

What works in family psychoeducation for depression? A component analysis of a six-week program for family-carers of people with depression

Pamela Brady
Maria Kangas
Macquarie University
Katherine McGill
New England Mental Health Service

There is increasing evidence that Family Psychoeducation (FPE) improves outcomes for the person with depression, as well as improving the mental health of their carers. However, which elements of FPE are most important for carers of people with depression has not been investigated. The aim of this study was to investigate whether the ‘big three’ FPE components, education, skills and social support, that have been identified as important in FPE for people with schizophrenia, are equally important in FPE for people with depression. The second aim was to identify whether the relative importance of these three components differ for particular demographic groups. Participants comprised 553 family-carers of people with depression who completed the “Partners in Depression” FPE program. Findings showed that improved coping skills (specifically, communication with the depressed person and self-care) and improved social support were the most important program components for reducing carer distress. Women reported greater benefits than men from the social support and communication skills components of the program. Improvement in knowledge of depression was not related to a reduction in psychological distress. This study provides preliminary evidence of the importance of the skills and support components in FPE for people with depression, particularly for women.

Depression affects around one million Australians per year (ABS, 2008), and its impact extends far beyond the person experiencing the disorder. Family and friends usually provide the majority of the daily emotional and practical support to people experiencing depression and there are a large number of studies demonstrating that this caring role takes a toll on the mental well-being of the family-carer. Research has shown that between 40% to 72% of family caregivers experience clinical levels of psychological distress (Coyne et al., 1987; Heru, Ryan, & Madrid, 2005; Jeglic et al., 2005; McGill, Schniering, & Hazell, 2014), with symptoms typically alleviating if the person they are supporting recovers (Coyne et al., 1987; Jeglic et al., 2005). The most frequently reported problems by those caring for a depressed relative are financial difficulties due to the impact on earning ability of both patient and

caregiver as well as the cost of treatment, feelings of isolation, reduction in social activities, relationship distress, feelings of confusion and being overwhelmed by depressive symptoms, worry about stigma, worry about the future, and being able to access treatment (Ahlström, Skärsäter, & Danielson, 2009; Highet, McNair, Davenport, & Hickie, 2004; Jeglic et al., 2005; Lemmens, Eisler, Buysse, Heene, & Demyttenaere, 2009).

There is substantial evidence that family interventions for patients with schizophrenia, bipolar depression and eating disorders lead to improved outcomes for both patient and carer (Henken, Huibers, Churchill, Restifo, & Roelofs, 2007; Jewell, Downing, & McFarlane, 2009; Lucksted, McFarlane, Downing, & Dixon, 2012; McFarlane, Dixon, Lukens, & Lucksted, 2003). In particular, Family Psychoeducation (FPE) is an evidence based practice that is recognised as part of the

recommended treatment for psychotic disorders by the USA Department of Health and Human Services (SAMHSA, 2009), and the UK's NICE guidelines (NICE, 2014). Studies show that while there are both similar and different challenges in supporting a relative with depression compared to schizophrenia, the overall carer burden is just as significant (Anderson et al., 1986; Angermeyer, Kilian, Wilms, & Wittmund, 2006; van Wijngaarden et al., 2009). Despite these findings, and the high prevalence of Major Depressive Disorder (MDD) (ABS, 2008), the quantity and quality of published research on FPE for depression has lagged behind that for other disorders. However, of those studies that have been done on FPE interventions for MDD, most suggest that these programs lead to improved outcomes with regard to both patient recovery and carer well-being (Clarkin et al., 1990; Fiorillo, Del Vecchio, et al., 2011; Fiorillo, Malangone, & Del Vecchio, 2011; Katsuki et al., 2011; Lemmens et al., 2009; Luciano et al., 2012; Sanford et al., 2006; Shimazu et al., 2011). A recent study also demonstrated the cost effectiveness of FPE for MDD (Shimodera et al., 2012). This study showed the savings generated by the increase in patient relapse-free days for patients whose families received FPE, compared to a control group who received treatment as usual (a combination of medication and supportive psychotherapy), significantly outweighed the costs of providing an FPE program.

FPE interventions have a number of core characteristics. They are educationally orientated programs that focus on providing relatives with an understanding of the illness, developing problem solving, communication and coping skills, and on supporting development of social support networks. Based on models originally developed by Andersen, McFarlane and Falloon (Anderson, Hogarty, & Reiss, 1980; Falloon, Boyd, & McGill, 1984; McFarlane, Lukens, & Link, 1995), FPE interventions differ from traditional family therapy in that they do not assume dysfunction in the family (Dixon et al., 2011). Whilst the primary goals of FPE programs have traditionally been improved outcomes for the patient, there is now an increasing focus in

these programs on improving carer well-being, recognising that the two are interdependent (Lucksted et al., 2012).

Similarly, while there is increasing evidence that FPE for depression is worthwhile, the questions of why it works, or which elements of the programs are most important, and for which people has yet to be investigated. In contrast, recent reviews by Lucksted et al. (2012) and Jewell et al. (2009), spanning three decades of research on FPE for schizophrenia and other psychotic disorders, have identified four elements of successful programs. First, the 'big three' components critical to FPE programs are education (providing knowledge about the illness and treatment), skills (developing the carer's skills for coping with their relative and with their situation) and peer social support (opportunities to meet others in the same situation to reduce feelings of isolation and for shared problem solving). Second, providing family-carers with education, without also providing skills and social support opportunities, is not sufficient for achieving improved outcomes for carer or patient. Third, the education component of FPE is most important at the acute stage of the illness, whilst the support element is the most critical in the longer term. Finally, the most important skills to target appear to be the skills required for communicating effectively with the depressed relative and self-care skills. No previous study has attempted to investigate whether these elements are important in FPE for depression.

Understanding the mechanisms by which FPE for depression works is necessary to inform future delivery and ongoing development of FPE programs. Importantly, despite its demonstrated efficacy and cost effectiveness, FPE for depression is still not widely available (Frank, Rummel-Kluge, Berger, Bitzer, & Hölzel, 2014; Lucksted et al., 2012). Findings from a recent study of the implementation of an Australian FPE program for depression found that 50% of planned groups were cancelled with the overwhelming majority (91%) of group facilitators citing insufficient participant numbers as the primary reason (McGill & Schniering, 2014). Anecdotal feedback from facilitators, as well as

empirical evidence, suggests that practical difficulties in committing to a program over 6-12 sessions, rather than lack of interest, is a key reason why most carers do not attend FPE groups (Shimazu et al., 2011). Another recent Australian study found that organisation factors such as lack of funding and resources, are a key barrier to providing FPE programs for depression (Wirrell, McGill, Kelly, & Bowman, 2014). These findings suggest that factors such as the overall length of FPE programs and alternative models of program delivery need to be considered if these barriers are to be adequately addressed. Understanding which components of FPE for depression are most important and whether this differs according to family-carer characteristics such as gender, age, or relationship to the depressed person, is crucial if program developers and providers are to be able to make informed decisions about program content, format and delivery for future advancements in program development.

