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The comparison of effectiveness of two modalities of mental health nurse follow-up programmes for female outpatients with depression in Taipei, Taiwan

Fei-Hsiu Hsiao RN, PhD
College of Nursing, Taipei Medical University, No. 250 Wu-Hsing Street, Taipei

Tsung-Tsair Yang MD, PhD
Director of Department of Psychiatry, Cardinal Tien Hospital, Assistant Professor, Fu-Jen University, School of Medicine

Chiao-Chicy Chen MD, PhD
Director & Associate Professor, Department of Psychiatry, Songde Branch, Taipei City Hospital, Taipei Medical University

Shang-Ying Tsai MD
Chief & Associate Professor, Department of Psychiatry, Taipei Medical University and Hospital

Kuo-chang Wang PhD
Professor, Department of Health Education, National Taiwan Normal University

Yu-Ming Lai RN, MSN
Instructor, School of Nursing, Chang-Gung University

Chang-Jer Tsai MD
EMBA Chief, Section of Community Psychiatry, Department of Psychiatry, Songde Branch, Taipei City Hospital

Wen-Yin Chang RN, PhD
Associate Professor, Graduate Institute of Nursing, Taipei Medical University

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Correspondence:
Fei-Hsiu Hsiao
College of Nursing
Taipei Medical University
No. 250 Wu-Hsing Street
Taipei
110 Taiwan
Telephone: 886 227 361661 Ext. 6317
E-mail: hsiaofei@tmu.edu.tw

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The comparison of effectiveness of two modalities of mental health nurse follow-up programmes for female outpatients with depression in Taipei, Taiwan

Aims and objectives. This study compares the effectiveness of two modalities of mental health nurse three-month follow-up programmes: telephone counselling programme and group therapy programme for female outpatients with depression.

Background. The lifetime prevalence of major depression is 15% and is about twice as common in women as in men. Outpatients with depression often discontinue their treatment after the initial visits to their physicians.

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Methods. This study used a quasi-experimental, pre–post-test comparison group design. Twenty-six female outpatients with depression were assigned to one of follow-up programmes: telephone counselling programme or group therapy programme. To qualify for group therapy programme, potential participants were required to come to group sessions weekly. To be accepted into telephone counselling programme, potential participants had to be able to be contacted by phone regularly. Mental health nurse three-month follow-up programmes included care management and structured psychotherapy. Patients in telephone counselling programme received 10 regular telephone calls of 30–60 minutes each. Patients in group therapy programme received 12 sessions of weekly group meetings of 90–120 minutes each.
Results. Wilcoxon signed ranks tests provided evidence that the group therapy programme ($S = -52{\cdot}5$, $p < 0{\cdot}001$; $S = 31{\cdot}5$, $p = 0{\cdot}046$) and telephone counselling programme ($S = -36$, $p = 0{\cdot}002$; $S = 25$, $p = 0{\cdot}050$) follow-up programmes were effective in terms of relieving depressed symptoms and improving quality of life. According to Quade's analysis of covariance, telephone counselling programme and group therapy programme appeared to have similar effects of relieving depressed symptoms ($F_{(1,24)} = 0{\cdot}06$, $p = 0{\cdot}813$) and increasing quality of life ($F_{(1,24)} = 0{\cdot}07$, $p = 0{\cdot}792$). While there was no significant difference in using emergency services ($\chi^2_{(1)} = 0{\cdot}89$, $p = 0{\cdot}539$) between telephone counselling programme and group therapy programme, the rate of adherence to scheduled outpatient appointments with psychiatrists was higher among patients in group therapy programme than patients in telephone counselling programme ($\chi^2_{(3)} = 8{\cdot}67$, $p = 0{\cdot}034$).
Conclusions. Establishing two modalities of mental health nurse follow-up programmes in Taiwan could benefit patients with different needs.
Relevance to clinical practice. Mental health nurses specialized in management of depression could provide not only care management but also structured psychotherapy.

Key words: group therapy programme, mental health nurse follow-up programme, pretest–post-test comparison group design, quality of life, telephone counselling programme, women with depression

Introduction

The lifetime prevalence of major depression is 15% and is about twice as common in women as in men (Weissman *et al.* 1996). Women's vulnerability to depression is related to psychological and social factors (Ruble *et al.* 1993, Kornstein & Wojcik 2002). Internalized traditional social prescriptions of female behaviours influence women to rely on the opinion of others, to be dependent on others for their approval and to blame themselves for failure. Accordingly, these factors promote a self-perception of powerlessness, contributing to states of dependency, repression and vulnerability to depression. More than two-thirds of women experience a severe life event preceding the onset of depression (Brown & Harris 1989, Karp & Frank 1995, Nazroo *et al.* 1997, Kornstein & Clayton 2002). Specific female stressors include women's roles as wives and mothers, childcare responsibilities, poverty and employment, violence against women, housing and reproductive problems. Suffering from depression reduces women's capacity to fulfil their roles in everyday lives. The Global Burden of Disease study (Murray & Lopez 1996) states that depression is a leading cause of disability and will account for 15% of the disease burden worldwide by the year of 2020. Because of the high prevalence rate of depression and associated disability, the World Health Organization strategy for mental health emphasizes the management of depression in community (World Health Organization 2001).

