a common and unwanted side effect (Ingram et al., 2008). The most severe, well researched and distressing cognitive side effect of ECT, however, is its negative impact on memory (Sackeim et al., 2007; Sienaert, 2010; Sobin et al., 1995). Patients can experience difficulties with the speed in which they are able to process information, their ability to sustain attention, to plan, organise and mentally shift between tasks, their visuospatial skills can become impaired as can general intellect (Ingram et al., 2008). These changes are often subtle, and are

not easily detected by brief cognitive screens such as the MMSE (Robertson & Pryor, 2006).

Switching from sine-wave to brief-pulse electrical stimulation in the 1980s was one refinement to ECT which relieved the severity of cognitive impairment (Weiner et al., 1990). Since this change, research concludes that cognitive dysfunction is less severe and mostly limited to the first three days post treatment. After 15 days most dysfunction should have resolved (Semkowska & McLoughlin, 2010). Descriptive reviews agree that six months post treatment, all ECT related cognitive dysfunction should have resolved (Caley, 1994; Ingram et al., 2008). If this is the case, then why should medical professionals bother spending valuable time and resources assessing cognition? The motivation to do so derives from the fact that some patients report significant gaps in their memory years after treatment (Rose, Fleischmann, Wykes, Leese, & Bindman, 2003). Monitoring a patient's cognitive functioning throughout their course of ECT allows for the detection of impairment early on in treatment, and impairment early on in treatment may pose as a risk factor for continual cognitive decline as the treatment course progresses (Porter et al., 2008).

If impairment can be identified, parameters of ECT administration can be altered, or if necessary, the treatment course can be suspended (Scott, 2010) or terminated (Porter et al., 2008). Modifications which are well documented to reduce cognitive impairment include: changing from bilateral to unilateral ECT, decreasing intensity of electrical stimulation, spacing of treatments from more to less frequent and altering dosages of medications and anaesthetics where possible (Scott, 2004). Treatment planning should aim to maximise clinical efficacy while minimising adverse cognitive side effects.

In summary, the benefits of regularly assessing cognitive function are evident. Guidelines around how and when to assess cognition during the course of ECT do exist, but thorough and frequent assessments are said to be rare (Porter et al., 2008). Current practice around

cognitive assessment during ECT has not yet been evaluated in Aotearoa, New Zealand. The aim of this study is to investigate what medical professionals are doing to assess cognition for patients undergoing a course of ECT in New Zealand. The frequency and length of assessments, domains of cognition assessed and measures used will be described. We consider who is conducting the assessments, and what barriers, if any, limit more frequent or thorough assessments from occurring in New Zealand hospitals.

MethodParticipants

Respondents were psychiatrists, nurses, and psychologists across ECT administering DHBs throughout New Zealand. Only health professionals working with individuals receiving ECT or involved in the monitoring of cognition with these individuals were invited to respond to the questionnaire. Of the 20 DHBs in New Zealand, 15 were performing ECT at the time the questionnaire was sent out. At least one response was received from each ECT administering DHB in New Zealand. When completed questionnaires reported a common method of assessment within the same DHB only one questionnaire was included in the analysis. A total of 24 completed questionnaires were analysed. The DHBs and number of responses are as follows: Auckland DHB (2), Capital and Coast DHB (2), Mid Central DHB (1), Waikato DHB (5), Canterbury DHB (2), Taranaki DHB (1), Counties Manukau DHB (2), Southern DHB (3), Northland DHB (1), Hutt Valley DHB (1), Bay of Plenty DHB (1), Hawke’s Bay DHB (1), Lakes DHB (1), and Nelson-Marlborough DHB (1).

Procedure and Questionnaire Design

An email was sent out to a National ECT treatment staff email list which included a link to the electronic questionnaire and information introducing the questionnaire. The mail list included ECT administering psychiatrists, ECT nurses and other treating professionals such as prescribing psychiatrists. The questionnaire was sent to all 45 individuals on this mail list, of the 45 approached, 18 completed

the electronic questionnaire. The questionnaire was then sent out to a further 8 people to ensure coverage across all ECT administering DHBs was achieved. Three reminders were sent over a six month period. The questionnaire took approximately 10 minutes to complete, and explored the following areas: measures in place for assessing cognition within their service, whether a measure of clinical state is included within the assessment, who is responsible for conducting the assessments, timing of assessments, frequency of assessments, and whether, in the opinion of the respondent, patients’ cognitive functioning was assessed frequently enough, and if not, what restricted the occurrence of more frequent or thorough cognitive assessments. The results of the questionnaire remained anonymous and respondents had the opportunity to not respond to items if they were unaware of the answer. The responses to the survey were collected from October, 2012 until June, 2013. The survey was generated using Qualtrics.™

Results

The data were analysed using Statistical Package for Social Sciences (SPSS) Version 19.0. One DHB has a data analyst responsible for conducting all cognitive assessments; all responses received from this DHB but were treated as one response as they all reported answers based on a common system of assessment.

How frequently is Cognition Assessed?

Most respondents (75%, N=18)

reported that some form of cognitive assessment is conducted during a course of ECT. Of these, 29.2% (N=7) conduct an assessment prior to ECT, at least once during the course and again after the course. Around 46% (N=11) reported that a baseline cognitive assessment is routinely conducted, and half conduct an assessment post treatment. One respondent (4.5%) reported cognitive assessments were only conducted in their DHB if the patient complained of memory impairment post ECT. Approximately 66.7% (N=16) stated that assessment of cognitive functioning is currently not being carried out frequently enough. Factors contributing to the prevention of more frequent thorough cognitive assessments included: lack of time (100%), lack of resources (50%, N=12), and a lack of suitable screening measures sensitive to ECT related cognitive impairment (41.6%, N=10).

Which Assessment Measures are being utilised?

Figure 1 illustrates these findings. The most frequently used cognitive assessment measure is the MMSE. Also popular is the Montreal Cognitive Examination (MoCA; Nasreddine et al., 2005) and the Addenbrooke’s Cognitive Examination-Revised (ACE-R; Mioshi, Dawson, & Mitchell, 2006). Some respondents reported using the measures suggested by Porter et al. (2008) which includes the HVLT, AMI-SF, DSST in addition to the MMSE or the 3MSE. Over a third of respondents (37.5%, N=9) use more than one measure to assess cognitive functioning.

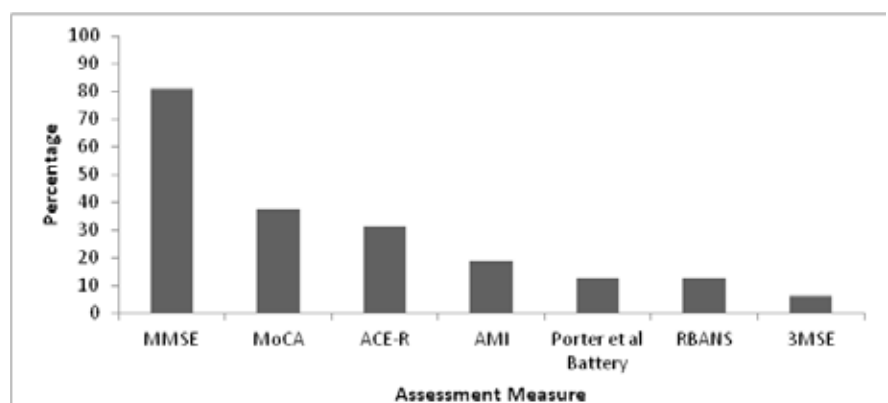


Figure 1. Frequency of assessment tools used to assess cognitive functioning.