The first aim of this study was to investigate whether the 'big three' FPE components, education, skills and support, identified as critical in FPE for schizophrenia (Jewell et al., 2009), are equally important to family-carers supporting a person with depression. The second aim was to identify whether the relative importance of these components differ for particular demographic groups; in particular, gender, employment status and level of baseline distress. This study draws on data from the Australian Partners in Depression (PID) community based program, collected between 2010 and 2012 (Hunter Institute of Mental Health, 2013). The PID program is a six session multi-family FPE program for relatives and carers of people with depression. An efficacy study of the PID program showed very high levels of participant satisfaction with the program as well as significant reductions in levels of participant psychological distress, both at the end of the six week program and at six month follow-up (Hunter Institute of Mental Health, 2013; McGill et al., 2014). However, a component analysis of the program was not part of this study. Importantly, the question of which changes in carer skills, attitudes and behaviours

targeted in the program (the program components) were most strongly related to a reduction in psychological distress was not addressed. Further, whilst the previous study showed that a reduction in psychological distress was moderated by gender and employment status, and that carers with higher baseline distress improved the most, the question of whether these different participant groups benefitted differently from different components of the program was not addressed. Hence, this was investigated in the current study.

Method

Participants

Participants were 553 people who completed the Partners in Depression (PID) program. This represents a subset of all participants who completed the program during its national dissemination between March 2010 and April 2012. A total of 1120 family-carers, friends and professional carers attended the program and completed the baseline questionnaire during this period but for the purpose of this study, 240 non-relatives were excluded. Of the 880 relatives, 553 returned post-program questionnaires that could be matched with baseline responses, representing a 63% response rate.

PID attendees were self-identified family-carers, over the age of sixteen years, who had a family member with depression. They were recruited through health and community settings throughout Australia. Although the program was aimed at carers who were supporting a person who had been diagnosed with MDD, those supporting a person who had not been formally diagnosed or with comorbid conditions were not excluded. Participants were predominantly women (79%) and the average age of the sample was 53 years ($SD=11.9$ years).

Intervention

The *PID* program is a group education course for people who "live with, love or support a person with depression", which was developed by Hunter Institute of Mental Health, Newcastle, Australia (Hunter Institute of Mental Health, 2013). It comprises six 2-hour weekly sessions that cover information about depression and its treatments, coping skills and

self-care (see Appendix A). The program aims to improve participants' mental health and resilience by providing them with relevant information about depression and the carer experience, opportunities to discuss and share their experience, and by engaging participants in a range of activities that encourage self-care, help seeking and positive coping. Program content was informed by a literature review of what information and support carers of people with depression reported wanting, a focus group with the target population, and advice from a reference group of stakeholders. The program was developed to be a stand-alone intervention, with the expectation that facilitators would refer group members who needed additional support to relevant services. Group members are provided with session booklets that include the information covered in the session and work pages for the group activities. The program is run by two health or community professionals with mental health knowledge and group experience, who have attended a standardised two day facilitator training program and completed quality assurance measures during implementation of the program. During the national dissemination period, 211 programs were delivered across Australia with an average of 6.31 participants attending each group. Program delivery occurred in settings where the program was delivered independently of and as part of the treatment for the person with depression.

Measures

Program Components. Information about changes in carer behaviours, feelings and attitudes was collected using 11 Likert scale response items and one free text response item collected at baseline and the completion of the program. These items formed part of a larger questionnaire developed for the initial study (McGill et al., 2014).

Details about these items are provided below:

(i) Items from a *Carer Attitudes and Behaviours Questionnaire (CABQ)* assessed the degree to which the program influenced specific mental health promoting attitudes and behaviours such as understanding symptoms and treatment for depression, engaging in self-care and accessing support services. At the

start, and on completion of the program, participants indicated their agreement with statements that measured the attitudes and behaviours specifically targeted by the program on a five point Likert scale (from 1= *strongly disagree*; 5 = *strongly agree*).

(ii) One free text response item was used at the end of the program which asked, "Overall, what would you say were the *main benefits* you got from participating in the *Partners in Depression* program?"

Psychological Distress The primary outcome measure was the Kessler-10 (K10; Andrews & Slade, 2001). The K10 is a measure of psychological distress. Items are rated on a five point scale and participants indicate how much each item applied to them over the past four weeks. For example, "About how often did you feel tired out for no good reason? 1= none of the time to 5= all of the time". The total score reflects a person's level of overall psychological distress. Scores range from 10- 50 and higher scores indicate poorer mental health. Using the ABS (2008) coding system, total scores of 10-19 were classed as low psychological distress, total scores of 20-29 were classed as moderate psychological distress and total scores of 30-50 were classed as high psychological distress. The K10 has been used in a number of Australian population health studies and has good validity and reliability (Andrews & Slade, 2001). It is frequently used to identify risk of mental disorder (ABS, 2001). Cronbach's alpha for this sample was calculated as .90.

Procedure

Facilitators advertised the availability of the program and people interested in attending contacted the local facilitator to register interest and complete the screening process. Local facilitators distributed the information and consent sheets, baseline and post program questionnaires to participants and the project team sent the six-month follow-up questionnaire to participants who had provided consent to be contacted at a later date. The study was approved by Hunter New England Human Research Ethics Committee and the Macquarie University Human Research Ethics Committee.

Data Analysis

Exploratory and Confirmatory Factor

Analysis was used to reduce the 11 CABQ items to a smaller number of 'program components' (carer behaviours, feelings or attitudes targeted by the program). Multivariate regression analysis was conducted to measure the strength of the relationship between the change in program component measures and decrease in psychological distress. A series of 12 mixed measure analysis of variance (ANOVA) calculations were conducted to investigate the extent to which participants experienced change in each of four program component measures (knowledge, communication, self-care, and reduced isolation) from baseline to post-program, and to identify the degree to which change in program component measures was affected by three between-subjects factors (gender, employed/not employed and baseline distress category). For example, for one of the analyses, a baseline and post-program mean was calculated for the component 'self-care'; an interaction variable was then created to investigate whether the change in the self-care component mean from baseline to post-program was moderated by gender. This analysis was repeated for each combination of the four program components and three demographic variables. Finally, thematic analysis of free text responses to the single question pertaining to main benefits derived from, the PID program was conducted by the first author who reviewed and coded responses based on the primary themes reported by participants.

Results

Participant Characteristics

A total of 553 participants returned post-program questionnaires that could be matched with their baseline responses. Although six month follow up data was collected, the available sample for the six month follow up time point was too small to provide adequate statistical power. Not all participants completed all items on the base-line and post-program questionnaires.

