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Title: A randomised controlled trial of a correspondence-based intervention for carers of relatives with psychosis

Short title: recovery intervention for carers

Prof. Frank P. Deane
Illawarra Institute for Mental Health
School of Psychology
University of Wollongong, Australia

Dr Sarah Marshall
School of Social Sciences and Psychology
University of Western Sydney, Australia

Dr Trevor Crowe
School of Psychology
University of Wollongong, Australia

Dr Angela White
Centre for Youth Substance Abuse Research
The University of Queensland, Australia

Prof. David Kavanagh
School of Psychology and Counselling,
Queensland University of Technology, Australia

Corresponding author: Prof. Frank P. Deane

Illawarra Institute for Mental Health
Building 22
University of Wollongong
Wollongong
NSW, 2522
Australia
Phone: (02) 4221 4523
Fax: (02) 4221 5585
Email: fdeane@uow.edu.au
Abstract

Background: Family members play a crucial role in supporting the recovery of loved ones with psychosis. The journey of recovery is not only traversed by the person experiencing the mental illness, but also by their family. Interventions to support these families have traditionally either focused on psychoeducation, or addressed problematic interactions or expressed emotion. Family programs have far less frequently emphasised supporting family members’ adjustment to the challenges posed by their relative’s disorder or their recovery from associated distress. The study compared a control condition that received only a psychoeducational booklet (Information), and condition also receiving a correspondence-based interactive recovery-oriented intervention (Connections). The Connections group was expected to show greater improvements in recovery knowledge, wellbeing, experiences of caregiving, hopefulness and distress.

Method: A randomised controlled trial was conducted to evaluate the effectiveness of two correspondence-based family interventions delivered to 81 carers of relatives with psychosis.

Results: Intent-to-treat analyses showed no differential outcomes between conditions, but an analysis of participants who substantially completed their allocated treatment showed that carers receiving Connections had significantly more improvements in wellbeing, positive experiences of caregiving and distress.

Conclusions: Correspondence interventions that support carer’s recovery may result in more positive mental health for those who complete key elements of the program compared to information alone. However, many carers do not complete a correspondence program, and this may limit its impact.

Key practitioner message:

• A focus on recovery-oriented interventions holds relevance for carers as well as their loved ones with mental illness
• To our knowledge this is the first RCT of a recovery focused intervention for carers
• Carers may receive positive mental health benefits from recovery focused correspondence programs to the extent that they can be encouraged to remain engaged with such programs

Key words: family; carer; bibliotherapy; recovery; wellbeing
Introduction

It is estimated that 15% of Australian adults are carers of people with mental disorders (Pirkis et al., 2010). Carers play a key role in recovery from mental disorder (Glynn, Cohen, Dixon, & Niv, 2006; Hall & Purdy, 2000; Marsh & Johnson, 1997; Tweedell, Forchuk, Jewell, & Steinnagel, 2004) but frequently experience depression, anxiety and substance abuse problems (Pirkis, et al., 2010). When Australian carers were asked about the impact that the health problems of their relatives had on them, 60% reported experiencing some or a lot of feelings of anxiety or depression (Pirkis, et al., 2010). Although there are high rates of emotional distress amongst carers associated with their caring roles, the focus of interventions aimed at improving outcomes for relatives of people with psychosis have not always addressed this issue. Instead, programs for relatives of people with mental disorder have typically had a primary focus on decreasing interpersonal stress in order to reduce the risk of the affected person experiencing a relapse (Walz, Leucht, Bauml, Kissling, & Engel, 2001). Early studies focussed on attempts to reduce expressed emotion (EE) in families based on observations that families that were high in EE tended to have higher relapse rates (Bebbington & Kuipers, 1994). Interventions focusing on EE typically found reductions in relapse, hospitalisations, medication adherence and family functioning (Pharoah, Mari, Rathbone, & Wong, 2010). Intervention models shifted over time toward providing more support for carers/relatives to reduce burden, distress and improve the functioning of the family (Kuipers, Onwumere, & Bebbington, 2010). Despite these trends, the focus of outcomes has much more frequently been targeted at the individual with mental illness rather than carer’s outcomes.