Assessing Clinical State during ECT

Most practitioners are conducting a mood assessment alongside the cognitive assessment (83.3%, N=20). The most commonly utilised assessment measure is the MADRS (54.2, N=13%), less commonly utilised are the BDI-II (8.3%, N=2) and the Geriatric Depression Scale (8033, N=2%). The Hamilton Depression Rating Scale and the Hospital Anxiety and Depression Scale are also used with people receiving ECT. Many practitioners (37.5%, N=9) also assess anxiety and psychosis as well as mood alongside the cognitive assessment.

Who Conducts the Assessment?

The majority of the cognitive assessments are conducted by nurses (37.5%, N=9). Many of the assessments are also conducted by psychiatrists (20.8%, N=5) and clinical psychologists (20.8%, N=5). A small minority of assessments are conducted by junior doctors/ registered medical doctors (16.7%, N=4) and data analysts (4.2%, N=1).

How Long is Spent Conducting the Cognitive Assessment?

The average reported time spent conducting cognitive assessments with patients was 23 minutes, with large variation between respondents (SD=16.8). Typically, 10 minutes (45.8%, N=11) is spent conducting assessments, or 20 minutes (20.8, N=5%). One third of respondents reported spending 30 minutes to one hour conducting the assessment (N=8). When asked how long an ideal cognitive screen should take, respondents reported on average, 17 minutes (SD=8.26) would be feasible. Cognitive assessments are generally being conducted 24 hours post treatment (41.7%, N=10), however, many respondents also report conducting assessments one to five hours (20.8%, N=5), 48 hours (29.2%, N=7) and a few days to one week post treatment (8.3%, N=2).

Discussion

Medical professionals in this sample

recognise that cognitive assessment is an integral component of treatment with ECT. Most respondents report that a cognitive assessment is conducted at least once during a patient's course of ECT. Almost one third of the respondents reported that some form of cognitive assessment is conducted pre and post treatment and at least once during the course. Most of the cognitive assessments are augmented with a mood assessment; the MADRS is the most commonly used tool for this. This is beneficial in assessing ECT efficacy for the individual, and to gauge the effect of mood on cognitive function. Timing of the assessments varies; however, most are conducted at least 24 hours post treatment. The time spent conducting the assessment is often brief, around 10-20 minutes. In New Zealand, cognitive assessments are being conducted by nurses, psychologists, psychiatrists, doctors and data analysts. Many respondents reported that monitoring of cognition is hampered by lack of time, resources and appropriate sensitive measures of cognitive change. Some respondents have adopted Porter et al.'s (2008) recommended battery of tests, but a lack of time and resources restrict many from carrying out this 55 minute long assessment. The MMSE was the most commonly utilised measure of cognitive functioning. The MMSE is often recommended within the ECT guidelines around cognitive assessment and is a popular brief cognitive screening tool in New Zealand (Strauss, Leatham, Humphries, & Podd, 2012); however, has been found to be insensitive to detecting ECT related cognitive change (Robertson & Pryor, 2006).

Implications

Due to the insensitivity of current measures being used to assess cognitive function during ECT, or the lack of time professionals have to administer more sensitive measures, we argue that there is a need for the development of a new cognitive screening measure. Alternatively, the battery proposed by Viswanath et al., (2013) could be adapted for use in Western countries. The results of the current study inform that an ECT cognitive screen would need to take fewer than 20 minutes to administer, as time was the largest factor preventing cognitive assessment. The

measure would need to be inexpensive and be sensitive to detecting ECT related cognitive change and have sound psychometric properties. As it is optimal that cognition is reassessed throughout a course of ECT, a screening measure with alternate forms would prevent practice effects. As assessments are being carried out by a wide range of professions, the assessment instrument would need to be easy to administer and score and require minimal training.

As a screening measure will take time to develop and validate, in the interim, the Montreal Cognitive Assessment (MoCA; Nasreddine et al., 2005) could be utilised as an alternative to the MMSE. The MoCa may be more sensitive than the MMSE when assessing the long term cognitive effects of ECT (Luther, 2012). The MoCa is a one page 30 point test which takes approximately 10 minutes to administer. The MoCa assesses short term memory, visuospatial abilities, executive functioning, attention, abstraction, orientation, concentration, working memory, language, short term memory recall and delayed recall after approximately five minutes. The MoCa has superior sensitivity (90%) and specificity (87%) for detecting MCI, compared with 18% and 100% respectively for the MMSE (Nasreddine et al., 2005). The MoCa is available free in the public domain and has three alternate forms.

Although the MoCA has been shown to be more sensitive to cognitive change during ECT than the MMSE (Luther, 2012), as with the MMSE, the MoCA was designed to detect dementia related mild cognitive impairment, not ECT related cognitive change. A screening measure should not be used as a direct proxy to more sophisticated assessments such as Porter et al.'s (2008) suggested battery, however, when only a short time frame is permitted, the use of the MoCA has been shown to be superior to the MMSE and certainly to an absence of cognitive assessment.

A further implication which emerged from this small sample of health professionals working with individuals receiving ECT there was high variability in the way in which cognition was assessed. Even within good practice guidelines,

recommendations for assessment during ECT vary. There appears to be a need for a standardised method of cognitive assessment which would accommodate the time restrictions imposed upon health professionals but would also provide a measure of cognitive function in individuals receiving the treatment. The recommendations offered within Porter and Douglas' (2008) article provide a good starting point for this.

Limitations

The greatest limitation of the current study was the small sample size and the exclusion of responses from non government organisations which perform ECT. This limits the generalisability and representativeness of the results. The way in which respondents were recruited may have also limited the representativeness of the results, as the email list from which the majority of respondents were recruited likely only included a subsample of individuals working with this population.

Although respondents were asked to comment on the nature of cognitive assessment during ECT within their service in which they worked, this does not capture intra-service variability within a district health board, particularly in the larger DHBs such as Waikato. In addition, as completion of the questionnaire was voluntary, there may have been a response bias such that the reported frequency of cognitive assessments may be inflated and the numbers of people not conducting cognitive assessments may be higher than reported due to giving a socially desirable response.

Despite these limitations, the current investigation provided a glimpse into current practice of cognitive assessment during ECT among 24 services within Aotearoa's DHBs; information which previously remained largely unknown for New Zealand. Future research should address the dearth of appropriate, sensitive and brief measures tailored for the assessment of cognitive change during electroconvulsive therapy.

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Diagnostic Processes and Disclosure: A Survey of Practitioners Diagnosing Cognitive Impairment

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The literature reports widespread variation in practitioners' disclosure of a dementia diagnosis, though it is currently unclear what factors influence this difference in practice. 57 New Zealand based practitioners completed an online questionnaire relating to how they reach a diagnosis of cognitive impairment and under what circumstances (if any) a diagnosis might be withheld from a client. The findings indicate that a diagnosis of cognitive impairment is never completely withheld by practitioners. All qualitative responses were analysed using conventional content analysis. Practitioners noted more positive consequences associated with disclosing a diagnosis to their clients, suggesting that providing a diagnosis is perceived by practitioners as helpful for people experiencing cognitive impairment. This study adds to the field of ethics and diagnostic disclosure in that it highlights what specific factors are considered when a practitioner chooses how to relay a cognitive impairment diagnosis to their client. Such considerations include when disclosure conflicts with the clients wishes, lack of insight, and the presence of other illnesses. Ongoing research on the subject of disclosure is needed as the number of adults who will experience cognitive impairment is predicted to rise.

