

Treatment efficacy of multiple family therapy in helping Chinese children of depressed parents in Hong Kong, China

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Abstract

This article reports results of a study that assessed the efficacy of multiple family therapy (MFT) for helping children of depressed parent(s), using a quasi-randomized controlled trial design. In total, 76 children participated in the study, with 51 children were assigned to the experimental group (EG) and 25 to the comparison group (CG). The EG children and their parents completed the three-month MFT program, while the CG children and their parents attended two psychoeducational talks scheduled at the same time as the MFT. A group \times Time repeated measure ANCOVA did not discern the intervention types having any effect on children's lives in the post-treatment phase or at the three-month follow-up. However, the MFT brought some promising positive changes in the EG children's perceived social support, both overall and that from the father and other family members at three-month follow-up; compared to the CG children, the EG children also attached more importance to the support from their mothers in the post-treatment phase and that from other family members at the three-month follow-up. The results implied the potential efficacy of the MFT in facilitating an increase in the overall social support of children of depressed parents and their positive interactions with both the healthy and the depressed parent and other family members. Owing to multiple statistical limitations, caution is required while interpreting the results. A larger

sample and a more sophisticated research design were suggested for future studies examining the efficacy and therapeutic mechanism of the MFT.

KEYWORDS

Chinese family, increased perceived social support, multiple family therapy, parental depression, quasi-randomized controlled trial, treatment efficacy on children

INTRODUCTION

About 4.4% of the world's people suffer from depression (WHO, 2017), and more females (5.1%) than males (3.6%) are diagnosed with the disorder. In Hong Kong, the prevalence of a range of depressive and anxiety disorders, known as common mental disorders (CMD), is 13.3% for people aged 16–75 (Lam et al., 2015). Depression poses a particular challenge for parents. Despite this challenge, most Hong Kong Chinese depressed parents continue to take care of their children. They cope with the social impairment brought about by depression, and they attempt recovery while struggling to perform their parental roles (Chen et al., 2021).

Parents' physical and mental health has a direct impact on their involvement in caring for their children. Hsieh et al.'s (2017) longitudinal study in Taiwan revealed that children whose parents (especially fathers) were chronically depressed and whose parents were experiencing marital conflict reported decreased parental involvement and support. It is common that, during an acute depressive episode or a relapse, parents with severe depression and suicidal ideas may require in-patient treatment, which inescapably upsets their children's daily routine and interrupts their schooling. Young children may be removed from the home and transferred to alternative caregivers, that is, relatives, foster parents or residential services.

Parental depression has an unfavorable effect on children's psychosocial well-being (Riley et al., 2008) and on parent–child relationships (Withers, 2020). A depressed mother may stay in bed during the day and may fail to respond to her children's basic needs, leading to missed meals and neglected household chores and the children feeling lonely (Cooklin & Barnes, 2020). Parents with depressive symptoms also tend to reduce their responsiveness and sensitivity in daily interactions with their children, and their responses tend to dampen the positive affect the children would normally have on their parents (Nyquist & Luebke, 2021). In the face of parental depression, children may feel angry, frustrated, confused, and helpless. Inadequately informed about the effects of the disorder, children may also mistakenly view the depressed parent as “lazy” or “irresponsible,” or may develop insecure attachments as a result of their parents' ambivalent or detached responses (Withers, 2020). Some of these children may think that they are responsible for the mood swings of their depressed parents. A few children may prematurely become young carers in the family (Cooklin & Barnes, 2020).

Children of depressed parents are at higher risk of mental health problems, partly due to genetic vulnerability and partly due to the unfavorable rearing environment (Gatsou et al., 2017). Depressive disorder in Hong Kong is positively associated with separation and divorce, alcohol misuse, lack of physical exercise and a family history of mental disorder (Lam et al., 2015). Families with parental depression may face stresses arising from financial difficulties, marital conflicts, and poor living conditions. Xia and Ma's study (2021) shows an intersectionality between gender and sociodemographic characteristics, namely migration status and household income, being related to depression; specifically, migrant women with lower household incomes suffered more psychological distress than did women with higher household incomes who had been born in Hong Kong. Their overall perceived social support from family

and friends was also low (Xia & Ma, 2021). Growing up in such problem-saturated families is tough and painful for children.