A recent systematic review of randomised controlled trials of interventions to support carers/relatives of people with psychosis identified 50 studies where outcomes for relatives were also reported (Lobban et al., 2013). The methodological quality of most studies was poor but the review found that 60% of the studies showed a significant positive impact on at least one of the relatives’ outcome domains. However, there was insufficient detail in most studies to be able to clearly identify the key components associated with more effective interventions. Despite the high prevalence of anxiety and depression amongst carers only 19 of these 50 studies (38%) reported “relative’s
emotional response” as one of the outcomes. This included experiences such as anxiety, stress, wellbeing, depression, distress, subjective burden and experience of caregiving. Of the 19 studies reporting relative’s emotional responses as the outcome only four (21%) had a positive effect on these outcomes (Lobban, et al., 2013). Thus, relative’s emotional responses are relatively infrequently the target of interventions and when they are the impact of existing interventions has been modest.

There has been growing awareness to go beyond “illness’ outcomes of individuals with mental illness and for carer interventions to have greater emphasis on “supporting service users and relatives through a process of recovery” (Lobban, Barrowclough, & Jones, 2003, p. 373). There is increasing recognition that close family members travel their own journey to recovery in response to the onset or exacerbation of a relative’s mental illness (Dixon, 2000; Hall & Purdy, 2000; Marshall, Deane, Crowe, White, & Kavanagh, 2013; Spaniol, 2010). Similar to people with mental illness, recovery for relatives and carers involves them moving forward with their life and developing a sense of meaning and purpose, despite the potential for ongoing challenges produced by their relative’s mental illness and related caring or support demands. While recent research has been conducted exploring positive aspects of caregiving (e.g.Chen & Greenberg, 2004; Terence, Lubman, & Clark, 2011; Veltman, Cameron, & Stewart, 2002), this research is limited and has not translated into interventions tailored to support carers’ recovery.

The accessibility and method of delivery of carer programs has also been challenged. Typically, family intervention programs are offered in face-to-face formats to single families or family groups often in the form of psychoeducational workshops (e.g. Falloon, Boyd, & McGill, 1984; McFarlane, 2002). However, geographical difficulties, work commitments, other family and caregiving responsibilities are likely to prevent many carers from attending. Even where family support is accessed, programs often experience high attrition (Barrowclough et al., 1999; Jeppesen, Peterson, & Thorup, 2005). Mailed programs may prove a viable alternative for delivering support to carers. Such approaches hold particular relevance for residents of rural and remote locations (Hayman, 2005; Judd & Humphreys, 2001), and those who experience (or are concerned about) stigma and discrimination (Hayman, 2005). Correspondence programs may therefore appeal to families who are reluctant to seek professional
support for these or other reasons—perhaps as many as half of affected families (Barrowclough, et al., 1999). Further, mailed programs may have a greater reach given lower levels of staff support are needed to deliver the interventions and the large number of carers (15%, Pirkis, et al., 2010) in the community.

Our study aimed to investigate the relative effectiveness of two support programs delivered by correspondence over a 12-month period to carers of relatives with psychosis. The study was a randomised controlled trial, comparing a correspondence-based interactive, recovery-focused program (Connections), with a control intervention offering only psychoeducation in the form of a booklet (Information). It was hypothesised that carers in the Connections group would show greater improvements in recovery knowledge, wellbeing, experiences of caregiving, hopefulness and distress compared to carers in the Information group.

Methods

Participants

Participants were carers who were either self-referred (media advertisement) or referred via general practitioners, mental health professionals or consumer or carer organisations. Criteria for participation included provision of care for a relative who had experienced at least one episode of psychosis. They needed to be caring for a relative who did not have a significant developmental disability, autism spectrum disorder or acquired brain syndrome. Participants were also required to have sufficient oral and written English to participate without translation. Participant characteristics are detailed in the Results section.

Measures

Kessler-10 (K10) (Andrews & Slade, 2001)

The K10 assesses distress over the previous 4 weeks. Scores potentially range from 10-50, with higher scores indicating greater distress. The K10 has high internal consistency and acceptable concurrent validity (Andrews & Slade, 2001; Hides et al., 2007).

