

DOES THE INTRODUCTION OF SHARED CARE THERAPISTS IN PRIMARY HEALTH CARE IMPACT CLIENTS' MENTAL HEALTH SYMPTOMS AND FUNCTIONING?

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ABSTRACT

This study reports the results of two self-report measures (PHQ & SF-12v2) completed before and at the end of a therapeutic intervention in a shared mental health care program. A significant reduction in symptoms was noted for 5 diagnostic categories, including depression. Statistically significant improvement was found for items assessing general health, interference in activities and work due to emotional problems or pain, feelings of calm and peace, level of energy, depression, and interference with social activities. The results suggest that integration of mental health therapists within primary care practice settings may significantly improve participants' mental health symptoms and functioning.

Shared (or collaborative) mental health care is increasingly being seen as an important part of health system design within Canada. Central to this model of care is interdisciplinary collaboration, which the Canadian Association of Occupational Therapists (2005) defines as "the positive interaction of two or more health professionals, who bring their unique skills and knowledge, to assist patients/clients and families with their health decisions" (p. 9).

Shared mental health care (SMHC) programs have been found to improve access (Kates, Crustolo, Farrar, & Nikolaou, 2002), decrease wait times (Goldberg, Jackson, Gater, Campbell, & Jennett, 1996) and improve continuity of care (Goldberg et al., 1996; Kates, 1999). The integration of specialized

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mental health services into a primary care setting is associated with a high level of satisfaction for both providers (Kates, Crustolo, Farrar, & Nikolaou, 2002) and clients (Goldberg et al., 1996; Katon et al., 1996), and may reduce inpatient length of stay (Kates, 1999; Kates, Crustolo, Farrar, Nikolaou, Ackerman, & Brown, 2002) and decrease referrals to outpatient clinics (Goldberg et al., 1996; Kates, Crustolo, Farrar, Nikolaou, Ackerman, et al., 2002). Treating individuals in primary care settings also offers opportunities for early intervention and prevention and better interprofessional communication (Farrar, Kates, Crustolo, & Nikolaou, 2001).

In the treatment of major depression, collaborative care was associated with better adherence to treatment, higher levels of patient satisfaction with depression care, and improved depression outcomes when compared with usual care by family physicians alone (Katon et al., 1997). The establishment of a collaborative service within a primary health care setting may also be cost-effective for health care systems (compared to usual care), although some studies indicate it is cost-neutral (Goldberg et al., 1996; Kates, Craven, Crustolo, Nikolaou, & Allen, 1997; Katon, Roy-Byrne, Russo, & Cowley, 2002; Meadows, 1998).

Some limitations have been noted, however. Bower and Rowland (2006) reviewed the effectiveness of counselling in primary care and reported some short-term benefits compared to usual care but no sustained benefits and no reduction of health care costs. In a study that compared a structured depression treatment program (which included counselling) in primary care with usual care by primary care physicians, Katon et al. (1996, 1997) found significantly improved depression outcomes in individuals with major depression but inconclusive benefits for those with minor depression.

The Winnipeg Regional Health Authority (WRHA) (n.d.) initiated a mental health shared care program (WMHSC/L) in the fall of 2003 and tested an evaluation using the PHQ and SF-12v2. Data collected for services provided during the first 18 months of the program, from December 2003 to May 2005, are reported in this paper.

METHOD

Setting

Family physicians (FPs) working in community-based care and fee-for-service settings were asked to participate in the SMHC program. The program began with five full-time therapists and a small group of psychiatrists working part-time. The therapists' backgrounds included clinical psychology, social work, and marriage and family therapy. They had experience working with issues such as depression, anxiety, personality disorders, psychosis, suicidal ideation, relationship issues, life and adjustment issues, and trauma, and were qualified to work with individuals in complex and difficult social contexts.

An initial 2-day educational training workshop was held to familiarize the FPs, therapists, and psychiatrists with the program. The workshop was conducted in November 2003 (prior to the start of clinical services) by two psychiatrists from outside of the province who were familiar with the model.