In Western societies, primary care physicians and nurses are trained to manage the majority of depression patients in the community. However, in Taipei, the biggest city of Taiwan, primary care physicians and nurses have just begun to receive training to care for outpatients with depression. Therefore, 62% of outpatients with depression are treated by psychiatrists in the outpatient department of hospitals

(National Health Insurance 2004). Almost 30% of patients with depression only received outpatient treatment once in two years. The time constraints of psychiatrists reduce their ability to provide comprehensive follow-up care. An insufficient follow-up programme may lead patients to discontinue treatment, after receiving an initial antidepressant medication. Few studies specifically examine a nurse follow-up intervention programme focused on improving the discontinuity problem in Taiwan. Therefore, there is a need to develop a follow-up intervention that is acceptable for depression patients in Taiwan.

In Western societies, the regular follow-up has been developed to enhance the adherence of patients with treatment. There are two different care models in follow-up. For one care model, the element of follow-up is care management. For the other care model, the main component of follow-up is care management supplemented by structured psychotherapy. Care management includes patient education, monitoring patients' conditions and their adherence to medication regimen, providing support for patients' distress and feedback on the patient's condition to the physician. Primary care nurses have been trained to take the main role in the care management. The randomized controlled studies (Hunkeler *et al.* 2000, Symons *et al.* 2004) indicated that primary care nurse follow-up through telephone contact with patients could effectively improve clinical outcomes and could enhance the adherence of patients to doctors' treatments. The other care model included multifaceted intervention. In addition to care management, structured psychotherapy integrated into the follow-up addresses the problem of the increasing numbers of outpatients with depression receiving antidepressant medications without subsequent follow-up psychotherapy (Young *et al.* 2001, Olfson *et al.* 2002, Gilbody *et al.* 2003). The clinical guideline of depression management (National Collaborating Centre for Mental Health 2004) indicates that the effect of short-term psychotherapy on treating mild and moderate depression is as effective as antidepressants. Moreover, the combination of medication treatments and psychotherapy is a cost-effective way to deal with severe depression (Young *et al.* 2001, Olfson *et al.* 2002). In a multifaceted care model, care management was primarily assigned to primary care nurses and structured psychotherapy was mainly provided by psychologists. The randomized controlled trial studies (Wells *et al.* 2000, Schoenbaum *et al.* 2001, Unutzer *et al.* 2002, Araya *et al.* 2003, Miranda *et al.* 2003, Simon *et al.* 2004) indicated that integrating psychotherapy into care management was more effective in reducing symptoms of depression than usual care and one intervention only (care management or psychotherapy). In addition to the element of care models in follow-up, the ways of contacting patients were discussed. In these studies, the follow-up was provided via telephone or in-person. The results suggested that telephone-based follow-up programmes could reach the patients who had difficulties with receiving office-based follow-up because of transportation problems, age disabilities or stigma issues. Office-based follow-up programmes could provide the richness of in-person individual psychotherapy. The relative merits of telephone consultations or group-format psychotherapy is unclear.

The roles of mental health nurses in involving people with depression in follow-up programme have not often been examined for their contribution to management of depression in the community. In recent years, the collaboration between primary care professionals and mental health nurses in follow-up began to be discussed. For example, White (2004) proposed a consultation liaison model, which emphasized the collaborative care between community mental health nurses and primary care physicians. Mental health nurses provided a six-week short-term structured psychotherapy in addition to care management. This programme successfully improved patients' drop out from treatments and reduced physicians' workload. The clinical trial study (Swindle *et al.* 2003) examined the effects of follow-up programme provided by clinical nurse specialists (CNS) for outpatients with depression. This programme was developed because the time constraints reduced physician ability to provide follow-ups and referring to psychiatrists increased the financial load on the institution. In this follow-up programme the CNS recommended the antidepressant, provided cognitive-behavioural therapy and monitored effects of treatments. The results indicated that patients who received follow-up care by CNS were more likely to appear an improvement in symptoms of depression than were patients who received usual care. These two studies (Swindle *et al.* 2003, White 2004) demonstrated that mental health nurses could be involved in multifaceted intervention, effectively providing both care management and structured psychotherapy for depression patients.

To develop an effective and acceptable follow-up for outpatients with depression in Taiwan, the current study re-examined the effects of multifaceted intervention including care management and structured psychotherapy that were previously conducted based on populations in North America and Europe. The additional issues were also examined: comparing different ways to contact patients during follow-up and effects of involvement of mental health nurses in follow-up. Therefore, in this pilot study, we conducted a phase one clinical trial to examine new interventions of two formats of mental health nurse follow-up programmes: telephone counselling programme (TCP) and group therapy programme

(GTP) to compile effective and safe follow-up protocol for managing depression among outpatients in Taipei.