Adult State Hope Scale (ASHS) (Snyder C et al., 1996)
The Adult State Hope Scale assesses ‘Pathway’ (3 items)—self-perceived ability to produce effective routes to the respondent’s own goals, and ‘Agency’ (3 items)—perceived ability to move towards and reach goals. The current study used a total across both subscales. Cronbach’s alpha for this scale at Baseline was .91.

**Psychological Wellbeing (PWB) (Ryff & Keyes, 1995)**
The PWB has 18 items, each rated on a 6-point scale from 1, ‘strongly disagree’ to 6, ‘strongly agree’ (6), with higher scores reflecting greater wellbeing. It covers six dimensions: self acceptance, environmental mastery, positive relations, autonomy, personal growth, and purpose in life. This six-factor structure has been confirmed, but the internal consistencies of subscales are modest at best (.33-56) (Ryff & Keyes, 1995). The current study therefore used a total score, which had a Cronbach’s alpha of .83 at Baseline.

**The Experience of Caregiving Inventory (ECI) (Szmukler et al., 1996)**
The ECI is a 66-item self-report measure measuring negative and positive experiences of providing care for a mentally ill relative. Respondents rate the degree to which they have thought about each issue over the previous month on a 5-point rating scale (0= ‘never’ to 4= ‘nearly always’). Subscales have satisfactory internal consistencies and construct validity. Cronbach’s alpha for the ECI-positive and ECI-negative were .87 and .97 respectively (Szmukler, et al., 1996). Similarly for the current study Cronbach’s alpha for ECI–positive was .87 and ECI-negative was .96 at baseline.

**Recovery Knowledge Inventory (RKI) (Bedregal, O’Connell, & Davidson, 2006)**
The RKI has 20 items assessing recovery knowledge and attitudes, which are rated from 1, strongly disagree to 5, strongly agree. Higher scores represent a greater understanding of recovery. Components include roles and responsibilities, non-linearity of the recovery process, self-definition and peers, and expectations. Previous research focused on use of the RKI with health professionals: the current study is the first to apply it in carers. At Baseline, the Cronbach alpha for all items was .79.
**Intervention**

**Information Control**
On allocation to the Information control condition, participants were mailed a 96-page self-paced booklet, containing information on understanding psychosis, diagnoses, causes, substance use and psychosis, treatments, how family members could assist recovery, self care and a list of resources.

**Connections**
Family members in the Connections condition received the information booklet, followed by 12 recovery-focused interactive newsletters. Newsletters 1-8 were posted fortnightly and the last 4 were posted bimonthly. Each newsletter was goal-directed, focusing on strengths and core values, and promoting growth and development. They included first-person stories from family members illustrating the theme and content of the newsletter, development of motivation, goal setting, strategy selection and development of action plans. Ongoing journal-writing encouraged participants to document their recovery journey, including thoughts and feelings about events. A summary of topics and activities in the 12 newsletters is available in Table 1.

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Insert Table 1 about here

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**Adherence to Intervention**
At 6 and 12 months, participants indicated whether they had read the 9 key sections of the information book. In addition, participants in the Connections condition completed a form in every second newsletter, indicating whether they had attempted the key activities in the previous two newsletters (from 1, ‘none’ to 4 ‘all’). Where forms were not returned, research officers collected information on activity completion during phone contacts.

**Procedure**
Ethical approval was received from the University of Wollongong ethics committee (HE07/360) and the study was performed in accordance with the Declaration of Helsinki. Participants completed a brief telephone screen to ensure they met eligibility criteria. Eligible family members were posted detailed project information, a consent form and assessment measures comprising the PWB, RKI, ECI and K10. On return of the consent form, staff contacted participants to arrange an intake phone interview prior to inclusion in the study. During the interview descriptive personal details (e.g., age, education) of the carer and the mentally ill relative was collected. Other details included prior psychiatric service use and support received by carers’ from other support services. The ASHS was also administered by telephone to carers.