Although children of depressed parents are in desperate need of guidance, advice, and support from trustful and caring adults (e.g., relatives, friends, teachers, the healthy parent, and mental health professionals), they may not seek help from their healthy parent because they worry about placing an additional burden on someone who has had to take over the familial responsibilities of the ill parent. Children may hide their developmental challenges from these ill parents as they may overlook their parents' capability to help them due to their parents' pathology, even though the parents are mentally stable (Cooklin & Barnes, 2020). The social stigma attached to the disorder is another psychological barrier that hinders both parents and their children from seeking timely help and eliciting support. They may feel increasingly socially marginalized, isolated and lonely. Sadly, their pain and suffering are invisible to human service professionals, including family therapists.

However, protective factors, such as timely guidance and the support of a healthy parent or an adult outside the family (e.g., a teacher), the provision of age-appropriate information on depression, family discussions about the disorder, better coping efficacy, and feelings of safety and security among the older children, may mitigate the adverse consequences of parental depression on children and may help them cope better (Cooklin & Barnes, 2020). Depressed parents' concern for their children's well-being and their fear of the removal of their children by child-protection services may motivate them to seek help and attempt recovery (Chen et al., 2021).

Family intervention (i.e., single-family therapy, multiple family therapy, parent education groups) has shown promise in helping married adults with major depression by increasing their family functioning and their sense of parental competence and increasing the partner's awareness of the patient's improvement (Lemmens et al., 2009; Sanford et al., 2003). Multi-family interventions such as *Kidstime* in the UK (Cooklin & Barnes, 2020) and *Fortalezas Familiares* in the USA (Valdez et al., 2013) have been shown to alleviate the pain and suffering of children being raised by parents with depression. These family-based interventions have several things in common; they attempt to provide age-appropriate information on the disorder, encourage better parent–children communication on depression, cultivate emotional security and safety for new learning experiences, and organize enjoyable activities for children and their parents.

In Hong Kong, multiple family therapy (MFT) has been shown to be feasible and acceptable for children with attention deficit hyperactivity disorder (ADHD) (Ma et al., 2019). However, its applicability to helping children of parents with depression remains unknown. There is, in fact, a dearth of knowledge on family-based intervention for children with parental depression in Hong Kong. The treatment is comprised predominantly of two individually focused treatments, namely medication and cognitive-behavioral therapy (CBT) (Wong, 2008). While both treatments have contributed to helping depressed parents, the psychosocial service needs of children of depressed parents have been overlooked.

In view of the existing knowledge gap, our clinical team and a team of community-based mental health social workers from the New Life Psychiatric Rehabilitation Association (“the agency”) launched a clinical research project to offer the MFT, a family-based intervention for Hong Kong Chinese parents in recovery from depression, as a treatment option and assess the efficacy of the MFT for these families. Our study (Ma et al., 2021) showed that after attending the MFT, the psychological distress of the depressed parents in the experimental group (EG) was significantly reduced, and such reduction in symptoms was sustained at the three-month follow-up. Compared to the poorly educated depressed parents, highly educated depressed parents benefited more from the MFT. Specifically, parenting stress in the highly educated depressed parents decreased; their parental efficacy was enhanced; and their perceived social support, both overall and from social services and affiliated support, was higher both in the post-treatment phase and three months later. What remained uncertain was whether the MFT had brought about positive changes in the children of the depressed parents. This paper, then,

reports the results of our clinical research project and examines whether the children reported positive changes after the MFT intervention.

Multiple family therapy for children of depressed parents in recovery

Multiple family therapy is a therapeutic method that brings together several families affected by the same pathology (Gelin et al., 2017; p. 2). The foundational knowledge of MFT comes from both family therapy and group psychotherapy, which equips MFT leaders with knowledge and skills for assessing family and group dynamics. Viewing families as resourceful and resilient, MFT believes that families are capable of offering mutual help and mutual support. Changes in families in an MFT can occur in different contexts: individual, inter- and intrafamilial, as well as intergenerational. Hope and multiple perspectives for families with a common developmental challenge, such as parental depression, may be generated through the group process (Asen et al., 2001).