Keywords: cognitive impairment, diagnosis, disclosure, attitudes, ethics

The rapid ageing of the population in the Western world (de Meijer, Wouterse, Polder, & Koopmanschap, 2013) is associated with increased rates of age-related pathology such as dementia (Alzheimers New Zealand, 2010; Ministry of Health, 2013). The development of effective healthcare policies to meet the future needs of this age group poses a considerable challenge (Naaldenberg, Vaadrager, Koelen, & Leeuwis, 2011). In consideration of the upward trend observed in national epidemiology reports (Statistics New Zealand, 2000), the need for research focusing on older adult healthcare in New Zealand (NZ) is essential.

The issue of declining memory ability is an area that has received increased attention in academic literature to date. Dementia is defined

as a group of symptoms which affect memory and cognitive ability, *as well as* everyday functional ability (Ihl et al., 2011). Although dementia related pathology is not a normal part of the ageing process (Nelson et al., 2011), often an association is drawn between declining cognition and the realities of older age (Schneider & Yvon, 2013). For this reason, a diagnosis of dementia has been linked with stigma and fear (Aminzadeh, Byszewski, Molnar, & Eisner, 2007; Phillipson, Magee, Jones, & Skladzien, 2012). As the numbers of those diagnosed with dementia increases (Portacolone, Berridge, Johnson, & Schickel, 2014), the news of such a diagnosis has become significantly more feared than any other age-related health condition (Batsch & Mittelman, 2012). These reactions are fuelled not only by the emotional impact of

a dementia diagnosis (Aminzadeh et al., 2007; Nicholson, 2013) but also pragmatic implications, such as loss of independence (e.g., revoked drivers license; Byszewski et al., 2013).

Mild cognitive impairment (MCI) is a related concept in the dementia field which is fraught with contention, both in academic literature and diagnostic practice. MCI is defined as a condition whereby a decline in ability is observed across one or more cognitive domains, although everyday functional ability remains *intact* (Albert et al., 2011). As a term, MCI was originally used by Reisburg and associates in the 1980s but later defined as a diagnostic entity by Peterson et al. (1999). There has been an ongoing debate since regarding the definition and diagnostic utility of MCI, which shows no sign of remittance some 20 years later (see Peterson et al., 2014). The release of the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5; American Psychiatric Association, 2013) has arguably added to the controversy, with terms such as dementia and mild cognitive impairment replaced with major and mild neurocognitive disorder (NCD; Breitner, 2014). Mild NCD is identified as a form of cognitive disorder which may or may not progress to dementia (Sachs-Ericsson & Blazer, 2014). Despite these dissensions and changes in terminology, the presence of MCI as a clinical entity has remained a relatively stable prognostic indicator for an increased risk of a dementia pathology over time (Breitner, 2014). Due to the evolving nature of MCI (Gordon & Martin, 2013; Peterson et

al., 2014) and the lack of peer reviewed literature in NZ relating to diagnostic issues around cognitive impairment, the present study will use the term “cognitive impairment” to refer to a diagnosis of dementia and MCI.

In NZ, specialist service professionals such as geriatricians, clinical psychologists, and neuropsychologists are often responsible for providing healthcare service users with a diagnosis of dementia (Ministry of Health, 2013). The process by which a diagnosis is reached and delivered can be variable according to the unique needs and circumstances of the client, available resources for testing, and preferred assessment measures in District Health Board (DHB) regions. In addition to these differences in assessment practices, international literature reports varying levels of depth regarding the disclosure of a dementia diagnosis by practitioners (Bamford et al., 2004; Lecouturier et al., 2008), highlighting that there is no “one size fits all” approach with regard to diagnosis delivery. It is likely that a variation in practices of assigning diagnoses exists amongst NZ based practitioners. Conducting research in this area may initiate ongoing discussions as to what constitutes best practice regarding diagnosis delivery in NZ.

There are a multitude of factors that a practitioner must weigh up when considering how to relay a diagnosis of cognitive impairment to their client. Patient capacity, anosognosia, and the potential for self harm can influence a practitioner’s approach to disclosing a diagnosis (Cornett & Hall, 2008). Client insight levels may be impacted with more severe levels of cognitive decline, thus rendering diagnostic disclosure unhelpful, if not impossible (Ilfie et al., 2009). Suicide rates are also higher in the elderly population in general (Ciripriani, Vedovello, Lucetti, Di Fiorino, & Nuti, 2013; Haw, Harwood, & Hawton, 2009; Van Orden & Conwell, 2011), with slightly increased prevalence of suicide in the dementia population (Erlangsen, Zarit, & Conwell, 2008), particularly after a recent diagnosis (Seyfried et al., 2011). Practitioner reluctance to relay a timely diagnosis can also be due to the negative reactions observed in some individuals (Milne, Woolford, Mason, &

Hatzidimitriadou, 2000), such as shock or denial (Aminzadeh et al., 2007).

Minimal research to date has looked specifically at practitioners’ attitudes regarding diagnostic disclosure within the context of MCI, or asked whether issues applicable to dementia diagnoses are relevant to relaying the presence of MCI to clients. To our knowledge, only one NZ based study has been conducted on this topic. Mitchell, Woodward, and Hirose (2008) examined practitioner attitudes regarding MCI and early dementia in a sample of NZ and Australian geriatric practitioners. Mitchell et al. found that 82% of NZ based practitioners labelled MCI, but 44% of practitioners used words *other* than ‘MCI’ or ‘early dementia’ when delivering a diagnosis to a client. This study is beneficial in providing a starting point for further investigation into why this variation in practice and terminology exists.

The current research will seek to extend the findings of Mitchell et al. (2008) by determining the rationale used when practitioners choose what labels to apply when disclosing an MCI diagnosis. Due to the lack of published research on attitudes regarding the delivery of any cognitive impairment diagnosis in NZ, practitioners were recruited based on having diagnosed dementia or MCI in the previous 12 months. The objectives of this research were to shed light on how diagnosis of cognitive impairment is delivered in NZ, and to illustrate how practitioners delivering diagnoses feel about disclosure issues identified in the literature. The intention was to present results in a practical manner to show trends in current practice, and to clarify what the literature points out as gaps in understanding around the process of diagnosis disclosure.

Method

Research Design

This research examined the processes that practitioners follow when they reach a diagnosis of cognitive impairment. It also investigated their attitudes regarding delivery of diagnosis. Cross sectional information was gathered through an online, self-report questionnaire. Participants were asked about issues that have been

highlighted in international literature around disclosure of a diagnosis of dementia (Bamford et al., 2004; Cornett & Hall, 2008; Fisk, Beattie, Donnelly, Byszewski, & Molnar, 2007; Karnieli-Miller, Werner, Aharon-Peretz, & Eidelman, 2007; Karnieli-Miller, Werner, Aharon-Peretz, Sinoff, & Eidelman, 2012; Mitchell et al., 2008; Werner, Karnieli-Miller, & Eidelman, 2013), as it is unknown if the same issues apply to practitioners in NZ, or with MCI.