The majority of participants were female (79%), 55% reported that they were in paid work and 67% were aged between 41 and 64 years. The majority of participants were supporting a spouse/partner (40%) or an adult child (28%). Sixty percent of participants

reported a medium level of psychological distress at the start of the program and 11% reported a high level of psychological distress according to the Kessler-10 (Andrews & Slade, 2001). Full demographic characteristics are reported in Table 1.

Tests for significant differences in participant characteristics at baseline showed that females ($M = 20.74$, $SD = 6.90$) had a significant 2.71 point higher average K10 score at baseline, 95% CI [1.32, 4.08] than males ($M = 18.03$, $SD = 6.47$), $t(567) = 3.85$, $p < .001$. Participants who were not employed ($M = 21.35$, $SD = 7.26$) had a significant 2.14 point higher score, 95% CI [1.01, 3.27], than those who were employed ($M = 19.21$, $SD = 6.44$), $t(567) = 3.72$, $p < .001$. Tests for differences in average K10 score at baseline based on relationship to the person with depression, age group and marital status were not significant. Tests for significant differences in mean baseline level of the four program component variables between each demographic group were also conducted and there was no significant difference in these scores.

Factor Analysis

The data set was first divided into two separate samples using random number allocation so that exploratory and confirmatory factor analysis could be conducted on different data. Sample A contained 279 participants and Sample B contained 274 participants. Independent sample t-tests and ANOVA's confirmed there were no significant differences between the two samples with regard to age, gender, relationship to depressed person and mean level of baseline psychological distress (K10).

Exploratory Factor Analysis (EFA) EFA was performed on the eleven items from the baseline Carer Attitudes and Behaviours Questionnaire (CABQ) using Sample A. A Principal Component Analysis with Oblimin rotation was used, specifying a minimum factor loading of .4 and minimum eigenvalue of one. Prior to running the Principal Component Analysis, tests for normality, linearity and multi-collinearity were conducted and the data indicated that not every variable was normally distributed. Given the robust nature of factor analysis and the large

sample size, these deviations were not considered problematic (Allen & Bennett, 2010). A linear relationship was also identified among the variables.

Four factors were identified and in total these accounted for 67% of the variance. The number of factors was further supported by visual inspection of the scree plot. One factor contained four items, one factor contained three items and two factors contained two items each. The items appeared to be logically clustered and were labelled, Knowledge of Depression and Support Services (4 items), Self-Care (3 items), Communication with Depressed Person (2 items) and Feelings of Isolation (2 Items). Factors and factor loadings are shown in Table 2.

Confirmatory Factor Analysis (CFA) The four factor model was then tested with Confirmatory Factor Analysis on the Post-Program Carer Attitudes and Behaviours Questionnaire (CABQ), using data from sample B (n = 306). The model fit statistics showed a reasonable fit with the post program data, CMIN/DF = 2.713, CFI = .918, TLI = .865 and RMSEA = .075. The path diagram for the CFA is shown in Figure 1.

Reality of Scales Based on the factor analysis, the four factor (program components) scales were tested for reliability. The *Communication* scale showed good reliability for both baseline and post-program, $r = .87/.87$ respectively, and it was therefore decided to retain this composite measure despite it comprising only two items. The *Knowledge and Self-Care* scales showed acceptable reliability on the baseline and post-program data, $r = .69/.67$ and $r = .69/.74$ respectively. Whilst loadings for the *Feelings of Isolation* items were strong, the scale showed poor reliability on the baseline and post-program data, $r = .53/.42$ respectively. However, the CFA model showed poor fit if this scale was excluded, CMIN/DF = 11.384, CFI = .649, TLI = .415 and RMSEA = .185, therefore it was decided to retain this component in the analysis, recognising that results must be interpreted with caution.

Program Components Predicting Change in Psychological Distress

In order to determine the relative predictive value of the four factors (program components) in contributing to a reduction in psychological distress, a hierarchical linear multiple regression analysis was conducted. Prior to conducting the multiple regression analysis, testing for assumptions of normality, linearity and homoscedasticity of residuals was carried out and results showed these assumptions were met. No extreme univariate outliers or significant multivariate outliers were identified and missing data was treated list-wise. Based on identified participant differences at baseline, in order to co-vary for gender and employment status, these variables were entered as step one in a hierarchical regression analysis and the four program component variables were entered in step two.

In step one of the hierarchical regression analysis, gender and employment status accounted for a significant 4% of the total variance in reduction in distress on completion of the program, $R^2 = .044$, $F(2, 453) = 9.53$, $p < .001$. In step two, the four program components accounted for an additional 8% of the variance, $R^2 = .12$, $F(5, 449) = 9.85$, $p < .001$, $f^2 = .14$ which is a medium effect size (Cohen, 1988) (See Table 3). Changes in three of the four program components were significantly related to a reduction in psychological distress; reduced *Feelings of Isolation*, improved *Self-Care* and improved ability and confidence in *Communication with depressed person*. Increased *Knowledge of depression and support services* was not a significant predictor of reduction in distress. *Effect of demographic factors on changes in program component measures*

Mixed design ANOVA's showed significant main effects between participant baseline and post program measures for three of the four components targeted by the program; Participants' *Communication with depressed person*, *Knowledge*, and *Self-care* all showed significant improvements ($p < .01$) from the beginning to the end of the program. Baseline and post-program means, standard deviations and effect sizes are reported in Table 4.

Table 1 *Sample Participant Characteristics (n = 553)*

		n	%
Gender	Male	116	21
	Female	437	79
Age	16-25 years	22	4
	26-40 years	105	19
	41- 64 years	349	63
	65+ years	77	14
Employment	Employed	304	55
	Not Employed	249	45
Relationship to person with depression	Spouse/Partner of person with depression	216	39
	Parent of person with depression	155	28
	Other relative of person with depression (e.g. Child, sibling,)	105	19
	Multiple relatives with depression	67	12
Kessler- 10 (pre-PID)	Low distress (10-15)	160	29
	Moderate distress (16-29)	332	60
	High distress (30-50)	61	11

Tests for interaction effects between changes in each of the four program component variables, baseline to post-program, and three demographic variables (baseline distress (K10), gender and employment status) produced three significant interactions. Improvements in *Communication with depressed person and Self-Care* was moderated by level of baseline distress ($p < .001$), with higher levels of baseline distress related to greater improvements in both these components. Women also showed greater improvements in *Communication with depressed person* compared to men but this result failed to reach significance at $p < .01$ level ($p = .026$). Change in *Feelings of Isolation* showed no significant main effect as only women reported a significant improvement between baseline and post program ($p = .004$). Men showed an increase in *Feelings of Isolation* between baseline and post-program, but this result was

not significant ($p = .089$). These interactions are illustrated in Figures 2 and 3 respectively.