The program currently serves WRHA primary health care clinics/ACCESS centres as well as four fee-for-service clinics which were originally funded through the Primary Health Care Transition Fund (Health Canada, 2000). Shared care therapists receive about one thousand referrals per year from approximately 40 Family Physicians and 5 Nurse Practitioners.

Participants

A total of 102 participants were involved in the study including 2 who completed only four sessions. The mean age was 40.56 years ($SD = 12.33$); the range was 13 to 67 years. The majority of participants were female ($n = 78, 76.5\%$); 24 (23.5%) were male. Fifty per cent of participants were taking one or more antidepressants, and 38% were on no psychotropic medication.

Measures

In addition to evaluating symptoms, this study included a measure of participants' functioning in order to provide a broader indication of mental health. Individuals referred to therapists were asked to complete two pre- and post-intervention measures: (a) the Patient Health Questionnaire (PHQ) (Spitzer, Kroenke, & Williams, 1999) and (b) the SF-12v2 (Ware, Kosinski, Turner-Bowker, & Gandek, 2002).

The Patient Health Questionnaire (PHQ) is a 16-item, self-administered instrument that measures the presence of common mental health disorders. The PHQ assesses eight diagnoses divided into threshold disorders corresponding to DSM-IV diagnoses (major depression, panic disorder, other anxiety disorder, bulimia nervosa) and subthreshold disorders whose criteria encompass fewer symptoms required for a specific *DSM-IV* diagnosis (other depressive disorder, somatic disorder, bingeing, alcohol abuse). Studies have established the reliability and validity of the PHQ in primary care settings (Spitzer et al., 1999) and specialized treatment clinics (Spitzer, Williams, Kroenke, Hornyak, & McMurray, 2000).

The SF-12v2 Health Survey is a 12-item, self- or clinician-administered version of the SF-36v2 that measures eight domains of health. The instrument is widely used in primary care and other medical settings, and its reliability and validity have been established (Ware et al., 2002). For the purposes of this study, each question was measured individually without following the weighted SF-12v2 scoring protocol.

Procedure

Participants' mental health concerns were initially assessed by the FP, and individuals who were considered appropriate for a short-term intervention (1–12 sessions) were referred to a therapist by the primary care provider. A Threshold Assessment Grid (TAG) (Slade, Powell, Rosen, & Strathdee, 2000), a measure of severity of mental illness, was completed prior to making the referral. The TAG contains seven domains assessing safety, risk, and needs and disabilities; severity is rated from *none* to *severe* (or, in three domains, *very severe*). The total score is tallied by adding the number of check-marks in each column and multiplying by the value for each rating; for example, 0 points for each *none* rating,

and 3 points for each *severe* rating. The minimum score is 0, and the maximum is 24. A score of 5 or more is seen as indicating that referral to a mental health specialist is appropriate (Slade et al., 2003).

Therapists completed a detailed psychosocial assessment, worked with the participant to develop treatment goals, and addressed participants' mental health challenges using a variety of brief individual therapeutic modalities, including Solution-Focused and Cognitive-Behavioural Therapy (CBT), according to their training and the participants' presenting problems. Therapists addressed participants' issues as actively as possible, even, at times, including family members within the sessions. Services were provided at no cost to participants.

Details of the therapy sessions were documented in the participants' chart to allow the FP or NP to follow the therapeutic process. Therapists were also asked to indicate which of three types of therapy they provided: (a) CBT alone, (b) CBT plus "other" therapy, or (c) "other" therapy alone. The lead counsellor had specialized training in CBT and provided an educational workshop for all therapists in CBT within three months of program start-up.

The psychiatrists and therapists were available to the primary physicians and the primary care team for further discussion regarding treatment issues and to answer questions. Physicians and therapists were also encouraged to set aside time in their busy practices to consult each other directly within the office regarding client referral and desired outcomes. Telephone consultation and written communication were offered as options when face-to-face communication was not possible.