Participant Recruitment

The process of recruitment was guided in part by a recently published NZ study which targeted a similar practitioner population (Strauss, Leatham, Humphries, & Podd, 2012). The Australia and New Zealand Society for Geriatric Medicine (ANZSGM), the College of New Zealand Clinical Psychologists (NZCCP) and New Zealand Psychologists for Older Peoples (NZPOPs) were contacted during the process of ethics approval, requesting permission for an email invitation to be sent to members requesting participation in an online survey. At the time of study design, the aforementioned organisations were selected as their members had a higher likelihood of direct involvement in assigning diagnoses of dementia and MCI. Members of the professional networks selected included geriatricians, clinical psychologists, psychiatrists, and neurologists. Although other healthcare services are involved with the diagnosis of cognitive impairment in NZ (e.g., general practitioners), complex assessment methods are generally employed at tertiary level services (BPAC^{NZ}, 2009; Ministry of Health, 2013). Hence, recruitment was focused on practitioners directly involved with cognitive testing and subsequent results delivery. All organisations agreed to send out an email to active members on the researchers’ behalf. After ethical approval was granted, the primary researcher sent an email to a representative of each professional body, who forwarded it to all active members: ANZSGM (135), NZCCP (510), and NZPOPs (79).

Inclusion criteria were that the practitioners were currently practicing in NZ and would have been involved in the diagnosis of dementia or MCI within

the previous 12 months. Participants were not required to disclose which professional body they belonged to, as it is possible that the population of diagnosing practitioners in NZ is small enough for their identities to be determined.

Participants

Of the 57 practitioners who completed the online survey, participants were mostly from three major centres: Auckland, Wellington and Canterbury region. The majority of participants worked primarily in geriatrics (36.5%), followed by clinical psychology (25%), neuropsychology (13.5%) and psychiatry (11.5%). It is also possible that practitioners were involved in multiple professional fields. Although such professions were not specifically targeted during recruitment, two participants were nurses and one practiced internal medicine. Participants varied in levels of experience with diagnosing cognitive impairment: 32% had more than 15 years of experience, 24% had 1-5 years, 22% had 5-10 years, 18% had 10-15 years, and 4% had less than one year of experience.

The Questionnaire

A questionnaire was developed for the purposes of this study and included three sections. Section A collected broad information on demographics and practitioner experience levels, whilst preserving anonymity of participants. In section B, participants were asked questions regarding their diagnostic practices. Response options included *never, sometimes, usually, and always*. The content of items in sections A and B were based on content from a recent questionnaire published by Strauss et al. (2012), which has been used with

a similar population of practitioners in the past. The remainder of section B included questions regarding diagnosis of cognitive impairment; for example, “What terms are used with the client and their family when relaying a diagnosis of MCI?” The four questions in section C were constructed after reviewing available literature on the subject of diagnostic disclosure in dementia and MCI (Bamford et al., 2004; Cornett & Hall, 2008; Fisk et al., 2007; Karnieli-Miller et al., 2007; Mitchell et al., 2008). Participants were given the opportunity to add further information not already captured by the style of the preceding questions, through the inclusion of comment boxes throughout the questionnaire.

Several practitioners currently practising clinical psychology were consulted throughout the development of the questionnaire to ensure that questions were relevant to the intended population.

Data Analysis

Study data was managed by the Massey University Information Technology system, then forwarded to the researcher at the completion of the study for analysis using SPSS version 21.

A combination of qualitative and quantitative information was collected. Data from sections A and B were described in terms of trends, and section C was analysed using conventional content analysis (Berg & Lune, 2012). The intention of the analysis was to describe any patterns that appeared, rather than using predetermined theory to guide the coding process (Hsieh & Shannon, 2005). The process of analysis was informed by Krippendorff (2013)

and Neuendorf (2002). Responses were coded inductively according to the identified concepts in each response; they were then grouped according to a distinctively named primary code. For example, with the question “In your opinion, what do clients and their family find helpful during the process of diagnosis?” semantic units such as *empathy* and *clear language* were assigned to the primary code of *practitioner approach*.

Once the initial primary codes were developed, secondary codes were devised to further classify each subject found in the responses. Due to the length of some participants’ responses, some entries were assigned multiple codes to capture each theme within the response. Refer to Table 1 for an example of how this was approached.

The data was primarily coded by the lead researcher and checked by the study supervisor. Intercoder reliability was verified by cross checking a sample of codes. One rater agreed with 100% of the codes assigned, the second rater agreed with 97% of the codes assigned.

Ethical Considerations

The research protocol for this study was reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 12/07.

Results

Diagnosis Process

Results indicate that of the 57 participants, 84% (n=48) reported diagnosing MCI, 75% (n=43) had diagnosed vascular dementia, 74% (n=42) Alzheimer’s disease, 56% (n=32) age-related cognitive decline, 56%

Table 1

Example of participant responses with more than one sub theme

Question	Participant Response	Primary Code	Sub Theme
In your opinion, what do clients and their family find helpful during the process of diagnosis?	“Chance to go away and think and come back for a second discussion with further questions”	Information and Support	1. Follow up 2. Chance to have a discussion with a professional
	“Person is not alone when given the diagnosis. Face to face discussion with a clinician who is seen to care”	Information and Support	1. Support 2. Chance to have a discussion with a professional

Table 2
Screening Instruments Commonly used by Practitioners

Measure	Always (%)	Most of the time (%)	Some of the time (%)	None of the time (%)
Clock Drawing Test	28.5	28.5	28.5	14
Three Word Recall	25	4	11	61
Mini-Mental State Examination	24	18	42	16
Verbal Fluency Test	20	17	23	40
Addenbrooke's Cognitive Examination – Revised	11	36	31	22
Montreal Cognitive Assessment	3	3	57	37

($n=32$) frontotemporal dementia, and 54% ($n=31$) had diagnosed cognitive impairment due to an acquired brain injury, in the previous year.

The number of available cognitive screening and assessment instruments is extensive; however, the most commonly reported instruments as rated by participants are reported in Table 2. Diagnosis of cognitive impairment *always* included a client interview (97%), client health care records (84%), and informant information (76%). Participants used computed tomography (CT) scan results *always* (37%) or *most of the time* (47%). A personal visit to the client's home (71%) or magnetic resonance imaging (MRI) results (74%) were not used by the majority of participants; these were incorporated *some of the time* to *rarely*

when informing a diagnosis.

Participants were most likely to liaise with the client's GP (42%) or neuropsychologist (38%) when gathering information on the "client's history". For "cognitive testing", a neuropsychologist (60%) was most likely to be consulted, and for "client support and follow up assistance", a social worker (59%), the client's GP, (43%) or a psychiatrist (38%) was most likely consulted. Other professionals and organisations that practitioners were likely to liaise with during diagnosis typically included occupational therapists (12%), Alzheimer's New Zealand (9%), and registered nurses (5%).

When a diagnosis of MCI is conveyed to clients, 83% of participants indicated that the label MCI is used

often during the delivery. The term "early dementia" is used to label MCI *sometimes* (40%). The phrases "normal ageing" (38%), or "age-related cognitive decline" (34%) are also used *sometimes* to label MCI. The terms "subjective memory complaints" (58.3%) and "benign forgetfulness" (81.1%) are *never* used by a large proportion of participants to label MCI. Three participants noted that the terms used were highly dependent on the client and etiology; and four noted that they were usually more specific with their terminology (e.g., amnesic or nonamnesic MCI) according to the client's situation.