Method

This is a quasi-experimental, pretest–post-test comparison group design with one group involved in a TCP and another group involved in GTP. This design was chosen to conduct a phase one clinical trial, which aimed to test two new interventions for the first time in a small group of patients and to evaluate the safety and effectiveness of the two intervention models (National Institutes of Health 2004).

Subjects

Female outpatients, who were diagnosed as having depressive disorders by psychiatrists, were recruited to participate in a three-month clinical trial. Those who reported current problems with substance abuse were excluded. To qualify for the GTP, potential participants were required to attend group sessions weekly. To be accepted into TCP, potential participants need to be contactable by phone regularly. During the initial seven months of recruitment, patients were first assigned to GTP. Those who could not participate in GTP because of personal factors, such as time management problems, were assigned to TCP. During the remaining five months of recruitment, patients were assigned to TCP.

Thirty-five patients were willing to participate in this study. The participants were assigned to two groups: 18 were in GTP and 17 were in TCP. Nevertheless, four participants did not complete the GTP and five did not complete the TCP. Those who did not complete the study were not included in the data analysis. The baseline characteristics of 26 subjects in GTP and TCP were presented in Tables 1 and 2. There was no significant difference in baseline characteristics between these two groups. Nevertheless, the assignment method depending on patients' needs to different formats of follow-up programmes may affect the comparison between the two groups. The potential impact of assignment method on demonstrating effects of and adherence to follow-up programmes will be discussed later.

Table 1 Baseline characteristics of 26 subjects assigned to group therapy programme (GTP) and telephone counselling programme (TCP) based on the results of Wilcoxon–Mann–Whitney rank sum test

Characteristics	GTP ($n = 14$) Mean	TCP ($n = 12$) Mean	S	p
Age	35·79	37·17	160	0·930
BDI	29·86	27·75	154	0·695
WHO-QOL	2·92	2·82	149	0·518

BDI, Beck depression inventory.

Interventions

The mental health nurse three-month follow-up programmes included care management and structured psychotherapy. Care management included monitoring symptoms and responses to medication, crisis assessment and management, links with crisis services, providing psychiatrists with feedback on the patients' conditions and patient education. Structured psychotherapy emphasized stress management and body-mind-spirit empowerment strategies. The content was developed based on 'the Depression Workbook' (Copeland 1992) and 'body-mind-spirit group therapy' (Chan 2001). The body-mind-spirit empowerment group integrated

Table 2 Baseline characteristics of 26 subjects assigned to group therapy programme (GTP) and telephone counselling programme (TCP)

Characteristics	GTP n (%) $n = 14$	TCP n (%) $n = 12$	Fisher exact p
Educational levels			
Primary school	0 (0·00)	1 (100·00)	0·092
Junior high school	1 (100·00)	0 (0·00)	
Senior high school	2 (25·00)	6 (75·00)	
Bachelor degree	10 (66·67)	5 (33·33)	
Master degree	1 (100·00)	0 (0·00)	
Different types of depressive disorders			
Major depressive disorder	9 (56·25)	7 (43·75)	0·920
Major depressive disorder/recurrent	2 (50·00)	2 (50·00)	
Neurotic depression	3 (60·00)	2 (40·00)	
Dysthymia disorder	0 (0·00)	1 (100·00)	
The first or not first onset			
The first onset	7 (41·18)	10 (58·82)	0·110
Not first onset	7 (77·78)	2 (22·22)	

concepts and practices from Western medicine (e.g. positive psychology and forgiveness therapy), traditional Chinese medicine and the Eastern philosophes of Buddhism, Taoism and Confucianism. This type of the group emphasized that the physical, emotional, social and spiritual holistic well-being of individual was inseparable. Personal growth and transformation from negative experiences were the focus in the group. The main topics include 'experiences of depression', 'a medical overview of depressive disorders', 'the way out of depression', 'taking a look at your lifestyle', 'preventing suicide', 'growth through pain', 'letting go and forgiveness', 'love yourself' and 'transformation of self'. A patient education booklet, which included information about depressive disorders, antidepressant medication, coping with stress and suicide preventions, was provided to patients. Both interventions were conducted by the researcher (the first author) who is a psychiatric nurse and an assistant professor who has working experience with depressive disorder inpatients and outpatients.

Mental health nurse follow-up programmes included two formats: TCP and GTP. Both programmes consisted of care management and structured psychotherapy but they were provided differently, by phone or through group. The telephone counselling programme consisted of 10 telephone calls including one call per week during the first eight weeks of the programme and one call every two weeks during the remaining four weeks. Calls lasted 30–60 minutes duration. Extra calls were provided as required by patients, for crisis situations or by the researcher's assessments of patients' severe conditions. Group therapy programme was provided for 90–120 minutes every week for 12 weeks. The group therapy was conducted in the consultation room of the medical school where the primary researcher (the first author) worked. Extra calls were provided as required by patients for crisis situations or by the researcher's assessments of patients' severe conditions.