Data Collection

Measures were completed pre- and post-intervention for individuals attending five or more sessions. The Regional Health Authority's Health Information Specialist was consulted regarding confidentiality/storage of information. Once therapy had come to a formal close, the information from participants (including age, gender, TAG/PHQ/SF-12v2 scores, psychiatry involvement, and medication) was analyzed and the composite data were used to evaluate the therapeutic outcomes of the program.

Data Analysis

Data were included in the analysis if participants completed all of the following: the two pre-intervention instruments, five or more therapy sessions, and the two post-intervention instruments.

Gender differences in PHQ diagnoses were assessed by the Chi-square test. On the SF-12v2 measures, gender differences were compared with the independent group's *t*-test, while the relationship of age to the SF-12v2 scores was assessed by the Pearson correlation. Differences in the proportion of participants who met the threshold criteria for each of the eight diagnoses measured by the PHQ at pre- and post-intervention were assessed by the Chi-square test for nominal data. Changes in the scores of the 12 items of the SF-12v2 from pre- to post-intervention were analyzed by the paired *t*-test. Bonferonni corrections were applied to the probability values to control for multiple comparisons. Participants who met the diagnostic criteria for major depression on the PHQ at pre-intervention were compared with participants not meeting the criteria for major depression at pre-intervention on the SF-12v2 measures using a two-way repeated measures analysis of variance (ANOVA). Time of

measurement (pre- or post-intervention) was the within-subject factor, and presence of major depression (*yes, no*) was the between-subject factor. The level of significance in all analyses was $p < .05$. SPSS (version 13.0) was used for the analysis of data.

RESULTS

The mean TAG (corrected) score was 5.3 with a range of values from 0 to 12. The average number of sessions was 8.3, and the therapy was completed in an average of 5.2 months (155 days). Therapists used CBT alone with 23% of treatments, CBT plus “other” therapy in 66% of treatments, and “other” alone in the remaining 11%. Six participants were involved in group therapy during their regular sessions with the therapists. Nineteen participants (19%) were assessed by a psychiatrist during the course of therapy. In over 75% of the cases, communication took place between the therapists and the referring care provider in order to discuss the progress of therapy.

There were no significant gender differences in terms of the PHQ diagnoses and on the SF-12v2 measures. Age was significantly correlated with the post-intervention scores of three SF-12v2 variables: “limited in kind of work” ($r = -.27, p = .007$), “pain interferes with work” ($r = +.35, p = .001$) and “have lots of energy” ($r = +.25, p = .010$). In each case, increasing age was associated with poorer functioning.

The number of participants who met the threshold criteria for one of the eight diagnoses measured by the PHQ was large enough to allow for statistical analysis of five diagnoses: somatic disorder, major depression, other depression, panic disorder, and other anxiety disorder. Table 1 shows the change from pre- to post-intervention in the proportion of clients with each of these five disorders. The most significant reduction occurred for major depression, other depression, and other anxiety disorder. A more modest reduction was observed for panic disorder and somatic disorder.

Table 1
Pre- and Post-Intervention Changes in PHQ Diagnoses

Diagnosis	Pre	Post	Chi-square	<i>p</i> -value
Somatic Disorder	26 (26.0%)	15 (14.7%)	3.98	$p = .046$
Major Depression	42 (41.2%)	8 (7.8%)	30.60	$p = .000$
Other Depression	44 (45.8%)	9 (9.0%)	33.70	$p = .000$
Panic Disorder	22 (22.0%)	9 (8.8%)	6.75	$p = .009$
Anxiety Disorder	40 (39.2%)	9 (9.7%)	25.80	$p = .000$

Note. Data are expressed as number (%)

The pre- to post-intervention changes in the 12 items of the SF-12v2 are shown in Table 2. Statistically significant improvement was found for items that assessed general health, interference in activities and work due to emotional problems or pain, feelings of calm and peace, level of energy, depression, and interference with social activities. Little or no change was observed for items measuring physical performance and household task ability.