With respect to information provided to a client during diagnosis, a summary of participant responses is listed in Table 3. Information on types of support recommended to clients following

Table 3
Types of Information Presented to Client/Family at the Time of Diagnosis

Information presented	Always n (%)	Often n (%)	Sometimes n (%)	Never n (%)	Total N
Explanation of what cognitive Impairment is	38 (80.8)	6 (12.8)	2 (4.3)	1 (2.1)	47
Explanation of the test results, scans, etc	36 (76.6)	11 (23.4)	0	0	47
Information on practical aspects of the condition (e.g., medication, driving, etc)	29 (63)	14 (30.4)	3 (6.5)	0	46
Information on support services	24 (55.8)	17 (39.5)	2 (4.7)	0	43
Information on disease progression	20 (43.4)	17 (37)	8 (17.4)	1 (2.2)	46
Follow up appointment offered	17 (37)	14 (30.4)	15 (32.6)	0	46
Written summary of test results and findings	15 (32.6)	8 (17.4)	18 (39.1)	5 (10.9)	46
Written information about cognitive impairment for the client to take home	5 (10.9)	19 (41.3)	16 (34.8)	6 (13)	46

Note. Entries that were indicated by 20 or more participants are in boldface.

Table 4

Primary Factors Considered by Practitioners when Relaying a Diagnosis

Primary code <i>n</i> (%)	Code definition <i>n</i> (%)
Disclosure is a priority 22 (41)	Diagnosis is usually delivered 7 (13) Family should be notified at least 7 (13) Client has a right to know 1 (2) Diagnosis is always delivered 5 (9) Important to be honest and truthful 2 (4)
Client factors 15 (28)	Diagnosis conflicts with client's individual wishes 7 (13) Client has other illnesses to deal with 4 (7) Lack of insight into illness 4 (7)
Issues of diagnosis are complex 12 (22)	Disclosure can cause harm than help 7 (13) Diagnosis can be inconclusive 4 (7) Sometimes the diagnosis is given but the 'label' is not 1 (2)
Client is a priority 5 (9)	Diagnosis delivery should be tailored to the individual 5 (9)

diagnosis included Alzheimer's New Zealand (33%), various DHB services (11%), GP (5%), Age Concern New Zealand (4%), the Parkinsonism Society of New Zealand (4%), support groups (unspecified; 4%), Ministry of Social Work (2%), Multiple Sclerosis Society of New Zealand (2%), the Stroke Foundation of New Zealand (2%), and social worker (2%). Some participants commented that information provided was dependent on the client's individual circumstances (11%), and that often cognitive impairment is diagnosed in the context of other health problems (5%).

Practitioner Attitudes to Diagnosis

Section C of the questionnaire was designed to ascertain what practitioners believe is helpful for their clients when diagnosed with cognitive impairment, and what practitioners' attitudes are towards diagnostic disclosure. Considered *essential* were: meeting face-to-face with the client when delivering their diagnosis (65.2%), speaking with a family member, friend or caregiver at the time of diagnosis (60.9%), and providing comfort and relief to the client and their loved ones (56.5%). Considered *very important* were: giving the client and/or their loved ones an "answer" (63%), being kept updated by other health professionals

about the client (54.3%), having a follow up appointment with the client to discuss their concerns (45.7%), and being a source of support (43.5%). Reaching a conclusive diagnosis was *somewhat important* for 48.9% of participants. Four participants stressed several differing points of importance that were also considered *essential*: (1) Shifting the focus to managing cognitive impairment, (2) Client safety issues (e.g., driving risk), (3) Giving sufficient time and opportunity to ensure that client/family understand the diagnosis/outcome and feel sufficiently comfortable to ask questions, and (4) At least a written summary of findings.

Table 5

Perceived Consequences of a Diagnosis

Primary code <i>n</i> (%)	Code definition <i>n</i> (%)
Positive consequences 57 (56)	Future planning 21 (21) Ability to access resources 12 (12) "Sense making" 10 (10) Providing a label 5 (5) Growing knowledge 3 (3) Practical benefits (e.g., able to monitor symptoms) 3 (3) Benefits for the family 3 (3)
Variable consequences 29 (29)	Can experience both positive and negative emotional reaction 9 (9) Consequences are context dependent 7 (7) Consequences are influenced by systemic issues 3 (3) Initial reaction (negative), followed by adjustment (positive) 3 (3) MCI diagnosis is associated with uncertainty but also hope 3 (3) Practical implications (e.g., potential loss of driving ability) 2 (2) Can be lack of resources for providing support 1 (1) Some consequences for family 1 (1)
Negative consequences 10 (9)	Negative emotional responses (e.g., distress, fear, anxiety, depression) 8 (8) Experiences of stigma 2 (2)
Issues relaying diagnosis 2 (2)	Practitioners can be hesitant to diagnose if diagnosis is uncertain 2 (2)
Issues relating to ethics 3 (3)	It is not ethical to withhold a diagnosis 3 (3)

Table 6

Perceived Helpful and Unhelpful Elements of a Diagnosis

Primary code <i>n</i>	Secondary code <i>n</i> (%)	Code definition <i>n</i> (%)
Helpful 88	Practitioner approach 35 (39.77)	Clear language 11 (12.50)
		Honesty 8 (9.09)
		Empathy 6 (6.82)
		“Reassurance” (e.g., normalisation, validation, optimism) 6 (6.82)
		Tailored diagnosis approach 4 (4.55)
	Information and support 34 (38.64)	Support from practitioners and services 10 (11.36)
		Explanation (e.g., test results, support options, prognosis) 9 (10.23)
		Information sharing 5 (5.68)
		Planning for the future 4 (4.55)
		Guidance 2 (2.27)
Process of diagnosis 19 (21.59)	Understanding 2 (2.27)	
	Written information 2 (2.27)	
	Chance to have a discussion with professionals 7 (7.95)	
	Being heard 5 (5.68)	
	Follow up 4 (4.55)	
Unhelpful 59	Practitioner approach 32 (54.24)	Time to process information 3 (3.41)
		Unclear language 16 (27.12)
		Focusing on the negative 4 (6.78)
		Being inattentive 3 (5.08)
		Concerns dismissed 3 (5.08)
	Diagnosis delivery 14 (23.73)	Harsh delivery 3 (5.08)
		Incorrect information 3 (5.08)
		Lack of explanation 6 (10.17)
		Diagnosis not in person 2 (3.39)
		Lack of time (e.g., hurried consultations) 2 (3.39)
Process of diagnosis 11 (18.64)	Not giving diagnosis a name 2 (3.39)	
	Unconfirmed diagnosis 2 (3.39)	
	Length of time to receive diagnosis 6 (10.17)	
	Lack of support/follow up 5 (8.47)	
	Implications of diagnosis 2 (3.39)	Threat to autonomy 2 (3.39)

Factors considered when relaying a diagnosis.

Participants were asked about circumstances (if any) in which a diagnosis of cognitive impairment might not be fully disclosed to a client or their family. No comments indicated that diagnosis was ever completely withheld from a client or their family. Results suggest that disclosure is of primary concern when making a diagnosis based on the number of times *disclosure is a priority* featured in participants' qualitative responses (41%). *Client factors* were identified in 28% of participant responses when considering disclosure of a diagnosis; and 22% of qualitative responses indicated that *issues associated with*

diagnosis are complex. Table 4 displays the codes and associated explanations of factors considered by practitioners when disclosing a diagnosis.