Thematic Analysis of Free Text Data

The main benefits of the program most frequently cited by participants in the free-text response question were: sharing experiences with others in a similar situation, for example, "I am not alone" (38%); developing awareness of the importance of self-care and learning coping strategies, including cognitive behavioural therapy (CBT) techniques (33%), acquiring an understanding of depression and how it effects people (30%); learning communication skills and strategies (15%); and obtaining information about support services and resources available (10%). Most participants reported benefits relevant to more than one theme.

Discussion

The first aim of this study was to investigate whether the three components of FPE programs shown to be the most important

Table 2 Exploratory Factor Analysis: Program Factors and Long Factor Loadings (*n* = 296)

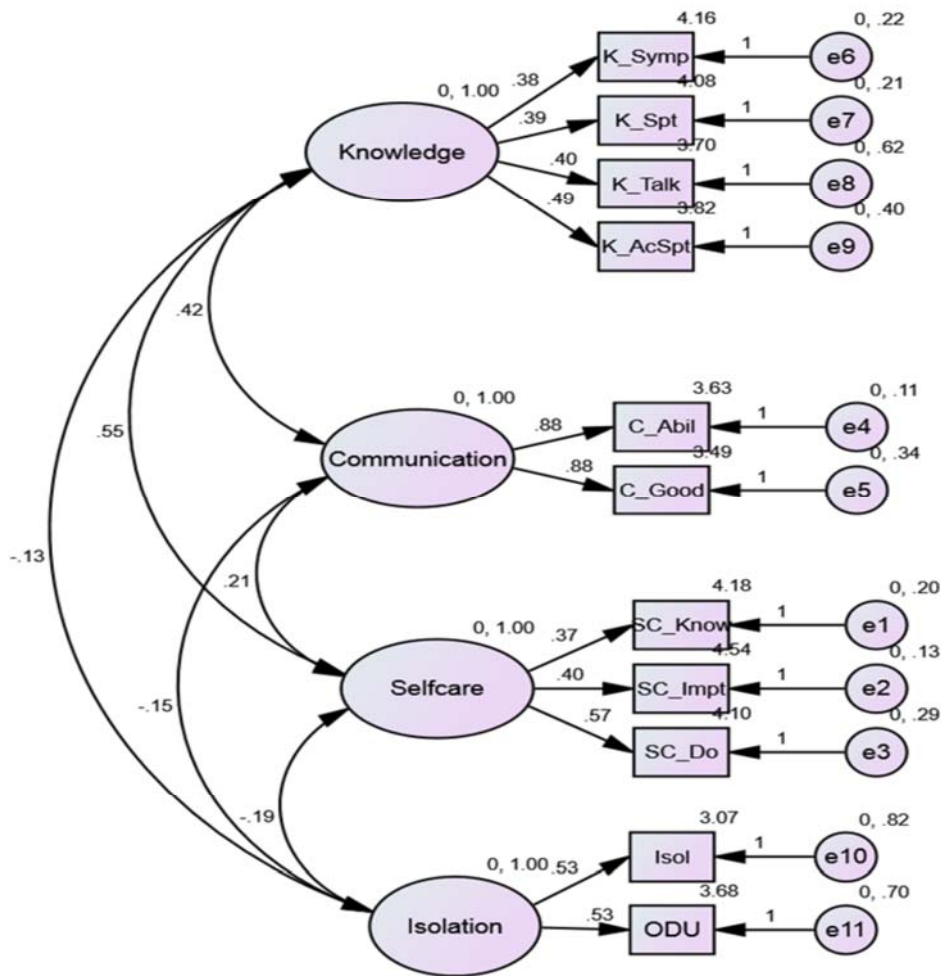
	Knowledge of depression and support services (Knowledge)	Self-Care	Comm. with depressed person (Communication)	Feelings of Isolation (Isolation)	Item-Code
I understand causes, symptoms and treatments for depression.	.595				K_Symp
I have a good understanding of the support services available.	.806				K_Spt
I talk with others about the support experience.	.738				K_Talk
I have been able to access the support I need.	.642				K_AcSpt
I feel others don't understand what it is like to support someone with depression				.770	ODU
I feel a strong sense of isolation due to supporting someone with depression.				.837	Isol
I am confident in my ability to communicate with depressed person.			.917		C_Abil
There is good communication between myself and depressed person.			.935		C_Good
I know what helps promote my own mental health.		.697			SC_Know
I believe it is important to take time out and look after myself.		.829			SC_Impt
I make sure I take time out to look after myself and engage in self-care activities regularly.		.785			SC_Do

in reducing psychological distress in family-carers of persons diagnosed with schizophrenia and other psychotic disorders - education, skills and social support - were also the most important in reducing psychological distress in family-carers of persons with MDD. The results from this study indicated that two of these components, improved carer coping skills (communication with depressed person and self-care) and improved social support (reduced feelings of isolation) were predictive of a reduction in psychological distress. However, whilst participants' knowledge of the illness and available support services showed significant

improvement during the program, this improvement was not shown to be significantly associated with reducing distress. The importance of reduced feelings of isolation was reiterated in the thematic analysis of free text responses which found that 'connecting with others in the same situation' was the most frequently reported benefit of participation in the program.

The second aim of the study was to investigate whether the relative importance of each program component in reducing carer psychological distress differed by gender and employment status or level of psychological

Figure 1: *Confirmatory factor analysis on four component model*



distress reported by the participant prior to commencing the program. A previous study showed that women, people who were not in paid employment benefit, and individuals with higher levels of baseline distress benefitted most from a FPE program (McGill et al., 2014). This study similarly showed that the relative importance of FPE components varied by gender and by the family-carers' baseline level of psychological distress. However, employment status was not found to influence program component outcomes. Women reported more improvement than men in communication skills and those with higher levels of baseline distress reported more

improvement in both communication and self-care skills than those with lower levels of baseline distress. However, only women reported experiencing a reduction in their feelings of isolation through the program.

Overall these results are consistent with the literature about what is important in FPE for schizophrenia and other psychotic disorders; social support and coping skills, particularly around communication with the depressed person and self-care, were both shown to be important in reducing carer psychological distress. However, the finding that improvement in carers' knowledge of depression and the professional support services

Table 3 Hierarchical Regression Results: Program Components Predicting Change in Carer Psychological Distress

Program Factor	R^2	B [95% CI]	β	sr^2
Step One	.04**			
Gender		-1.90 [3.00, -.90]**	-.16	.03
Employment Status		-1.17 [-2.95, -.85]**	-.12**	.02
Step Two	.12**			
Gender		-1.55 [-2.57, -.527]**	-.13	.02
Employment Status		-1.29 [-2.14, -.43]**	-.13	.02
Knowledge		.08 [-.09, .25]	.05	0
Communication		.25 [.01, .49]*	.09	.01
Self-Care		.36 [.14, .61]**	.14	.02
Feelings of Isolation		.71 [.30, 1.12]**	.16	.03

Note: $n = 455$ due to missing data, CI = confidence interval, * $p < .05$, ** $p < .01$

available to them was not related to a reduction in distress was unexpected. This was further supported by the analysis of the free text data which found only 10% of people reporting this information being a key benefit of the program. Previous studies have suggested that the knowledge component of FPE programs is most important at the beginning/acute stage of the illness (Anderson et al., 1986). Accurate data on the length of time the patient had been diagnosed with depression was not available for this study, although it is possible that the majority of people attending the program were beyond the acute stage and were already familiar with this information. It may also be the case, as has been shown in previous studies, that knowledge of depression is a necessary foundation for carer well-being but is not sufficient to lead to improved outcomes on its own (Greenberg, Greenley, & Kim, 1995).