Measures

Symptoms of depression

The Beck Depression Inventory (BDI) (Beck *et al.* 1961, 1988) is a self-administered 21-item measure. It is designed to assess the severity of the symptoms of depression, to monitor the beneficial or adverse effects of treatment and to assess symptom changes over time. Statements denote symptom severity along with an ordinal continuum from absent (scored as 0) or mild (scored as 1) to severe (scored as 3). The responses are summed to determine possible scores ranging from 0 to 63, with higher scores indicating a greater level of symptoms. Based on the study of psychiatric patients, BDI indicates a high internal consistency. Cronbach's alphas ranged from 0·76 to 0·95.

Quality of life

The Taiwanese version of the World Health Organization Quality Of Life-abbreviated version (Yau 2000) is a 28-item self-administered instrument for the assessment of health status and response to therapy. Participants are asked to judge their quality of life subjectively based on their experience of the last two weeks as a time reference. Statements denote five degrees of satisfaction with quality of life and range from 'not satisfied at all' (scored as 1), 'somewhat satisfied' (scored as 2), 'moderately satisfied' (scored as 3), 'very satisfied' (scored as 4) and 'extremely satisfied' (scored as 5). The total score is derived from summing the responses of 28 items. A high score indicates a higher quality of life than a low score. Cronbach's alpha for the internal consistency of this instrument is 0·90 (Yau 2000).

The use of hospitalization and emergency services and the adherence to scheduled outpatient appointments

Medical charts were reviewed to obtain frequencies of the use of medical resources, including hospitalization and emergency services and of the adherence to scheduled outpatient appointments.

Data collection

This study was approved by the institutional review board. The approval of the head of the department of psychiatry and the patients' primary medical practitioners were required before approaching the patients to enter the study. The potential subjects obtained the information about this study from psychiatrists of outpatient department of psychiatry. With the permission of patients, psychiatrists provided the researcher with patient contact numbers. The researcher contacted each and arranged an in-person interview in a place determined by the patient's preference: the patient's house, a restaurant near the home, or the researcher's office. During the interview, the subjects gave their written consent to participate in the study after the purposes, the risks and benefits of the study had been explained to them verbally and in writing. Meanwhile, baseline data were also collected. After patients completed the three-month follow-up programme, the outcomes of post-treatment were then collected.

Data analysis

Data were managed by the SAS system. The Wilcoxon signed ranks test was performed to examine the difference in reducing symptoms of depression and in improving quality of life before and after participating in GTP or TCP follow-up programmes. The Spearman rank correlation test, Kruskal–Wallis one-way analysis of variance by rank and the Wilcoxon–Mann–Whitney rank sum test were performed to find the possible individual factors influencing the effects of GTP or TCP follow-up programmes. To compare two modalities of follow-up programmes, Quade's analysis of covariance was conducted to find out the difference in changing symptoms of depression and quality of life. This rank analysis was performed according to steps indicated by Huitema (1980). Moreover, Pearson chi-square and Fisher exact tests were performed to compare the difference in adhering to scheduled outpatient appointment and using inpatient and emergency services between two modalities of follow-up programmes.

Results

The effects of group format of mental health nurse follow-up programme

Table 3 presents the results of medians and interquartile ranges of the rated depression and quality of life sores for before–after GTP three-month follow-up programme. The Wilcoxon signed ranks test revealed that there were significant effects of GTP follow-up programme on reduction of symptoms of depression ($S = -52{\cdot}5$, $p = 0{\cdot}000$) and improvement of quality of life ($S = 31{\cdot}5$, $p = 0{\cdot}046$). Wilcoxon signed ranks tests provided evidence that the GTP follow-up programme was effective.

The Spearman rank correlation test, the Kruskal–Wallis one-way analysis of variance by rank and Wilcoxon–Mann–Whitney rank sum test were conducted to explore the relationships between factors of individuals and effects of GTP follow-up programme. The results indicated that factors including educational levels ($r_s = 0{\cdot}276$, $p = 0{\cdot}339$; $r_s = -0{\cdot}196$, $p = 0{\cdot}502$), different types of depressive disorders ($\chi^2_{(2)} = 1{\cdot}798$, $p = 0{\cdot}407$; $\chi^2_{(2)} = 0{\cdot}209$, $p = 0{\cdot}901$) and the first or not first onset ($S = 47{\cdot}5$, $p = 0{\cdot}555$; $S = 55{\cdot}5$, $p = 0{\cdot}736$) did not influence the effects of reducing depressed symptoms and improving quality of life. However, age ($r_s = -0{\cdot}696$, $p = 0{\cdot}006$; $r_s = 0{\cdot}608$, $p = 0{\cdot}021$) did influence the effects of reducing depressed symptoms and improving quality of life. The results indicated that the reduction of depression and improvement of quality of life were greater in the subjects who were older. The results may demonstrate that the subjects who were older could obtain more benefit from group supports. The results suggested that the GTP follow-up programme designed for the study appeared to have been equally effective for patients with different conditions and backgrounds, except age.