After the interview, participants were independently randomised to Information or Connections conditions using a block randomisation approach. Block randomisation used stratification based on the age of the carer’s ill relative (either 25 years and under or over 25 years). The randomisation sequence was generated using an online random number generator by a researcher who did not have direct contact with participants and who was not involved in direct implementation of the intervention. Following completion of the baseline assessment interview, participants were allocated to a group by the research assistant based on their stratification characteristics and the predetermined random sequence. At 12 months, all questionnaires were readministered by post. After completion of the 12-month assessments or upon drop out or withdrawal, participants in the Information condition were posted all 12 Connections newsletters in a single mailout.

**Analyses**

Missing data were addressed using expectation/maximization (EM) procedures, since these were expected to deliver the least biased estimates (Howell, 2008). Repeated measures analyses of variance examined main and interaction effects for Time (Baseline vs. 12 months) and Condition (Information vs. Connections). Carers’ contact with other support service (Present/Absent) was included, to examine possible three-way interactions of Time, Condition and Service Access.
Per-protocol analyses were also undertaken, where participants in the Information Control condition were excluded if they had not read the booklet by the 12-month assessment (N=11) and carers in Connections were excluded if they had not read the booklet or had not attempted at least 75% of the activities (N=24). This approximated program completion, while allowing for omission of activities that were seen as less relevant to their situation.

Results
The CONSORT participant flow diagram for the study is displayed in Figure 1. A total of 81 participants were recruited between September 2008 and May 2010, 41 of whom were randomly allocated to the Information control and 40 to Connections.

Most carers were female (71, 88%) with a mean age of 54 years (SD = 10.2, range 25-73). Most were cohabiting with a partner (50, 62%), while 17 (21%) were separated or divorced, 6 were single, 5 were in a non-cohabiting relationship, and 3 were widowed. Thirty-three (40%) had a university degree, and a further 31 (38%) had another post-school qualification. Fifty-six carers (69%) were employed, 17 (21%) retired or undertaking home duties, and 8 (10%) were unemployed or on benefits. Five identified themselves as Indigenous (13%) and 2 were from other cultures (5%).

The most commonly reported diagnosis of affected relatives was Schizophrenia (34, 42%), followed by ‘psychosis’ (19, 24%), Bipolar Disorder (14, 17%) and Schizoaffective Disorder (6, 7%). Eight (10%) said their relative had multiple diagnoses. Carers reported that their relative’s disorder began an average of 10.5 years previously (SD = 9.1), but said that a formal diagnosis was given only 5.4 years ago on average (SD = 6.36). Most affected relatives were male (52, 64%), and most participants were caring for a son or daughter (63, 78%), with smaller numbers caring for partners (6, 7%), grandchildren (4, 5%), siblings (3, 4%) or another relative (5, 6%). Most participants (65, 81%) reported being the primary carer, and most had daily face-
to-face contact with their relative (55, 69%), with another 17 (21%) having at least weekly contact. Geographic distance and the relative’s refusal to receive support were the primary reported factors limiting contact. Half the carers (41, 51%) reported having contact with other support services at Baseline.

Over the previous 3 months, 69% of carers (51) said that their affected relative drank alcohol, and 55% (41) said the relative smoked cigarettes. Marijuana was reportedly used by 28% (21), amphetamines by 7% (5), crystal methamphetamine by 5% (4), heroin by 1% (1) and other drugs by 5% (4).

Significant differences between conditions in Baseline characteristics were only found for the frequency of face-to-face contact with the affected relative, with daily contact being more likely for participants in Connections (χ²(1) = 6.27, p = .01, Cramer’s V = .28, small effect size). Potential differences between the 46 participants who substantially completed the programs and the remaining 35 were also examined. Those who completed the program were more likely to be employed (χ²(1) = 4.15, p = .04, Cramer’s V = .23, small effect size), and were more likely to have an affected relative aged over 25 years (χ²(1) = 5.09, p = .02, Cramer’s V = .25, small effect size). However, completers and their relatives in the Connections program (16), did not differ from others in that condition on any demographic characteristics (24).