Consequences of a cognitive impairment diagnosis.

Figures show that participants indicated more *positive consequences* as a result of a diagnosis (56%) than *variable* (29%) or *negative consequences* (10%). Several comments (5%) were made regarding additional related issues beyond the consideration of positive or *negative consequences* (e.g., “People have a right to know information about their health, so having their human rights upheld is one consequence!”). This was coded as *Issues relating to*

Ethics. The above codes and associated explanations of consequences perceived by practitioners after disclosing a diagnosis are shown in Table 5.

Helpful and unhelpful elements of diagnosis delivery.

Finally, participants were asked their opinion on what their clients find helpful and unhelpful during the process of diagnosis. Of the 147 individually identified codes in the open field comments, there were more helpful (*n*=88) elements of diagnosis than unhelpful (*n*=59). In particular, *information and support* featured the most in participants' comments (39%) when labelling helpful elements of a diagnosis. *Practitioner approach* was noted in 54% of participant comments

when asked about unhelpful elements of diagnosis. Codes and associated definitions can be seen in Table 6.

Discussion

The results from this study involving 57 NZ based practitioners illustrate how complex and multifaceted the process of diagnosing cognitive impairment is in practice. This research sought to present current practices of practitioners involved with diagnosing cognitive decline, and build on previous research (e.g., Mitchell et al., 2008; Strauss et al., 2012) around the processes and attitudes of NZ practitioners in diagnosing cognitive impairment. Several trends were noted following analysis of the results.

Diagnosis Process

As with previous research in NZ on this subject (Strauss et al., 2012), the Mini-Mental State Examination (MMSE; Folstein, Folstein, & McHugh, 1975), Clock Drawing Test (Sunderland et al., 1989), Verbal Fluency Test (Bechtoldt, Fogel, & Benton, 1962) and Three Word Recall (Kuslansky, Buschke, Katz, Sliwinski, & Lipton, 2002) were the most commonly used instruments when reaching a diagnosis of cognitive impairment. The Addenbrook's Cognitive Examination – Revised (ACE-R; Mioshi, Dawson, Mitchell, Arnold, & Hodges, 2006) was rated by 36% of practitioners as used *most of the time*. Only 11% of the participants from this survey reported *always* using the ACE-R compared with 21% reported by Strauss et al. (2012). This result could be due to an improvement in MMSE sensitivity thresholds and ease of use in comparison with the ACE-R (Larner & Mitchell, 2014). This result might also be explained by the withdrawal of the ACE-R and the gap between the introduction of the ACE-III (see Neuroscience Research Australia, 2013), which coincided with data collection for this study.

The use of cognitive test scores alone is not sufficient in determining a diagnosis of cognitive impairment (Iliffe et al., 2009). The finding that practitioners incorporate client interview, client health care records, and informant information for the majority of the time when reaching a

diagnosis, is therefore not surprising. The inclusion of informant information is consistent with current guidelines on diagnostic processes (McKhann et al., 2013). Also consistent with previous research is the tendency for practitioners to involve family or caregivers during diagnosis delivery (Cornett & Hall, 2008; Dautzenberg et al., 2003; van Hout, Vernooij-Dassen, Jansen, & Stalman, 2006). The present results show that diagnosis is almost always given in the company of family or relatives. This is an important step in diagnosis disclosure as it is likely that 1 in 3 clients will not recall their diagnosis (Bradford et al., 2011), even in the case of MCI (Frank et al., 2006).

Results suggest that visiting a client's home to deliver a diagnosis was not common practice across practitioners in the sample. Recent research on client and carers' experiences of assessment suggests that the practitioner-client relationship is enhanced through home visits (Samsi et al., 2013). Participants in the Samsi et al. (2013) study reported feeling more comfortable when assessed and diagnosed in their own home, and frightened when they were visiting unfamiliar clinics. Our results suggest that a large number of practitioners (71%) often do not or are not able to visit clients in their own homes; however, it was not clear from the findings why home visits appeared to be uncommon practice. Though this may be due to practical or systemic restrictions (e.g., limited time), this could be an avenue for consideration when deciding where to conduct future assessments.

The finding that 83% of practitioners used the term MCI to label a diagnosis of MCI is consistent with the 82% of NZ practitioners found in the Mitchell et al. (2008) study. Terms such as early dementia and normal ageing were reasonably frequent in our results (38-40% respectively). The present results sought to extend the findings of Mitchell et al. by asking practitioners to comment on the rationale for this practice. Practitioner comments from the present study illustrated that terms were used depending on the etiology of the client's symptoms, which vary from situation to situation. None of the practitioners in the current study indicated that MCI was an unhelpful label or not considered

a proper diagnosis. This is in contrast with a recent study by Rodda, Gandhi, Mukadam, & Walker (2013), who found that several practitioners felt that MCI was not a helpful concept ($n=20$ or 4% of sample) or a proper diagnosis ($n=6$ or 1% of sample).

To our knowledge, previous research has not examined what information is provided or what happens after clients have received a cognitive impairment diagnosis in NZ. Explaining the nature of cognitive impairment, explaining test results, providing practical information (e.g., driving implications) and providing information on support services are all rated highly amongst the practitioners in our sample. The present results are consistent with international literature, where providing information on support services following diagnosis is considered vital (Wilkinson & Milne, 2003). Alzheimer's New Zealand was the most frequently recommended organisation for clients following diagnosis, illustrating the importance of this resource for providing information to newly diagnosed clients and their families.

Practitioner Attitudes to Diagnosis

Despite even the most experienced practitioners occasionally having difficulty when delivering a diagnosis of cognitive impairment (Lee & Weston, 2011), there is a growing understanding that dementia diagnoses should be revealed to clients in healthcare settings (Byszewski et al., 2007; Gauthier, Leuzy, Racine, & Rosa-Neto, 2013). Previous studies in the United States show approximately half of practitioners withhold a diagnosis of cognitive impairment (Carpenter & Dave, 2004), with many practitioners being reluctant to reveal a dementia diagnosis (Mormont, de Fays, & Jamart, 2012). A recent literature review also found that non disclosure of a dementia diagnosis is a common practice in healthcare settings around the world (Mitchell, McCollum, & Monaghan, 2013a). Results from the present study suggest that, contrary to these international findings, a diagnosis of cognitive impairment is never completely withheld from a client and that disclosure is a priority for the majority of practitioners.

Factors considered when relaying

a diagnosis.

Numerous factors were highlighted in the consideration of how a practitioner relays a diagnosis to their client. In line with previous research on cognitive impairment and diagnosis (Cornett & Hall, 2008), impaired insight, the possibility of causing further harm and the wishes of an autonomous client were given reference to by practitioners in the study. As observed elsewhere (Byszewski et al., 2007; Lecouturier et al., 2008; Samsi et al., 2013), our results highlight the importance of a pre-diagnosis discussion with the client and their family as to their preferences in approaching disclosure. Discussing diagnostic disclosure issues with the client and their family prior to proceeding with assessment is useful (Lecouturier et al., 2008), as this can be an effective way of honouring the client's wishes at the conclusion of the assessment. Some clients prefer to be eased into the results (Connell, Boise, Stuckey, Holmes, & Hudson, 2004), and some prefer diagnosis disclosure to be a progressive process (Byszewski et al., 2007). As seen in the literature (Lecouturier et al., 2008; Cornett & Hall, 2008; Robinson, 2011), there is value in tailoring diagnosis delivery to the individual needs of the client. Therefore, diagnosis delivery must be considered on a case by case basis (Maguire, 2002; Mitchell, McCollum & Monaghan, 2013b).