The effects of telephone format of mental health nurse follow-up programme

Table 4 presents the results of medians and interquartile ranges of the rated depression and quality of life sores for before and after TCP three-month follow-up programme. The Wilcoxon signed ranks test revealed that there were significant effects of TCP follow-up programme on reduction of symptoms of depression ($S = -36$, $p = 0{\cdot}002$) and improvement of quality of life ($S = 25$, $p = 0{\cdot}050$). The Wilcoxon signed ranks tests provided evidence that the TCP follow-up programme was effective.

The Spearman rank correlation test, the Kruskal–Wallis one-way analysis of variance by rank and the Wilcoxon–Mann–Whitney rank sum test were conducted to explore the relationships between factors of individuals and effects of TCP follow-up programme. The results indicated that factors including age ($r_s = 0{\cdot}435$, $p = 0{\cdot}158$; $r_s = -0{\cdot}069$, $p = 0{\cdot}837$), educational levels ($r_s = -0{\cdot}191$, $p = 0{\cdot}552$; $r_s = 0{\cdot}444$, $p = 0{\cdot}149$), different types of depressive disorders

Table 3 Wilcoxon signed ranks test results for comparison of effects of before and after group therapy programme (GTP) follow-up programme

		Effects of GTP programme					
		Pretest		Post-test			
Variables	*n*	Median	IQR	Median	IQR	*S*	*p*
BDI	14	33	19	10	12	−52·5	0·000
WHO-QOL	14	2·95	0·50	3·21	0·93	31·5	0·046

BDI, Beck depression inventory; IQR, interquartile ranges.

Table 4 The Wilcoxon signed ranks test results for comparison of effects of before and after telephone counselling programme (TCP) follow-up programme

		Effects of TCP programme					
		Pretest		Post-test			
Variables	*n*	Median	IQR	Median	IQR	*S*	*p*
BDI	12	24	15	11·50	12·50	−36	0·002
WHO-QOL	12	2·86	0·57	3·14	0·84	25	0·050

BDI, Beck depression inventory; IQR, interquartile ranges.

($\chi^2_{(3)} = 1{\cdot}781$, $p = 0{\cdot}619$; $\chi^2_{(3)} = 2{\cdot}830$, $p = 0{\cdot}419$) and the first or not first onset ($S = 12$, $p = 0{\cdot}909$; $S = 13$, $p = 1{\cdot}000$) did not influence the effects of reducing depressed symptoms and improving quality of life. The results suggested that the TCP follow-up programme designed for the study appeared to have been equally effective for patients with different conditions and backgrounds.

Comparing two formats of mental health nurse follow-up programmes was to understand which programme was more effective. The results could provide suggestion that which format of follow-up programmes was more worth to be developed in Taiwan. The results were indicated as follows:

The comparison of reduction of depressed symptoms between GTP and TCP

In Table 5, the results of Quade's analysis of covariance indicated that there was no significant difference in reducing symptoms of depression between GTP and TCP modalities ($F_{(1,24)} = 0{\cdot}06$, $p = 0{\cdot}813$). The result suggested that the two modalities of follow-up programmes had similar effect on relieving patients' symptoms of depression.

Table 5 Quade's analysis of covariance results for comparison of group therapy programme (GTP) and telephone counselling programme (TCP) on pre–postchanges in reported symptoms of depression

Source	Sum of squares	d.f.	Mean square	*F*	*p*
Intervention	2·30	1	2·30	0·06	0·813
Error	965·14	24	40·21		

Table 6 Quade's analysis of covariance results for comparison of group therapy programme (GTP) and telephone counselling programme (TCP) on pre–postchanges in reported quality of life

Source	Sum of squares	d.f.	Mean square	*F*	*p*
Intervention	1·81	1	1·81	0·07	0·792
Error	607·67	24	25·3194		

The comparison of improvement of quality of life between GTP and TCP

In Table 6, Quade's analysis of covariance revealed that there was no significant difference in improving quality of life between GTP and TCP ($F_{(1,24)} = 0{\cdot}07$, $p = 0{\cdot}792$). The result suggested that the two follow-up programmes made similar contribution to the improvement of the patients' quality of life.

The comparison of adherence to scheduled outpatient appointments between GTP and TCP

Table 7 summarizes frequencies (and per cent) of adherence to scheduled outpatient appointment between GTP and TCP. As indicated in Table 7, the results revealed that over 70% of the subjects in GTP completed all scheduled outpatient appointments with psychiatrists while only 25% patients in TCP completed all appointments. In addition, subjects in GTP did not drop from outpatient appointments after one to two months. On the other hand, five subjects in TCP did. Fisher exact test was used to confirm these two differences ($p = 0{\cdot}022$). The results suggested that subjects in GTP appeared to have a better adherence to scheduled outpatient appointments than patients in TCP.