Table 2
Pre- and Post-Intervention Changes in SF-12v2 Measures

Measure	Pre	Post	<i>t</i>	<i>p</i> -value
General health*	3.25 (1.09)	2.92 (1.04)	4.75	<i>p</i> = .001
Moderate activities limited	2.41 (0.85)	2.46 (0.77)	0.84	<i>p</i> = .401
Climbing stairs limited	2.25 (0.84)	2.32 (0.83)	0.96	<i>p</i> = .339
Accomplish less because of physical health	3.31 (1.44)	3.47 (1.29)	1.48	<i>p</i> = .142
Limited in kind of work	3.40 (1.60)	3.70 (1.38)	2.27	<i>p</i> = .050
Accomplish less because of emotional problems	2.72 (1.28)	3.33 (1.26)	4.81	<i>p</i> = .001
Work less carefully because of emotional problems	3.21 (1.44)	3.75 (1.25)	3.97	<i>p</i> = .002
Pain interferes with work*	2.29 (1.23)	1.99 (1.20)	3.36	<i>p</i> = .005
Felt calm and peaceful*	3.69 (1.10)	2.79 (1.04)	7.55	<i>p</i> = .000
Have lots of energy*	3.51 (1.38)	2.83 (1.03)	5.11	<i>p</i> = .001
Felt depressed	2.62 (1.02)	3.47 (1.13)	7.51	<i>p</i> = .000
Interface with social activities	2.72 (1.30)	3.49 (1.25)	5.68	<i>p</i> = .001

Notes. Data expressed as mean (std dev.)

* High scores = negative functioning

The greatest change based on the analysis in Table 2 was the difference between those participants who met the diagnostic criteria for major depression at pre-intervention ($n = 42$) and those participants who did not ($n = 60$) on the six measures of the SF-12v2. The results of this two-way repeated measures analysis of variance (ANOVA) are presented in Table 3. The scores of depressed participants were consistently poorer in terms of functioning on all six SF-12v2 measures compared to the non-depressed participants (between effects). As expected, the within-effects *F*-values were statistically significant for all six measures, indicating that functioning improved from pre- to post-intervention. Of great interest was the result of the analysis of the interaction between depression and time. For four of the six SF-12v2 measures, the interaction effect was statistically significant, indicating that the difference in functioning between depressed and non-depressed participants narrowed from pre- to post-intervention. In other words, the functioning of participants who were depressed or non-depressed at pre-intervention became more similar following therapy.

DISCUSSION

The present study is retrospective in nature, and causal implications must be treated cautiously. Nevertheless the findings are similar to those found within the literature (Bower, Rowland, & Hardy,

Table 3
Major Depression and Pre- and Post-Intervention Changes in SF-12v2 Measures

Measure	Depression	Pre	Post	Within Effects	Between Effects	Interaction
General health *	Yes	3.45 (1.04)	3.21 (1.05)	$F = 20.11$	$F = 4.40$	$F = 1.29$
	No	3.12 (1.11)	2.72 (0.99)	$p = .000$	$p = .038$	$p = .258$
Accomplish less because of emotional problems	Yes	2.12 (1.02)	3.07 (1.28)	$F = 27.19$	$F = 12.53$	$F = 4.94$
	No	3.13 (1.28)	3.52 (1.20)	$p = .000$	$p = .001$	$p = .029$
Felt calm and peaceful*	Yes	4.05 (1.10)	3.05 (1.08)	$F = 57.03$	$F = 9.29$	$F = 0.58$
	No	3.43 (1.03)	2.62 (0.98)	$p = .000$	$p = .003$	$p = .448$
Have lots of energy*	Yes	4.10 (1.41)	2.98 (0.98)	$F = 32.78$	$F = 9.94$	$F = 8.41$
	No	3.10 (1.22)	2.73 (1.06)	$p = .000$	$p = .002$	$p = .005$
Felt depressed	Yes	2.12 (0.83)	3.33 (1.10)	$F = 65.86$	$F = 9.45$	$F = 7.55$
	No	2.97 (0.99)	3.57 (1.16)	$p = .000$	$p = .003$	$p = .007$
Interference with social activities	Yes	2.26 (1.17)	3.36 (1.23)	$F = 36.25$	$F = 5.59$	$F = 3.98$
	No	3.03 (1.30)	3.58 (1.27)	$p = .000$	$p = .020$	$p = .049$

Notes. Expressed as mean (std dev.)