**Intention-to-treat analysis**

Results of the initial analyses revealed no significant Time by Condition interaction (Table 2). Significant improvements across the whole sample were observed with reductions in distress as assessed by the K10 (F[1, 79] = 29.70), reductions in ECG negative caregiving experiences as assessed by the ECG (F[1, 79] = 66.07, all p < .001), and increases in hope assessed by the ASHS (F[1, 79] = 19.46).

**Effects of other support**

Given concerns that treatment effects may be obscured by carers’ access to other sources of support, a post-hoc analysis was conducted with receipt of any other
concurrent Service Support (yes/no) as a factor. Only for ASHS Hope did a significant interaction emerge for Time x Condition x Service Support, F[1,76] = 6.60, p = .01. There was a significantly higher increase in hope over time for participants receiving Connections than for those in the Information control, but only if they were not receiving support from other services.

Per-Protocol Analysis

Results of participants in the Connections condition who read the Information booklet and attempted at least 75% of activities (16) were also compared with those from the Information control who read the booklet (30). Completers of the Connections program had more positive experiences of caregiving, improved psychological wellbeing, and a greater reduction in distress, than did Information control participants who read the booklet (Table 2).

Discussion

This randomised trial tested the impact on carers’ recovery from an interactive program that was delivered by mail, as compared with effects of receiving an information booklet. While an intention-to-treat analysis did not show superior effects of the full correspondence program, both conditions showed improvements in distress, hope and negative caregiving experiences over 12 months. When concurrent service support was included in the analysis it was found that significantly greater increases in hope were experienced by participants receiving the full Connections program than for those in the control condition, but only if they were not receiving other support services. Importantly, a comparison of participants from the two groups who completed a substantial part of their allocated treatment showed superior gains in wellbeing and positive experiences of caregiving and reduced distress from the full program than from Information alone.

The per-protocol analysis suggested that a correspondence-based program may benefit participants who are highly motivated. However, the effect sizes for the more positive effects of the Connections condition over the Information condition were small. In the current study those completing 75% of activities to meet the criterion to be included in the per-protocol analysis comprised only 40% of those in the Connections
condition. Although carer intervention studies do not consistently report adherence rates based on the amount of an intervention completed, the number of completers in the current study appears somewhat lower than other carer interventions that involve direct contact with carers (i.e. not correspondence based). These tend to have adherence rates closer to 60% (e.g., Petrakis, Oxley & Bloom, 2013; Szmukler, Kuipers, Joyce, Harris, Leese, Maphosa & Staples, 2003). The 40% rate of those in the Connections condition who met the per protocol criterion was more similar to other self-help interventions (e.g., Robinson, Turner, Heyman & Farquharson, 2013). A 2010 review of internet-based interventions for psychological disorders found a weighted average dropout rate of 31% (Range: 2%-83%; Melville, Casey & Kavanagh, 2010)—a rate that is comparable to our own one. A factor that appears to influence both attrition and adherence to self-help interventions is the amount of adjunct support provided (e.g., telephone calls from therapists; Brouwer et al., 2011).

Completers in the Connections group were more likely to be employed and to have been caring for an ill relative who was aged over 25 years. Carers in the workforce may be more likely to find the correspondence program engaging, because of its flexibility in comparison to programs requiring clinic attendance. Given the fact that family support programs that integrate recovery concepts are relatively recent developments, long-term carers may have particularly valued the availability and content of the current program.

This study did not have a condition receiving standard services only, so the apparent improvements in the Information control condition could have been due to regression to the mean or other influences. However, the strength of apparent effects from the booklet remained surprising. A recent review of psychoeducational family interventions for schizophrenia described beneficial outcomes for patients’ clinical status and disability, but inconsistent findings with respect to reduced family burden (Magliano & Fiorillo, 2007). The booklet was comprehensive in its coverage of issues, including practical suggestions for coping, and lists of other resources: If the results represent an effect of the information, it may be because some participants were able to adapt these tips or other resources to their issues without needing further support.