The comparison of uses of inpatient and emergency services between GTP and TCP

None of the patients from either the GTP or TCP were admitted to the hospital during the three-month follow-up. As shown in Table 8, Fisher's exact test indicated that no significant difference in use of emergency service between GTP and TCP was found ($p = 1{\cdot}000$).

Discussion

The comparison of effects on improving clinical outcomes between group and telephone formats of mental health nurse follow-up programmes

This data revealed that after patients participated in group or telephone format of mental health nurse follow-up programme, their symptoms of depression were reduced and

Table 7 Fisher exact test for comparison of adherence to scheduled outpatient appointment between group therapy programme (GTP) and telephone counselling programme (TCP)

	Adherence to scheduled outpatient appointments				
Groups	Complete all appointments *n* (%)	Miss one to two appointments *n* (%)	Drop from appointment after one to two months *n* (%)	Drop from appointment after first appointment *n* (%)	*p*
GTP	10 (71·43)	2 (14·29)	0 (0·00)	2 (14·29)	0·022
TCP	3 (25·00)	2 (16·67)	5 (41·67)	2 (16·67)	

Table 8 Fisher exact test for comparison of use of emergency service between group therapy programme (GTP) and telephone counselling programme (TCP)

	Frequency of use of emergency services *n* (%)		
Groups	0	1	*p*
GTP	13 (92·86)	1 (7·14)	1·000
TCP	12 (100·00)	0 (0·00)	

quality of life was improved. To explore which was the better way to provide follow-up in Taiwan, group and telephone formats of follow-up programmes were compared. The present study indicated that the effects of group and telephone formats were similar in improving clinical outcomes and quality of life in outpatients with depression. The same elements of interventions: care management and structured psychotherapy might contribute to the outcome of equivalent effectiveness between two formats of follow-up programmes. The results of this pretest–post-test study and the previous randomized clinical trials on follow-up (Wells *et al.* 2000, Schoenbaum *et al.* 2001, Unutzer *et al.* 2002, Araya *et al.* 2003, Miranda *et al.* 2003, Swindle *et al.* 2003, Simon *et al.* 2004) suggested that care management supplemented by structured psychotherapy was the more effective intervention for improving clinical outcomes for outpatients with depression. In this and previous studies, care management commonly included patient education, crisis intervention and frequent monitoring of patients' conditions. Its effects could enhance patient knowledge about nature of depression and treatments for depression and could increase their adherence to treatment. Regarding the provision of structured psychotherapy, while in the previous studies cognitive-behavioural therapy was commonly provided, the psychotherapeutic approach in this study was empowerment therapy. The therapy which included stress management and body-mind-spirit empowerment strategies could help patients to learn coping strategies for current difficulties and to engender a positive self view and the use of their inner power. Through practicing psychotherapeutic activities, symptoms of depression such as sense of hopelessness and helplessness could be minimized. In addition to the same elements of interventions, adequate rates of follow-up treatment could also contribute to positive clinical outcomes, whether provided in telephone or group formats. In this study, the 12-session group programme and 10-session telephone programme in three-month follow-up both met the standard rates of treatment according to the clinical guideline of depression management (National Collaborating Centre for Mental Health 2004).

The comparison of patients' adherence to mental health nurse follow-up programmes between group and telephone formats

The present study revealed that patients appeared to have a high attendance rate of follow-up. This may be because in the assignment method patients were assigned into telephone or group format of follow-up based on their needs. Therefore, their motivation toward adherence to follow-up was high. Over 90% (91·7%) of the patients in telephone format completed all 10 calls of the follow-up care. This study and the previous study (Simon *et al.* 2004) demonstrated a high rate of patient completion of telephone-based follow-up programme. The telephone format provided a beneficial flexibility to help patients who were not able to attend office-based follow-up programme because of distance, time problems, or stigma issues. The group-based follow-up programme held regular meetings at specific times, which might have influenced patients to complete all sessions of follow-up programme. All patients in group format attended at least six sessions with 57·1% participating in 8–11 sessions and 35·7% in all 12 sessions of the follow-up programme. However, compared with the office-based individual psychotherapy format, in this study the majority of patients in office-based group therapy format achieved high attendance rate. Horvitz-Lennon *et al.* (2003) found that most patients in an office-based follow-up programme with an individual psychotherapy format did not reach more than four sessions. The results suggested that group support might enhance patients' motivation to attend the group format of follow-up programme. The results of this study suggested that both modalities of follow-up programmes could be established together in outpatient setting for depression patients with different needs. Those patients who require flexible scheduled-treatment would benefit from telephone format and those who want to obtain group support might choose group format.

The comparison of patients' adherence to psychiatrists' outpatient appointments between group and telephone formats

The present study indicated that the patients in group format were more likely to complete all scheduled outpatient appointments with psychiatrists than the patients in telephone format. The findings suggested that when patients in group therapy shared the information about the importance of having their conditions regularly monitored by doctors, their motivation might keep appointments increased. Patients in telephone format requiring flexible scheduling might have more difficulty to complete

psychiatrists' office outpatient appointments than patients in group format.