The finding that men did not appear to benefit as much as women from the component of FPE that targeted feelings of isolation and social support was also unexpected; although as noted, results using this measure must be

interpreted with caution. However, this result is not inconsistent with the limited research that has evaluated gender specific effects of FPE for mental illness. For example, a study by McWilliams et al. (2007) of 115 caregivers of relatives with schizophrenia on the acquisition of carer skills and knowledge from a six-week FPE program found significant gender differences in acquisition of different skills, with the largest difference being that women gained more understanding of the importance of caregiver social support, whilst men showed no change on this aspect. Another study based on 43 families by Hsiao (2010) found that female carers of relatives with mental illness experienced higher degrees of perceived caregiver burden and that this was related to their perception of less social support compared to male carers. The mechanism by which FPE results in an improvement for women but not men with regard to social support may be similar to that found in comparative studies of single sex and mixed gender therapy groups for substance abuse, which have found that for women, group cohesion is greater in female only groups and that this mediates improved

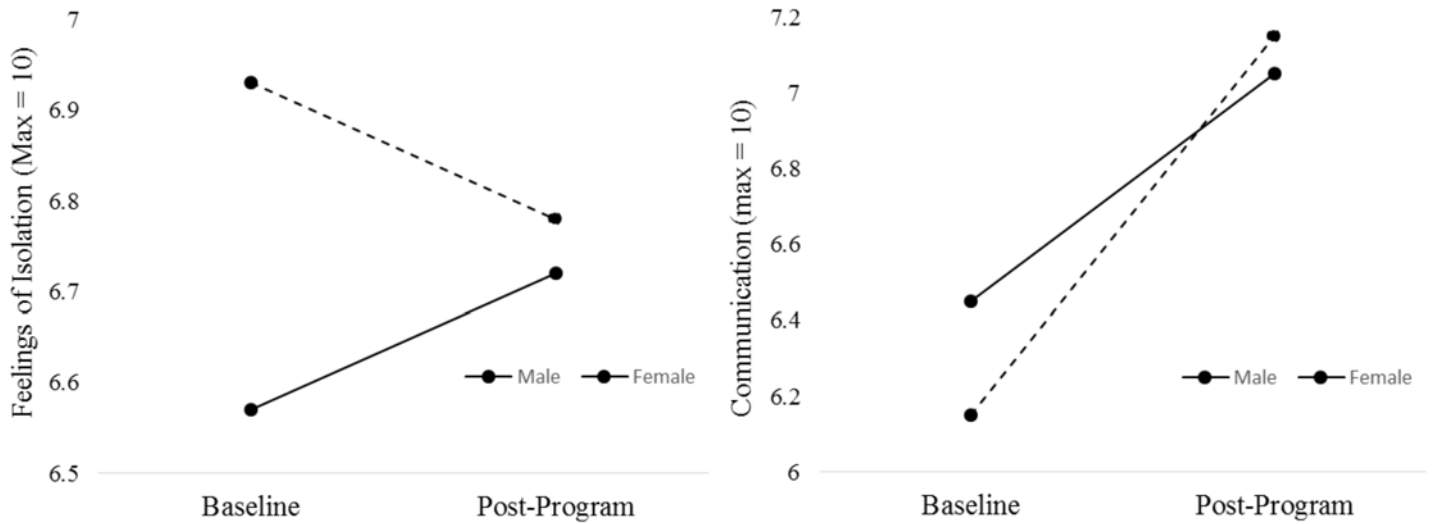


Figure 2: Change in *Feelings of Isolation* and *Communication* components by gender.

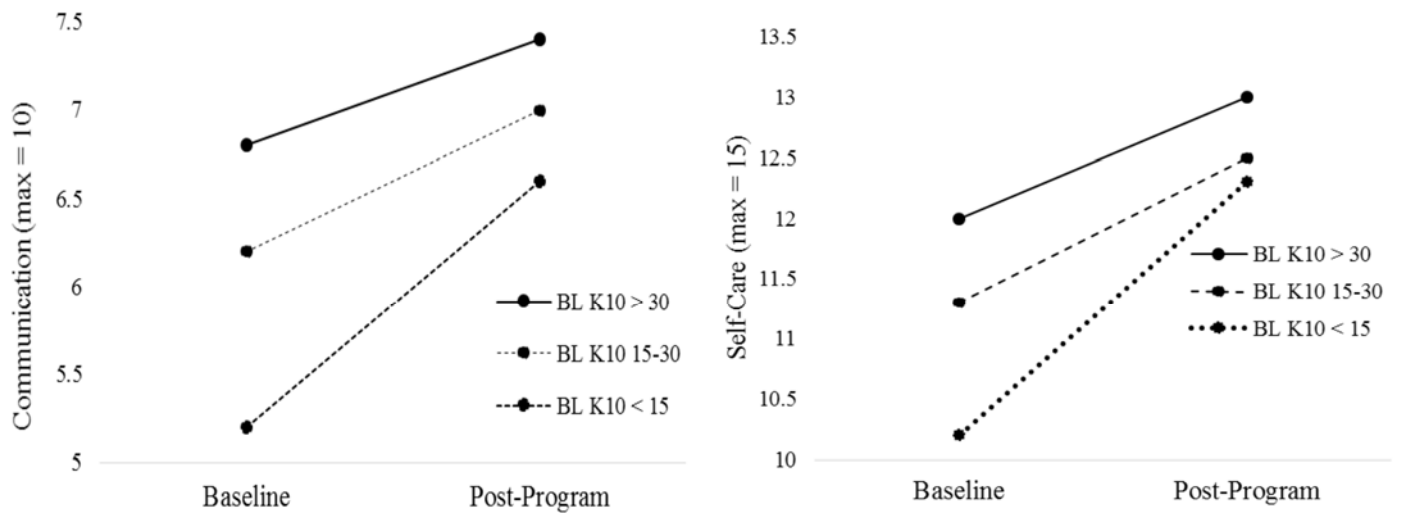


Figure 3: Changes in *Self-Care* and *Communication* components by Baseline Distress (K10).