The present study had several limitations. Although the sample size for the intention-to-treat analysis was above the median (N = 69.5) of previous randomised
controlled trials (Lobban, et al., 2013), the sample size for the per-protocol analysis was low. The assessors were not blinded but given that respondents were mailed follow-up questionnaires and completed them independently, the potential for bias was likely to be low. We have included a detailed outline of the intervention contents as recommended by Lobban et al., but our study was not designed to identify which specific components were most important (e.g. motivational enhancement, mindfulness, goal setting, planning, homework). The per protocol suggested that those who completed activities had more positive outcomes but we could not determine which activities contributed to these benefits. Finally, the study would have benefited from a longer follow-up to determine how long any positive outcomes were sustained.

Overall, there were indications that provision of practical information may lead to carers experiencing increased hope and decreased distress and negative experiences of caregiving and psychological distress. If carers are not already engaged with carer support services, they may derive additional benefits in hopefulness from receiving activity-focused newsletters over and above information alone. Those carers who complete most of the activities in the Connections newsletters may have more positive experiences of caregiving, improved psychological wellbeing and reduced psychological distress compared to information alone. However, these additional benefits while reliable are modest in magnitude.

It remains difficult for carers to obtain adequate support for them to deal with the challenges of mental disorder. Mailed strategies provide a more accessible way to support carers whose caring duties, employment or remote location prevent them from obtaining access to standard support services. Further refinement of the approach could include automated email delivery which would require less administrative support and associated costs. This would retain the distribution schedule, allowing opportunities for participants to complete the reading and various exercises between deliveries. This delivery over time permits establishment of a sustained “relationship” with recipients which could reduce perceived isolation (Biegel, Milligan, & Putnam, 1994; Dyck, Short, & Vitaliano, 1999). However, there is a need for research to test this hypothesis by varying the delivery timetable and assessing perceived changes in support or isolation.
In common with face-to-face programs for families and carers (Barrowclough, et al., 1999; Jeppesen, et al., 2005), a significant challenge for the mailed programs remains engaging participants and maintaining their engagement in activities that may benefit their recovery. While the program included motivational strategies, the addition of an initial phone interview to elicit motivation may further increase the impact of the full program. Peer support by phone or online may encourage more participants to take full advantage of the program. If this issue is addressed successfully, programs like Connections may offer an important complimentary support to standard family interventions, which may be particularly important for busy carers and those in rural and remote regions.

Acknowledgments

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Conflict of Interest

The authors declare they have no conflict of interest.

References


Figure 1. Consort flow diagram of subject progress through study

Assessed for eligibility (n=105)

Excluded (N=24)
Not meeting inclusion criteria (n=13)
Not enough time to commit (n=4)
Perceived as unsuited to needs (n=2)
Non response following eligibility screen= (n=3)
Participant physically or mentally unwell (n=2)

Randomised (n=81)

Information only (control) condition (n=41)

Baseline questionnaire returned (n=41)
Baseline interview complete (n=41)

12 month questionnaire returned (n=34)
12 month interview complete (n=36)

Withdrawn/drop out N= 5
Unable to contact post baseline interview n=2
Unable to contact post 6 month interview n=2
Not suited to needs n=1

Included in intention-to-treat analysis n=41

Connections condition (n=40)

Baseline questionnaire returned (n=40)
Baseline interview complete (n=40)

12 month questionnaire returned (n=28)
12 month interview complete (n=30)

Withdrawn/drop out N=10
Unable to contact post baseline interview n=2
Unable to contact post 6 month interview n=1
No time/family difficulties n=3
Own physical/mental illness n=1
Own physical illness n=1
Not suited to personal needs n=1
Change in relative’s diagnosis/not relevant n=1