The comparison of use of medical resources between group and telephone formats

The present study indicated that there was no significant difference in use of medical resources between two formats of follow-up programmes. The results revealed that no patient in group or telephone format was admitted to the hospital for depression during the three-month follow-up. One patient in group format used emergency services one time. The findings suggested that regular follow-up with extra calls for crisis assessments and interventions might have effectively contributed to the potential saving in using inpatient and emergency services although intervention costs increased for follow-up care. In the cost-effectiveness study, Schoenbaum *et al.* (2001) found that the follow-up programmes increased intervention fees, but the patients had fewer days with the burden of depression and had longer period of being employed. Therefore, follow-up care might be considered as a cost-effective strategy in managing depression in community through its effects on saving the cost of inpatient and emergency treatment, reducing symptoms of depression and enhancing patients' quality of life.

Conclusion and limitations

The results of this pilot study suggested that two new interventions of mental health nurse follow-up programmes were safe and effective protocol for managing depression among outpatient in Taipei. Moreover, developing both telephone and group formats for follow-up care could meet different needs of outpatients with depression. Nevertheless, there are four limitations of this study, which might influence the general applicability of the results of the follow-up programmes: (i) This phase one clinical trial with exclusively female patients raises questions regarding the applicability of this follow-up protocol to male patients with depression; (ii) Because this phase one clinical trial aims to develop follow-up protocol, the research design does not include a control group at this stage. The results of this study cannot compare the effects of mental health nurse follow-up programme with the usual care of only receiving the psychiatrist's treatment; (iii) Patients were assigned into telephone or group format according to their needs. This assignment method was chosen to test if the follow-up programmes could benefit patients with different needs. Therefore, this method does not involve random process. Accordingly, there is an unstudied impact of subject characteristics on the comparison of the two groups; and (iv) The outcomes are evaluated at baseline (pretreatment) and post-treatment after three-month interventions. It is unknown whether the effects will be maintained after the follow-up programmes are ended.

Implications for nursing and health care practice

This study and that of Swindle *et al.* (2003) found that in follow-up programmes mental health nurses working closely with primary care physicians could effectively improve clinical outcomes and adherence to treatment in outpatients with depression. Mental health nurses specialized in management of depression could provide not only care management but also structured psychotherapy. In the study of Swindle *et al.* (2003) the follow-up programme offered by clinical nurse specialist focused on management of major depression because they thought that patients with minor depression might recover during watchful-waiting. Nevertheless, the present study revealed that the mental health nurse follow-up was effective to both major and minor depression. The merit of focusing on management of both major and minor depression might help to prevent more patients' condition from worsening.

The implication of this study for nursing practice in Taiwan relates to the need of developing telephone and group formats of mental health nurse follow-up programmes. In follow-up programmes, nurses play important educator and counselling roles in order to improve continuity of treatment among outpatient with depression. Moreover, improving quality of care in management of depression among outpatient could enhance the outcomes of secondary prevention, such as preventing a worsening of patients' conditions and resulting admission to an inpatient unit. Further studies need to include a phase two clinical trial which examines the limitations of this study and includes female and male patients, control groups, random assignment and measurement of maintaining effects in order to test the effectiveness of mental health nurse follow-up programmes in a more general population base.

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Contributions

Study design: FHH; data collection: FHH, TTY, CCC, SYT, YML, CJT, WYC; data analysis: FHH, KCW; manuscript preparation: FHH and literature review: FHH, YML.

References

Araya R, Rojas G, Frisch R, Gaete J, Rojas M, Simon G & Peters T (2003) Treating depression in primary care in low income women in Satiago, Chile: a randomized controlled trial. *The Lancet* **361**, 951–1000.

Beck AT, Ward CH, Mendelson M, Mock J & Erbaugh J (1961) An inventory for measuring depression. *Archives of General Psychiatry* **4**, 561–571.

Beck AT, Steer RA & Garbin MG (1988) Psychometric properties of the beck depression inventory: twenty-five years of evaluation. *Clinical Psychology Review* **8**, 77–100.

Brown GW & Harris T (1989) Depression. In *Life Events and Illness* (Brown GW & Harris T eds). Unwin Hyman, London, pp. 21–45.

Chan CLW (2001) *An Eastern Body-Mind-Spirit Approach: A Training Manual with One-Second Techniques*. Department of Social Work and Social Administration, The University of Hong Kong, Hong Kong.

Copeland MR (1992) *The Depression Workbook: A Guide for Living with Depression and Manic Depression*. New Harbinger Publications, Oakland.

Gilbody S, Whitty P, Grimshaw J & Thomas R (2003) Educational and organizational interventions to improve the management of depression in primary care. *Journal of the American Medical Association* **289**, 3145–3151.