Table 4 *ain Effects for Change in Program Components Over Time and Interaction Effects with Gender, Employment and Baseline K10*

Variable	Baseline mean(SD)	Post-Program Mean(SD)	F	p-value	Partial eta ²
Self-Care Main Effect	11.37 (1.96)	12.78 (1.58)	F (1, 506) = 229.59	< .001	.312
Self-care x Baseline K10 Category Interaction			F(2, 506) = 10.05	< .001**	.038
Self-care x Gender Interaction			F(1,538) = .673	.412	.001
Self-care x Employed/Not Employed Interaction			F(1, 538) = .496	.482	.001
Communication Main Effect	6.23 (2.18)	7.11 (1.87)	F (1,544) = 124.92	< .001**	.187
Communication x Baseline K10 Category Interaction			F(2, 512) = 5.58	.004**	.021
Communication x Gender Interaction			F(1,544) = 4.956	.026*	.009
Communication x Employed/Not Employed Interaction			F (1, 544) = .726	.394	.001
Knowledge Main Effect	12.77 (2.76)	15.80 (2.00)	F (1,517) = 622.66	< .001**	.546
Knowledge x Baseline K10 Category Interaction			F (2,491) =.64	.527	.003
Knowledge x Gender Interaction			F (1,517) = .85	.357	.002
Knowledge x Employed/Not Employed Interaction			F (1,517) = .765	.382	.001
Isolation Main Effect	6.85 (1.72)	6.77 (1.62)	F (1, 528) =2.964	.086	.006
Isolation x Baseline K10 Category Interaction			F (2, 497) =2.834	.06	.011
Isolation x Gender Interaction			F (1,528) = 8.229	.004**	.015
Isolation x Employed/Not Employed Interaction			F (1, 528) = .242	.623	.000

NB: ** $p < .01$, * $p < .05$

rates of recovery (Greenfield, Cummings, Kuper, Wigderson, & Koro-Ljungberg, 2013; Greenfield, Trucco, McHugh, Lincoln, & Gallop, 2007). It may also be that the large gender imbalance in most of the FPE groups in this study meant that the isolation factor was not addressed for men as much as for women. Similarly, the finding that communication skills improved more for women than for men could be because women felt able to engage more with the communication component in a female dominated group. It is possible that men only groups may have produced different results on both these measures.

The finding that the relative importance of the various program components did not differ by age group or relationship to depressed person requires further investigation. It may be that the perceived care burden itself is comparable across these groups and therefore the information, skills and support needs are also similar. However this finding has not been previously reported and needs replicating with further studies. Winjaarden (2009) highlighted the different experience of caring for a spouse (which was the most common relationship type amongst these participants) compared to caring for an adult child (which is a more common type of relationship among carers of people with schizophrenia) but there have been no studies looking at comparative outcomes.

The lack of a significant difference in outcomes based on carer employment status was also unexpected, based on the results of the previous efficacy study of the program. In particular, it was expected that unemployed carers would benefit more from the support component of FPE than those who were employed, on the basis that employed people may have felt less socially isolated than persons who were not working. However, as aforementioned, results for this measure must be interpreted with caution and need replicating in future studies.

The finding that carers with higher levels of distress at baseline made greater improvements in their coping skills (communication with their depressed relative and self-care skills) than individuals with lower levels of initial distress does not seem surprising. What is interesting is

that level of initial distress did not make a significant difference to improvements in the support component. However, if it is the case, as indicated above, that the majority of participants were supporting someone beyond the acute stage of the illness when knowledge is a critical component of FPE, this finding is consistent with research which highlights the importance of the peer support component of FPE in the longer term.

Implications for Practice and Research

This study adds to the increasing evidence base on the efficacy of FPE for depression. The results provide preliminary evidence for the mechanisms by which FPE for depression may reduce psychological distress in family-carers as well as adding to our understanding of which program components of FPE programs appear to be most beneficial. As noted, despite evidence of its efficacy and cost-effectiveness, FPE for depression is not routinely offered, with organisational resources and insufficient participant numbers the most frequently cited reasons for this. Thus, there is a need to develop models of FPE which can provide carers with the information, skills and support they need at the time it is most needed, but which can be delivered within the resource constraints consistently faced by providers. The results of this study provide some preliminary information about which aspects of FPE programs are most important for which people and several findings have implications for future development and implementation of FPE.

The finding that having the opportunity to share with others in similar situations is a particularly important component of FPE for depression, particularly for women, is relevant if considering development of alternative delivery formats for FPE for depression, such as on-line psychoeducation programs (Stjernswärd, 2012). Whilst interactive programs that provide information about the illness and help develop coping skills may contribute to addressing the knowledge and skills requirements of FPE, the findings from this study suggest that the importance of the support component must not be minimised and that programs that address social support and connection are likely to be more effective than those which ignore these components. Future

research is needed to investigate both the acceptability and efficacy of FPE models which combine the cost effectiveness and timeliness of providing on-line psychoeducation with the need to share with others; for example, models of FPE which combine some face to face sessions and some on-line sessions, or which include on-line forums, as these formats may be one way to address program aims and accessibility within resource constraints.

The finding that the support component of FPE was of greater importance to women than men, and that women gained more from the communication skills component also suggests that FPE for depression may need to be adapted for male family-carers. Initially, further studies are needed to examine whether women and men may need slightly different things from FPE for depression; strategies for developing skills around communication with their partner and their own self-care may need a different emphasis or approach for the different genders.

In contrast, the finding that carers' age and relationship to depressed person did not make a difference to the relative importance of program components suggests that FPE for depression can address core issues that are common across carer life span and irrespective of how a person is related to the depressed person. The need to customise programs for specific groups or deliver them separately adds to the cost and complexity so this finding is of practical relevance. Nevertheless, replicating this finding in future studies is needed to ensure that such customisation is unnecessary. In particular, given the aging population, studies that investigate whether older carers have specific needs is warranted.

Finally, the finding that family-carers experiencing the highest levels of distress at the start of the program were found to benefit most from the communication skills and self-care components, suggests that interventions targeting skill deficiencies is particularly important for this group of carers and highlights that these elements should be focused on when family-carers present with a high level of distress.

Limitations and Future Directions

In the absence of previously validated

measures, this study used specifically designed measures to capture program impact. Future studies of FPE programs need to develop more reliable and standardised measures of program components in order to replicate and validate these conclusions, and to enable outcomes to be compared across different FPE programs. A further limitation of this study was the lack of sufficient data to allow measurement of family-carer wellbeing beyond the end of the program. Future studies that measure participant behaviours, feelings and attitudes targeted by FPE programs over longer time periods are needed. Furthermore, the findings from this study were based on participants' self-reported improvements. Future studies that measure actual changes in behaviour (e.g. around self-care or help seeking), would provide further validation of the efficacy of FPE for depression. Finally, information on the stage and length of the illness of the person being supported would allow us to draw firmer conclusions about the relative importance of FPE components at different time points.