* High scores = negative functioning

2003) showing that short-term therapy in SMHC programs contributes to reducing symptoms associated with major depression and increasing certain areas of functioning. This has important implications in terms of treatment.

The integration of therapists in a primary care setting in this shared care program appears to have impacted participants' well-being independent of age or gender. In contrast with some previous studies (Katon et al., 1996, 1997), the present study demonstrates an improvement in both "major" and "other" depression as defined by the PHQ. When compared to those who do not have depression, as measured by the PHQ, improvement in symptoms and functioning for participants is robust. These data also reveal a small but significant improvement in participants' ability to cope with pain.

Participants' sense of well-being, including their perception of their general health and feelings of calm and peacefulness, was significantly improved. The results also indicate that functioning, including social functioning, began to normalize in association with improved mental health. Although it is beyond the scope of this study, SMHC participants reported a high level of satisfaction with the services of the shared care program.

The treatment of depression has been shown to impact not only mental health but also physical functioning (Callahan et al., 2005). The improvement noted in this study may therefore extend to benefits for the management of physical health issues. Given that quality of life is affected by both physical and mental health conditions, addressing both within a primary care setting (which increases access and decreases stigma) may positively impact well-being. The study also supports the importance

of early intervention to address mental health issues so that the condition does not negatively affect quality of life, physically and/or mentally (see, for example, Sareen et al., 2006, regarding anxiety).

Limitations

The current study has a number of limitations for outcome comparison, including the absence of a control group, such as a “treatment-as-usual” population. The program evaluation has in essence served as a pilot for further research, because the Winnipeg program is now expecting to expand. Verifying the study’s conclusions using a control group to determine whether or not the findings are simply as a result of regression toward the mean observer bias will be an important aspect of exploration.

In terms of the tools used, both surveys (the PHQ and the SF-12v2) are subjective measures reported by the client and may not have objective validity. In addition, it would have been beneficial to have the primary care provider repeat the TAG some time after therapy was completed. This would have added another clinician’s perspective about the occurrence of improvement in symptoms and functioning.

Because a range of interventions was used, and because there was no standard number of therapeutic sessions, it is difficult to determine what type of therapy was most effective and what number of sessions most impacted symptoms and functioning. Follow-up testing in this study would have been beneficial to determine whether the effects of therapy were sustained.

Information regarding use of medication and psychiatric involvement was limited, and so the exact impact or lack thereof was not measured. Another aspect that could affect the outcome of therapy, but was not taken into account, was the influence of participants’ support networks. Information regarding participation in self-help groups and the involvement of family members would have added to the range of factors that may have impacted functioning and symptoms in participants.

CONCLUSION

In this program evaluation, the involvement of shared care therapists within primary care practice settings appears to have resulted in improved mental health symptoms and functioning in the short term. Further study, including participant feedback and the measurement of the long-term effects of short-term therapy in this type of setting, would advance our knowledge of collaborative care in the community.

RÉSUMÉ

Cet article présente l’évaluation d’un programme de soins partagés en intervention thérapeutique dans le domaine de la santé mentale ; les résultats ont été mesurés à l’aide de deux instruments d’auto-évaluation, le PHQ et le SF-12v2. On note une réduction significative des symptômes liés à cinq types de diagnostics, dont la dépression. Les résultats montrent également une amélioration statistiquement significative à divers niveaux chez les participants : l’état de santé général, une diminution des répercussions de la souffrance ou des problèmes émotionnels sur les activités quotidiennes et le travail, une sensation accrue de calme et d’apaisement, une énergie croissante, le soulagement de la dépression et une diminution des répercussions de la maladie sur les activités sociales.

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