Horvitz-Lennon M, Normand S, Frank R & Goldman H (2003) Usual care for major depression in the 1990s: characteristics and expert-estimated outcomes. *American Journal Psychiatry* **160**, 720–726.

Huitema BS (1980) *The Analysis of Covariance and Alternatives*. John Wiley & Sons, Canada, pp. 255–263.

Hunkeler EM, Meresman JF, Hargreaves WA, Fireman B, Berman WH, Kirsch AJ, Groebe J, Hurt SW, Braden P, Getzell M, Feigenbaum PA, Peng T & Salzer M (2000) Efficacy of nurse telehealth care and peer support in augmenting treatment of depression in primary care. *Archives of Family Medicine* **9**, 700–708.

Karp JF & Frank E (1995) Combination therapy and the depressed women. *Depression* **3**, 91–98.

Kornstein SG & Clayton AH (eds) (2002) *Women's Mental Health: a comprehensive textbook*. The Guilford Press, New York.

Kornstein SG & Wojcik BA (2002) Depression. In *Women's Mental Health: A Comprehensive Textbook* (Kornstein SG & Clayton AH eds). The Guilford Press, New York, pp. 147–165.

Miranda J, Azucar F, Organista K, Dwyer E & Acrane P (2003) Treatment of depression among impoverished primary care patients from ethnic minority groups. *Psychiatric Services* **54**, 219–225.

Murray CJ & Lopez AD (1996) *The Global Burden of Disease*. Harvard University Press, Cambridge, MA.

Nazroo JY, Edwards AC & Brown GW (1997) Gender differences in the onset of depression following a shared life event: a study of couples. *Psychological Medicine* **27**, 9–19.

National Collaborating Centre for Mental Health (2004) *Management of Depression in Primary and Secondary Care*. National Institute for Clinical Excellence, London.

National Health Insurance (2004) *The Collaborative Care Plan to Manage Depression by Branch of Taipei*. Available at: http://www.nhri.org.tw/nhird/index.htm (accessed 20 August 2004).

National Institutes of Health (2004) *Clinical Research FAQ*. Available at: http://www.genome.gov/10000771#4 (accessed 20 September 2004).

Olfson M, Marcus SC, Druss B & Pincus HN (2002) National trends in the use of outpatient psychotherapy. *American Journal of Psychiatry* **159**, 1914–1920.

Ruble DN, Greulich F & Pomerantz EM (1993) The role of gender-related process in the development of sex differences in self-evaluation and depression. *Journal of Affective Disorders* **29**, 97–128.

Schoenbaum M, Unutzer J, Sherbourne C & Duan N (2001) Cost-effectiveness of practice-initiated quality improvement for depression: results of a randomized controlled trial. *Journal of the American Medical Association* **286**, 1325–1330.

Simon GE, Ludman EJ, Tutty S, Operskalski B & Von Korff M (2004) Telephone psychotherapy and telephone care management for primary care patients starting antidepressant treatment. *Journal of the American Medical Association* **292**, 935–942.

Swindle RW, Rao JK, Helmy, Plue L, Zhou XH, Eckert GJ & Weinberger M (2003) Integrating clinical nurse specialists into the treatment of primary care patients with depression. *International Journal of Psychiatry Medicine* **33**, 17–37.

Symons L, Tylee A, Mann A, Jones R, Plummer S, Walker M, Duff C & Holt R (2004) Improving access to depression care: descriptive report of a multidisciplinary primary care pilot service. *British Journal of General Practice* **54**, 679–683.

Unutzer J, Katon W, Callahan CM, Williams Jr JW., Hunkeler E, Harpole L, Hoffing M, Della Penna RD, Noel PH, Lin EH, Arean PA, Hegel MT, Tang L, Belin TR, Oishi S & Langston C (2002) Collaborative care management of late-life depression in the primary care setting: a randomized controlled trial. *Journal of the American Medical Association* **288**, 2836–2845.

Weissman MM, Bland R & Canino GJ (1996) Cross-national epidemiology of major depression and bipolar disorder. *Journal of the American Medical Association* **276**, 293–299.

Wells K, Sherbourne C, Schoenbaum M, Duan N, Meredith L, Unutzer J, Miranda J, Carney MF & Rubenstein LV (2000) Impact of disseminating quality improvement programs for depression in managed primary care: a randomized controlled trial. *Journal of the American Medical Association* **283**, 212–230.

White E (2004) Nurses' key role in treating depression. *Mental Health Nursing* **24**, 20–21.

World Health Organization (2001) *Wn-W Health Report 2001: mental health: near understanding, near hope*. WHO, Geneva.

Yau KP (2000) *The Development and Manual of The World Health Organization Quality Of Life-abbreviated Version (WHOQOL-BREF Taiwan)*. Department of Psychology, National Taiwan University, Taiwan.

Young A, Klapp R, Sherbourne C & Wells K (2001) The quality of care for depressive and anxiety disorders in the United States. *Archives of General Psychiatry* **58**, 55–61.