In conclusion, notwithstanding the study limitations, the current findings suggest that providing information about depression, its symptoms and treatments, may be necessary but not sufficient to establish an improvement in wellbeing for those caring for a person with depression. Providing training in skills, notably how to effectively communicate with the depressed person and how to look after oneself, as well as providing opportunities for peer support are important components for improving carer wellbeing. The peer support component of FPE appears to be particularly important for women and should be considered when developing programs, including those that may look to deliver FPE using an on-line format. It also seems that there may be differences in what men require from FPE for depression and more research is needed to investigate male carers' needs for support. By investing in caring for our carers, we can both improve their well-being while also ensuring that those they care for have the best possible chance of recovery.

References

- ABS. (2008). 2007 National survey of mental health and wellbeing: Summary of Results (No 4326.0). Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/4326.0>
- Ahlström, B. H., Skärsäter, I., & Danielson, E. (2009). Living with major depression: Experiences from families' perspectives. *Scandinavian Journal of Caring Sciences*, 23(2), 309-316. doi:10.1111/j.1471-6712.2008.00624.x
- Allen, P., & Bennett, K. (2010). *SPSS: A practical guide version 18.0*. Melbourne: Cengage Learning Australia.
- Anderson, C. M., Griffin, S., Rossi, A., Pagonis, I., Holder, D. P., & Treiber, R. (1986). A comparative study of the impact of education vs. process groups for families of patients with affective disorders. *Family Process*, 25(2), 185-205. doi:10.1111/j.1545-5300.1986.00185.x
- Anderson, C. M., Hogarty, G. E., & Reiss, D. J. (1980). Family treatment of adult schizophrenic patients: A psychoeducational approach. *Schizophrenia Bulletin PsycArticles*, 6(3), 490-505.
- Andrews, G., & Slade, T. (2001). Interpreting scores on the Kessler Psychological Distress Scale (K10). *Australian and New Zealand Journal of Public Health*, 25(6), 494-497. doi:10.1111/j.1467-842X.2001.tb00310.x
- Angermeyer, M. C., Kilian, R., Wilms, H.-U., & Wittmund, B. (2006). Quality of life of spouses of mentally ill people. *International Journal of Social Psychiatry*, 52(3), 278-285. doi:10.1177/0020764006067186
- Clarkin, J. F., Glick, I. D., Haas, G. L., Spencer, J. H., Lewis, A. B., Peyser, J., . . . Lestelle, V. (1990). A randomized clinical trial of inpatient family intervention V. results for affective disorders. *Journal of Affective Disorders*, 18(1), 17-28. doi:10.1016/0165-0327(90)90113-M
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Coyne, J. C., Kessler, R. C., Tal, M., Turnbull, J., Wortman, C. B., & Greden, J. F. (1987). Living with a depressed person. *Journal of Consulting & Clinical Psychology*, 55(3), 347-352. doi:10.1037/0022-006X.55.3.347
- Dixon, L. B., Lucksted, A., Medoff, D. R., Burland, H., B, S., Lehman, A. F., . . . Murray-Swank, A. (2011). Outcomes of a randomized study of a peer-taught family-to-family education program for mental illness. *Psychiatric Services*, 62(6), 591-597. doi:10.1176/appi.ps.62.6.591
- Falloon, I. R. H., Boyd, J., & McGill, C. (1984). *Family Care of Schizophrenia: a problem-solving approach to the treatment of mental illness*. New York, NY: Guilford Press.
- Fiorillo, A., Del Vecchio, V., De Rosa, C., Malangone, C., Del Vecchio, V., Giacco, D., . . . Maj, M. (2011). Family burden in major depression: A multicentric survey in 30 Italian mental health centres *European Psychiatry*, 6(30). doi:10.1016/S0924-9338(11)72331-8
- Fiorillo, A., Malangone, C., & Del Vecchio, V. (2011). The effect of family psychoeducational interventions on patients with depression. *European Psychiatry*, 26(7). doi:10.1016/S0924-9338(11)73912-8
- Frank, F., Rummel-Kluge, C., Berger, M., Bitzer, E. M., & Hölzel, L. P. (2014). Provision of group psychoeducation for relatives of persons in inpatient depression treatment - a cross-sectional survey of acute care hospitals in Germany. *BMC Psychiatry*, 14(1), 88-104. doi:10.1186/1471-244X-14-143
- Greenberg, J., Greenley, J., & Kim, H.-W. (1995). The provision of mental health services to families of persons with serious mental illness. *Research in Community and Mental Health*, 8(181-204).
- Greenfield, S. F., Cummings, A. M., Kuper, L. E., Wigderson, S. B., & Koro-Ljungberg, M. (2013). A qualitative analysis of women's experiences in single-gender versus mixed-gender substance abuse group therapy. *Substance Use & Misuse*, 48(9), 750-760. doi:10.3109/10826084.2013.787100
- Greenfield, S. F., Trucco, E. M., McHugh, R. K., Lincoln, M., & Gallop, R. J. (2007). The women's recovery group study: A stage I trial of women-focused group therapy for substance use disorders versus mixed-gender group drug counseling. *Drug and Alcohol Dependence*, 90(1), 39-47. doi:10.1016/j.drugalcdep.2007.02.009