Included in intention-to-treat analysis n=40
<table>
<thead>
<tr>
<th>Newsletter title</th>
<th>Aims</th>
<th>Key activities/exercises</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mapping the road to recovery</td>
<td>To facilitate understanding of recovery for relative with mental illness and within broader family context</td>
<td>1. Documentation of meaning of recovery for ill relative, family and self</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Journal writing task involving documentation of thoughts and feelings about what is happening for self and family*</td>
</tr>
<tr>
<td>2. Introducing family recovery</td>
<td>To facilitate understanding of the importance of accessing information, social support and practical coping skills for family recovery</td>
<td>1. Journal writing task</td>
</tr>
<tr>
<td></td>
<td>To become aware of how family support needs may vary depending on stage of family recovery (e.g. initial awareness/recognising mental illness/living with mental illness in family/acceptance)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To enhance understanding of avoidance and approach strategies and the importance of approach strategies for recovery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To increase awareness of resilience and how it can be fostered among families</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To enhance understanding of uncertainty in relation to longer term effects of mental illness and importance of living life in the present</td>
<td></td>
</tr>
<tr>
<td>3. Increasing awareness of how you react to illness in the family</td>
<td>To increase awareness of typical roles people may assume following a traumatic event</td>
<td>1. Reflective questions to elicit personal response to stress and predominant role and patterns of behaviour</td>
</tr>
<tr>
<td></td>
<td>To introduce mindfulness as a possible strategy to use when facing a challenging situation/interaction</td>
<td>2. Mindfulness of thoughts exercise and reflective questions regarding a challenging interaction with ill relative and how responded/how would like to respond differently utilising mindfulness skills</td>
</tr>
<tr>
<td></td>
<td>To practice mindfulness of thoughts and consider preferred and actual response to challenging life scenario</td>
<td>3. Journal writing task</td>
</tr>
<tr>
<td>4. Strengths</td>
<td>To facilitate understanding of the benefits of focusing on strengths (individual and family) in relation to recovery</td>
<td>1. Completion of weekly diary to reveal personal strengths</td>
</tr>
<tr>
<td></td>
<td>To identify personal and family strengths</td>
<td>2. Reflective questions to reveal family strengths</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. List personal and family strengths</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Reflective questions to reveal current difficulties and how focusing on strengths may assist with challenges</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Journal writing task</td>
</tr>
<tr>
<td>5. Understanding change</td>
<td>To enhance understanding of resistance as a normal process with regards to human behaviour change</td>
<td>1. Identifying a personal goal and documenting the benefits and costs of changing behaviour versus no change</td>
</tr>
<tr>
<td></td>
<td>To identify own resistance with respect to a personal goal</td>
<td>2. Reflective questions to understand the function and purpose of resisting</td>
</tr>
<tr>
<td>6. Overcoming personal barriers</td>
<td>To introduce mindfulness as one way to effectively manage painful emotions/feelings</td>
<td>3. Journal writing task</td>
</tr>
<tr>
<td></td>
<td>To encourage practice of mindfulness in relation to emotions and to consider application to a challenging life scenario</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Mindfulness of emotions exercise</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Rehearsal of mindfulness of emotions with respect to a challenging family situation. Exercise includes reflective questions regarding preferred way of responding</td>
</tr>
</tbody>
</table>
| 7. Identifying your values | To enhance understanding of values and how connecting with them can assist in building a rich, meaningful life  
To encourage identification and documentation of personal values | 1. Reflective questions to identify important things in life  
2. Documenting your personal values using a values clarification tool  
3. Journal writing task |
|--------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------|
| 8. Personal visions and goals part one | To facilitate understanding of the benefits of identifying a personal and family life vision  
To document own life vision  
To understand the benefits of seeking support from others when working towards goals | 1. Reflective questions to identify life vision or purpose  
2. Identifying goals that are aligned with values  
3. Identifying persons to support goal progress  
4. Journal writing task |
| 9. Personal visions and goals part two | To enhance knowledge of the benefits of setting and working towards personal goals for recovery  
To identify and document a maximum of three personal goals to begin working on | 1. Documenting a maximum of three personal goals, varied success levels and review date  
2. Journal writing task |
| 10. Personal visions and goals part three | To understand the benefits of setting regular action plans when working towards goals  
To document a personal action plan for a current goal  
To increase awareness of and practice problem solving as a strategy to use when facing life challenges | 1. Completing an action plan to move towards goals  
2. Reflective questions to assist with problem solving regarding a challenging situation  
3. Journal writing task |
| 11. Identifying family goals and expressing gratitude | To introduce family goals as one strategy to support wellbeing and family recovery  
To identify and document family goals  
To introduce expression of gratitude as a beneficial strategy in facilitating happiness and wellbeing  
To encourage personal expression of gratitude through practical exercises | 1. Identifying a maximum of three family goals to work towards including action plan  
2. Keeping a daily gratitude diary of things in life that thankful for and counting your blessings exercise involving documentation of all things in life (big or small) that grateful for  
3. Journal writing task |
| 12. Reflecting on your journey and planning for your future | To encourage reflection on which tools/strategies in the newsletter series and beyond have been most helpful for recovery, as well as to plan for their continued use  
To encourage sharing of own knowledge/recovery experience with other people (within/outside family) | 1. Reflective expression exercise on personal recovery journey  
2. Exercise reflecting on and documenting tools/strategies have been helpful for own recovery (both within and beyond newsletter series) and plans for continued use and further learning  
3. Reflective exercise focusing on how can use own knowledge/experience of recovery to share with others (within or outside family)  
5. Journal writing task |