Practitioners are often faced with the complex interplay between upholding the client's right to their autonomy and upholding ethical principles, such as non-maleficence (e.g., 'do no harm', Gauthier et al., 2013). The subject of ethics is inextricably tied to the delivery of a diagnosis of cognitive impairment because cases where a diagnosis might cause harm or help will vary according to the individual client. Therefore, deciding how to relay such news to a client requires careful consideration and professional judgement from the practitioner. The qualitative findings from this questionnaire highlight a difference in perspective according to a diagnosis of dementia or MCI. Several practitioner comments pointed to a difference in approach between the two diagnoses. The findings from this study do not completely clarify how

practitioners feel about specific types of cognitive impairment and how their perceptions might differ according to the stage of the client's cognitive functioning. However, it is important that ongoing discussions on this topic take place, particularly as increased numbers of older adults are predicted to experience cognitive decline in future.

Consequences of a cognitive impairment diagnosis.

International literature reports a mixture of benefits and harms associated with disclosing a dementia diagnosis (Karnieli-Miller et al., 2012). Practitioners in the present study noted numerous positive (56%), negative (10%), and varied (29%) consequences as a result of delivering a diagnosis of cognitive impairment. The current results illustrate how practitioners observe a brief negative reaction occurring immediately following diagnosis, which tends to dissipate with time. The distribution of the present results suggest that practitioners' attitudes regarding the benefit of a diagnosis are skewed towards the more positive and pragmatic end of the spectrum.

In line with the literature on this subject (Aminzadeh et al., 2007; Illiffe et al., 2009; Vernooij-Dassen, Derksen, Scheltens, & Moniz-Cook, 2006), several practitioners noted the existence of stigma as a consequence of receiving a diagnosis. They also considered this a factor when choosing how to relay a diagnosis. Practitioners in our study also identified distress, anxiety and depression as a negative consequence associated with revealing a diagnosis to a client. Wilkinson and Milne (2003) explained reasons for distress as associated with a diagnosis being withheld, a lack of explanation for symptoms, or by access to resources being restricted when an official diagnosis is not given. Anxiety has also been related to uncertainty regarding prognosis once an MCI diagnosis has been received (Frank et al., 2006). These findings suggest that negative consequences associated with a diagnosis are not only complex, but often multilayered.

Helpful and unhelpful elements of diagnosis delivery.

Literature suggests that one

explanation for why a diagnosis is not always delivered is due to practitioners' own views that providing a label is unhelpful (Bradford et al., 2009). The present study has similar findings with recent research on MCI (Roberts, Karlawish, Uhlmann, Petersen, & Green, 2010), that most practitioners felt a diagnosis is helpful for their clients. Helpful elements of diagnosis observed in present results were a practitioner approach when delivering a diagnosis (e.g., using clear language, being honest); providing information at the time of diagnosis (e.g., explaining test results, planning for the future); and the process of diagnosis (e.g., the chance to have a discussion with a professional).

Several practitioners suggested that being optimistic about the future was an inherent element to their approach when delivering a diagnosis to their client. Their perception was that clients found this optimism helpful when receiving a diagnosis. Lee and Weston (2011) discuss ways in which practitioners can assist their clients in maintaining hope and managing their change in identity as someone who has cognitive impairment. They suggest introducing lifestyle changes as a practical step in maintaining optimism about the future, such as regular exercise, diet, and discussions about changes the client might expect in the future (e.g., changes in driving ability). The current study did not gather specific information on this topic of achieving optimism in practice, however, this could be an avenue of further investigation.

The literature emphasises the importance of follow-up after the disclosure of a diagnosis of cognitive impairment (Lecouturier et al., 2008; Maguire, 2002; Wilkinson & Milne, 2003). In cases of clients with MCI, regular monitoring is essential (Leung et al., 2011). Moreover, clients generally appreciate the opportunity to have a post-diagnostic discussion session (Abley et al., 2013). Our results suggest that a strong emphasis is not necessarily placed on follow-up amongst NZ based practitioners. On the other hand, systemic barriers, such as those discussed by Bradford et al. (2009), may account for why there is a lack of emphasis on follow-up in this sample. One recent study found that follow-

up care and support was provided to those with certain types of diagnoses (Samsi et al., 2013). For instance, Samsi et al. (2013) found that those with vascular dementia and MCI were discharged without follow-up, which lead to feelings of helplessness, shock, and confusion.

Limitations

Several limitations must be considered in the interpretation of these results. First, it is possible that practitioners in this study may have responded in ways that portray their attitudes and practices differently than in reality. A similar study regarding cognitive impairment diagnosis and healthcare providers have suggested social desirability bias to be a significant factor in the interpretation of results (Foy et al., 2007). Practitioners might also perceive their practices, as well as associated benefits or consequences, in a different light than those who are receiving the diagnosis. Previous research has reported an experiential disparity between how practitioners perceive and how family caregivers experience dementia diagnosis (Connell et al., 2004). Further, an associated recruitment bias may have impacted on study results, as suggested in past questionnaire research with a practitioner based population (Kaduszkiewicz, Bachmann, & van den Bussche, 2008; Roberts et al., 2010; Rodda et al., 2013). Of all the practitioners who were sent the email invitation to participate, it might be that more interested, available or experienced practitioners responded to the questionnaire over others in the field.

A second limitation relates to the representativeness of the sample. Other types of healthcare professionals involved with the process of diagnosis were not invited to participate, such as GPs, practice nurses, and social workers. Current research suggests that the perspectives of primary care physicians involved with initial diagnoses of dementia should be investigated further (Aminzadeh et al., 2012). Also, the small sample size means that results may not be generalised to the entire population of practitioners involved in diagnosing cognitive impairment. It is currently unclear how large the population of practitioners who diagnose cognitive

impairment in NZ is. However, previous studies that have explored practitioner processes in NZ relating to the diagnosis of cognitive impairment, have had slightly better response rates (Strauss et al., 2012). The reason for this may be that the topic of disclosure is perceived as a taboo subject (Kaduszkiewicz et al., 2008); therefore, some practitioners may have been hesitant to discuss these issues.

Another limitation was the wording of the questionnaire. Comments left in the open comments boxes by several practitioners revealed that they were unsure if they were being asked specifically about dementia or specifically about MCI. This study is not the first to experience terminology challenges in studying elements of cognitive impairment diagnosis. Rodda et al. (2013) also had difficulty in separating differences in questionnaire responses according to type of cognitive impairment. Our questionnaire was deliberately worded to increase the potential sample size by including practitioners' attitudes on varying severities of cognitive impairment. However, the wording could have been clarified to reflect the difference in attitude toward the diagnosis of dementia versus the diagnosis of MCI.

Concluding Comments

The findings from the current study provide insight into what factors a practitioner might take into consideration when choosing how to impart a potentially life changing cognitive impairment diagnosis. Future research might assess the extent to which practitioner and client attitudes are aligned with each other regarding the actual experience of receiving a diagnosis. A recent systematic literature review on dementia and disclosure reports a considerable increase in research surrounding disclosure issues in the past four years (Werner et al., 2013). Such findings emphasise the relevance of this subject as the numbers of those diagnosed with cognitive impairment in the future will increase. Rigorous empirical research is needed so that changes beneficial to the older adult population can be implemented. The present study and others highlight that making changes to older adult healthcare has a degree of complexity that cannot

be overstated (Iliffe et al., 2009). Due to the increasing longevity of older adults than recorded in previous decades, the demand for healthcare services, and the provision of appropriate follow-up and post-diagnostic care is essential (Cahill et al., 2008; Szymczynska, Innes, Mason, & Clark, 2011).