- Henken, T., Huibers, M. J., Churchill, R., Restifo, K. K., & Roelofs, J. J. (2007). Family therapy for depression. *Cochrane Database of Systematic Reviews*, 3. doi:10.1002/14651858.CD006728
- Heru, A. M., Ryan, C. F., & Madrid, H. (2005). Psychoeducation for caregivers of patients with chronic mood disorders. *Bulletin of the Menninger Clinic*, 69(4), 331-340. doi:00259284 (ISSN)
- Hight, N. J., McNair, B. G., Davenport, T. A., & Hickie, I. B. (2004). "How much more can we lose?": Carer and family perspectives on living with a person with depression. *Medical Journal of Australia*, 181(8), S6-S9. doi:0025729X (ISSN)
- Hsiao, C.-Y. (2010). Family demands, social support and caregiver burden in Taiwanese family caregivers living with mental illness: The role of family caregiver gender. *Journal of Clinical Nursing*, 19(23-24), 3494-3503. doi:10.1111/j.1365-2702.2010.03315.x
- Hunter Institute of Mental Health. (2013). *Supporting those who care: Partners in Depression National Program Outcomes*. Hunter New England Local Health District. Newcastle, Australia.
- Jeglic, E. L., Pepper, C. M., Ryabchenko, K. A., Griffith, J. W., Miller, A. B., & Johnson, M. D. (2005). A caregiving model of coping with a partner's depression. *Family Relations*, 54(1), 37-45. doi:10.1111/j.0197-6664.2005.00004.x
- Jewell, T. C., Downing, D., & McFarlane, W. R. (2009). Partnering with families: Multiple family group psychoeducation for schizophrenia. *Journal of Clinical Psychology*, 65(8), 868-878. doi:10.1002/jclp.20610
- Katsuki, F., Takeuchi, H., Konishi, M., Sasaki, M., Murase, Y., Naito, A., . . . Furukawa, T. A. (2011). Pre-post changes in psychosocial functioning among relatives of patients with depressive disorders after Brief Multifamily Psychoeducation: A pilot study. *BMC Psychiatry*, 11(1), 56-62. doi:10.1186/1471-244X-11-56
- Lemmens, G. M. D., Eisler, I., Buysse, A., Heene, E., & Demyttenaere, K. (2009). The effects on mood of adjunctive single-family and multi-family group therapy in the treatment of hospitalized patients with major depression: A 15-month follow-up study. *Psychotherapy and Psychosomatics*, 78(2), 98-105. doi:10.1159/000201935
- Luciano, M., Del Vecchio, V., Giacco, D., De Rosa, C., Malangone, C., & Fiorillo, A. (2012). A 'family affair'? The impact of family psychoeducational interventions on depression. *Expert Review of Neurotherapeutics*, 12(1), 83-92. doi:10.1586/ern.11.131
- Lucksted, A., McFarlane, W. R., Downing, D., & Dixon, L. (2012). Recent developments in family psychoeducation as an evidence-based practice. *Journal of Marital and Family Therapy*, 38(1), 101-121. doi:10.1111/j.1752-0606.2011.00256.x
- McFarlane, W. R., Dixon, L., Lukens, E., & Lucksted, A. (2003). Family psychoeducation and schizophrenia: A review of the literature. *Journal of Marital and Family Therapy*, 29(2), 223-245. doi:10.1111/j.1752-0606.2003.tb01202.x
- McFarlane, W. R., Lukens, E., & Link, B. (1995). Multiple-family groups and psychoeducation in the treatment of schizophrenia. *Archives of General Psychiatry*, 52(8), 679-687. doi:10.1001/archpsyc.1995.03950200069016
- McGill, K. M., & Schniering, C. A. (2014). *The Australian national dissemination of the Partners in Depression program: Predictors of program delivery*. Unpublished doctoral dissertation, Macquarie University, Sydney, Australia.
- McGill, K. M., Schniering, C. A., & Hazell, T. (2014). *Partners in Depression: Efficacy of a nationally disseminated group education program for carers of people with depression*. Department of Psychology. Unpublished doctoral dissertation, Macquarie University, Sydney, Australia.

- McWilliams, S., Hill, S., Mannion, N., Kinsella, A., & O'Callaghan, E. (2007). Caregiver psychoeducation for schizophrenia: Is gender important? *European Psychiatry, 22* (5), 323-327. doi:10.1016/j.eurpsy.2006.10.009
- NICE. (2014). *Psychosis and Schizophrenia in Adults: Treatment and Management*. Retrieved from <https://www.nice.org.uk/guidance/cg178/resources/guidance-psychosis-and-schizophrenia-in-adults-treatment-and-management-pdf>.
- Sanford, M., Boyle, M., McCleary, L., Miller, J., Steele, M., Duku, E., & Offord, D. (2006). A pilot study of adjunctive family psychoeducation in adolescent major depression: Feasibility and treatment effect. *Journal of the American Academy of Child and Adolescent Psychiatry, 45*(4), 386-395. doi:10.1097/01.chi.0000198595.68820.10
- Shimazu, K., Shimodera, S., Mino, Y., Nishida, A., Kamimura, N., Sawada, K., . . . Inoue, S. (2011). Family psychoeducation for major depression: Randomised controlled trial. *The British Journal of Psychiatry, 198*(5), 385-390. doi:10.1192/bjp.bp.110.078626
- Shimodera, S., Furukawa, T., Mino, Y., Shimazu, K., Nishida, A., & Inoue, S. (2012). Cost-effectiveness of family psychoeducation to prevent relapse in major depression: Results from a randomized controlled trial. *BMC Psychiatry, 12*(1), 40. doi:10.1186/1471-244X-12-40
- Stjernswärd, S. M. J. (2012). Online self-help tools for the relatives of persons with depression - a feasibility study. *Scandinavian Journal of Caring Sciences, 26*(1), 70-80. doi:10.1111/j.1471-6712.2011.00905.x
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2009). *Family Psychoeducation: How To Use the Evidence-Based Practices KITS*. Rockville, MD: HHS Pub No SMA-09-4422.
- van Wijngaarden, B., Koeter, M., Knapp, M., Tansella, M., Thornicroft, G., Vazquez-Barquero, J. L., & Schene, A. (2009). Caring for people with depression or with schizophrenia: Are the consequences different? *Psychiatry Research, 169*(1), 62-69. doi:10.1016/j.psychres.2008.06.013
- Wirrell, J., McGill, K. M., Kelly, P. J., & Bowman, J. (2014). Caring for someone with depression: Attitudes and clinical practices of Australian mental health workers. *Australian Psychologist, 49*(6), 403-411. doi:10.1111/ap.12058

Acknowledgements

The authors wish to thank the Hunter Institute of Mental Health for supporting the project and providing access to the 'Partners in Depression' program evaluation data. The *nib foundation* who provided the funding for the national dissemination of the 'Partners in Depression' program in Australia.

Address for correspondence

maria.kangas@mq.edu.au

Author Biographies

Pamela Brady completed her Masters of Clinical Psychology at Macquarie University in December 2015. She also holds a First Class Honours Degree in Psychology from Charles Sturt University and a Bachelor of Economics (Hons) Degree from the UK. She plans to work as a clinical psychologist in private practice and to pursue her research interest on the impact of mental illness on families. Prior to studying clinical psychology, Pamela spent 25 years working in human resources and organisational psychology for large global organisations.

Dr. Maria Kangas, PhD, is an Associate Professor in Psychology and clinical psychologist at Macquarie University, where she directs the Master of Clinical Psychology program. Her clinical and research expertise is with medical/health, traumatized and stressed populations across the lifespan.

Dr Katherine McGill is a clinical psychologist with specific interest in mental health promotion and suicide prevention. She managed the national dissemination in Australia of the Partners in Depression program from 2009-2012 and is currently the Suicide Prevention Research Manager for the Mental Health Research, Evaluation, Analysis and Dissemination (MH-READ) unit with Hunter New England Local Health District.

Appendix A: Content of *Partners in Depression*
Family Psychoeducation Program

Session No.	Content
1	Introductions and orientation to the program.
2	Developing an insight into the care and support role and the symptoms and treatments for depression.
3	Validating the care and support experience.
4	Introduction to cognitive behaviour therapy and the support role.
5	Suicidality and strategies for communicating with the person living with depression.
6	Help-seeking, support and future planning.

(Hunter Institute of Mental Health, 2013)