a. The journal writing task as described in newsletter 1 is included within each of the 12 newsletters
Table 2. Means and SD for the Intention-to-treat and Per-protocol GLM analysis for Condition and Time

<table>
<thead>
<tr>
<th></th>
<th>Treatment (N=40)</th>
<th>Control (N=41)</th>
<th>Condition x Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline 12 months</td>
<td>Baseline 12 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M SD</td>
<td>M SD</td>
<td>M SD</td>
</tr>
<tr>
<td>PWB</td>
<td>4.49   0.67</td>
<td>4.67   0.46</td>
<td>4.48   0.74</td>
</tr>
<tr>
<td>ECI +ve</td>
<td>2.07   0.61</td>
<td>2.12   0.63</td>
<td>2.28   0.65</td>
</tr>
<tr>
<td>ECI -ve</td>
<td>1.88 0.73</td>
<td>1.32   0.69</td>
<td>2.19   0.67</td>
</tr>
<tr>
<td>ASHS</td>
<td>5.00 1.44</td>
<td>5.93   1.21</td>
<td>5.35   1.62</td>
</tr>
<tr>
<td>K10</td>
<td>2.11 0.80</td>
<td>1.61   0.50</td>
<td>2.02   0.71</td>
</tr>
<tr>
<td>RKI</td>
<td>3.04 0.49</td>
<td>3.11   0.45</td>
<td>3.03   0.43</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Treatment (N=16)</th>
<th>Control (N=30)</th>
<th>Condition x Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline 12 months</td>
<td>Baseline 12 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M SD</td>
<td>M SD</td>
<td>M SD</td>
</tr>
<tr>
<td>PWB</td>
<td>4.41   0.79</td>
<td>4.80   0.49</td>
<td>4.58   0.72</td>
</tr>
<tr>
<td>ECI +ve</td>
<td>2.15 0.54</td>
<td>2.29   0.60</td>
<td>2.36   0.70</td>
</tr>
<tr>
<td>ECI -ve</td>
<td>1.86 0.69</td>
<td>1.24   0.63</td>
<td>2.10 0.69</td>
</tr>
<tr>
<td>ASHS</td>
<td>5.14 1.59</td>
<td>6.19   1.45</td>
<td>5.69 1.57</td>
</tr>
<tr>
<td>K10</td>
<td>2.18 0.81</td>
<td>1.50   0.36</td>
<td>1.86 0.63</td>
</tr>
<tr>
<td>RKI</td>
<td>3.06 0.58</td>
<td>3.12   0.51</td>
<td>2.98 0.44</td>
</tr>
</tbody>
</table>

Note: PWB=Psychological Wellbeing, ECI +ve= Experience of Caregiving Inventory positive subscales mean, ECI –ve=Experience of Caregiving negative subscales mean, ASHS= Adult State Hope Scale, K10 = Kessler 10, RKI= Recovery Knowledge Inventory. Scores are item means.

<sup>a</sup> Condition by Time Interaction, p = 0.035, partial Eta = .097
<sup>b</sup> Condition by Time Interaction, p = 0.045, partial Eta = .088
<sup>c</sup> Condition by Time Interaction, p = 0.029, partial Eta = .103