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Book Review

Casebook of Clinical Geropsychology: International Perspectives on Practice.

By Nancy A. Pachana, Ken Laidlaw, and Bob G. Knight. (Eds.) (2010).

(New York: Oxford. 319pp. ISBN: 978-0-19-958355-3).

Reviewed by Dr. P.S.D.V. Prasadarao, Mental Health for Older People/The Institute of Healthy Ageing, Waikato DHB, Hamilton.

The world's population is ageing. As people grow older, this stage of human life also brings in a wide range of challenges including specific age-related psychological/mental health issues. As baby boomers reach their peak age, and as the average longevity is increasing across the globe, the mental health professionals need to enhance their knowledge and skills in the management of age related issues. Geropsychology, a field of psychology, is aimed at addressing these age-specific issues and it provides comprehensive approaches in the delivery of health care to older persons, their families and to the care systems. It outlines skills in assessment, intervention approaches and management of complex issues across a range of psychosocial issues. Geropsychology offers a multiplex of challenges to clinicians in understanding as well as in the management of a wide range of complex issues. Geropsychology not only aims at dealing with age-related clinical conditions, but it also focuses on strategies for enhancing general wellbeing and quality of life of older adults.

The current volume entitled "Casebook of Clinical Geropsychology: International Perspectives on Practice" is edited by Nancy A. Pachana, Ken Laidlaw and Bob G. Knight, who are internationally known for their

contributions in the field of clinical Geropsychology. It is a major effort contributed by a group of well-known authors and edited by pioneering clinical researchers in this field. This volume is truly international in the sense that the chapters were contributed by leading experts from nations including Australia, Netherlands, New Zealand, Norway, Spain, United Kingdom and the USA.

In this volume, the authors aimed at providing best practice in managing issues of older adults from a Geropsychology perspective. The editors state, the focus of this volume is to provide clinical cases "which encompass complex issues of diagnosis and formulation, assessment and intervention, ethical and legal issues and interdisciplinary perspectives that will appeal" mental health professionals. One of their stated goals is "to provide the reader with insight into best practice in managing complex cases involving older adults from a Geropsychology and/or geriatric psychiatry perspective". In my opinion, they have succeeded in that objective and in this important volume the editors have provided an excellent collection of chapters encompassing a wide range of theoretical issues, age related clinical problems, and psychosocial issues and processes specific to ageing and health. To my knowledge, this is the first book in Geropsychology which focuses on

complex clinical issues specific to older adults using case illustrations.

While this volume is not intended to systematically review the most current research in the field of Geropsychology, its scope is to provide clinical insights into a whole range of topics relevant to Geropsychology and mental health of older adults. This volume contains 17 chapters focusing on issues from age-related clinical conditions (e.g., late life depression, anxiety, bereavement, insomnia, personality disorders,) through application of specific therapeutic approaches (e.g., cognitive behavioural, interpersonal, systemic, psychodynamic and acceptance and commitment therapies) to more contemporary issues applicable to older adults (e.g., mental capacity, suicide, sexual orientation issues, feedback and communication, coping with chronic medical illness, challenging behaviours). It also includes some interesting topics such as treatment in long-term care facilities, supervision issues and the management of oldest-old individuals. Most of these topics were provided with ample clinical case illustrations. As the editors highlight, this volume is not intended to endorse a single theoretical orientation, but it focuses on providing information about the most current therapeutic models (e.g., interpersonal therapy) as well as imparting insights into more traditional approaches (e.g., dynamic therapies) to therapy.

The Casebook of Clinical Geropsychology is an important resource to clinical practitioners working in the area of Geropsychology as well as it provides excellent knowledge and skills to students who are interested in pursuing their training in mental health of older adults and Geropsychology. This volume offers significant clinical insights into the conceptualisation and management of a range of psychological issues in later life. The editors and authors are to be commended for their excellent efforts in preparing such a clinically valuable volume; its strength

certainly lies in its focus on clinical case formulations and illustrations.

Edited volumes are commonly criticized by reviewers for the “exclusion” of certain topics grounded on what the reviewers think should have been included, and I might do the same here. When the editors revise this book in future, it may be worth considering inclusion of other relevant topics such as alcohol and substance use disorders, psychotic disorders, cultural issues, and caregiver burden, which would further enhance the scope of this volume. Inclusion of a general introductory chapter highlighting the current conceptualizations of ageing and Clinical Geropsychology could well provide the reader with a right perspective to this complex field. Minor issue of inconsistency in referencing and citations could be addressed.

Book Review

Pacific Identities and Well-Being: Cross-Cultural Perspectives.

Edited by Margaret Nelson Agee, Tracey McIntosh, Philip Culbertson and Cabrini 'Ofa Makasiale

Otago University Press (2013)

Reviewed by Tansy Brown, Clinical Psychologist

building a robust body of literature that supports good health and well-being for all members of society.

This book brings together a diverse group of practitioners who are seeking to examine and inform therapeutic practices with Pacific peoples in New Zealand, to increase understanding of Pacific ways of being, and hear Pacific voices. The collection of essays, prose and poetry came about through a Pacific Research Health and Wellbeing Symposium: Cross-Cultural Conversations about Pacific Identities, Mental Health and Wellbeing held in 2010, sponsored by the NZ Association of Counsellors and Auckland University Faculty of Education. The editors recognise there is limited literature to assist and guide counselling and psychological practises with Pacific people, especially when Pacific pathways are complex such as tensions between New Zealand and Island-born, challenges of multi-racial ethnic identity, and the influence of spirituality.

The diverse content has presented challenges for the editors and thematic sections are useful to locate pertinent information on topics such as identity and grief. Essay quality is variable but the value lies in the whole, rather than individual parts as the contributors weave traditional and contemporary stories alongside case studies and data analysis. The wider dynamics and ambiguities are reflected in Samoan, Tongan, Māori and Palagi perspectives on assessment and intervention across multiple environments such as church, school and prison settings.

The book contains useful material from many interesting authors. Teina Piripi and Vivienne Body who offer a self-assessment tool. *Tihei-wa Māori Ora* was developed using a Māori creation metaphor that moves the client from *potential* to *actual*. This chapter includes a number of useful visual aids. Melenaite Taumoefolau provides practical considerations of important aspects of culture that might impact on the therapeutic relationship. For example, engagement with kin based and collective activities, identifying the *in-betweeners*, and ways of showing respect such the wearing of ta'ovala – waist mat in Tonga or speaking indirectly with elders and people of rank. Karen Lupe explores indigenous streams being driven by a matriarchal universe, not gender based, and encourages practitioners working with pacific families to understand by “feeling into this different world view with its own forms of perception, processing and interpreting information, the bridges of communicate on are immeasurably strengthened” (p. 228).

This book is easy to read, a useful addition to your Pacific collection if you intend on offering therapeutic services to individuals and their families who identify with Pacific heritage. Although by no means comprehensive, the references signpost additional useful reading. While Pacific peoples continue to be overrepresented in negative statistics, the contributors are likely to continue with their endeavours towards