Adapted from Ma et al.'s model (2017), the MFT program for Chinese children of depressed parents was designed and developed on the following principles: (1) a focus on the effects of depression on individual and family well-being; (2) open discussion of critical issues (e.g., self-harm and child care) faced by the family; (3) promotion of enjoyable children's activities and quality family time; and (4) an emphasis on connections within and across families.

The three-month MFT program (total contact hours = 42) comprised a psychoeducational talk, a 4-day program, and two half-day reunions, one month apart, after the program. The psychoeducational talk served the purpose of recruiting potential participants and briefing them on the general perspectives of family-centered intervention for depression. One or two graduate families were invited to share their previous experience with joining an MFT with potential future participants.

Table 1 shows a typical MFT day. The group activities usually start at 10:00 a.m. and end at 4:00 p.m. The morning session begins with ice-breaking activities (e.g., speed dating, ball-throwing, or warm-up exercises); an intrafamilial activity (e.g., family story, blindfold), with the focus on parent-child/marital interaction, followed by a joint-lunch break. In the afternoon, the parents (both the depressed parent and the healthy spouse) and their children might attend a parallel group separately or participate jointly in an interfamilial activity (e.g., treasure hunt, radio program) that facilitates intergenerational interaction in general or, specifically,

TABLE 1 General Structure of each MFT group program

Time	Content		
	Day 1–4 Program	1st Reunion	2nd Reunion
10:00–10:30	Warming-up exercises (e.g., speed dating, ball-throwing, stretching)		
10:30–12:00	Intrafamilial activities (e.g., family story, flying eggs, blind fold)	Brief Intrafamilial activities & Major interfamilial activities	
12:00–14:00	Joint lunch (e.g., surrogating parents)	Joint lunch & Session evaluation	Joint lunch
14:00–15:30	Parent Child parallel group or Interfamilial activities (e.g., a radio program, treasure hunt, wanting poster)		A small ceremony to round up the whole group & group evaluation
15:30–16:00	Rounding up & Session evaluation		

the development of new experiences of being children/parents through various interactions with children and parents of other families (Ma et al., 2021).

Study design and hypotheses

This study adopted a quasi-randomized control trial to examine the intervention efficacy of the MFT on children with depressed parents. The outcome measurements used to track changes in the children included: (1) the children's behaviors and functioning, (2) the children's sense of competence, (3) the children's relationships with their parents, and (4) the children's perceived social support.

It was hypothesized that in the post-treatment phase and at the three-month follow-up, the children of the depressed parents would exhibit the following changes: (1) less-serious behavioral problems and better functioning; (2) a higher perceived sense of competence; (3) better father–child and mother–child relationships; (4) increased frequency and importance of perceived social support, both overall and from different sources (father, mother, others in the family, teacher, and friends).

METHOD

Procedure

Families were recruited for this study with the following criteria: (1) one or both parents were diagnosed with depression while not in an acute state; (2) at least one child in the family was under the age of 18; (3) all the family members could understand Cantonese (the local dialect) or Mandarin. Group assignments were based on the parents' motivation for change and their commitment to completing the MFT program. EG children participated in the MFT with their parents and completed three tests: a pre-test (T1) before the MFT began; a post-test (T2) immediately after the MFT; and a third test (T3) at the three-month follow-up. CG children were assessed three times with the same set of questionnaires (once at the psychoeducational talk and twice at two workshops designed for them) at similar time intervals to those of the EG.

Ethical approval for this study was obtained from the University Ethics Committee. Children gave written consent to their participation in the study, as did their parents.

Participants

In all, 76 children of parents with depression participated in the MFT project with their parents; 51 were assigned to the experimental group (EG) and 25 to the comparison group (CG). In the EG, 45 completed T1 and T2, and, 21 completed all three tests (TS, T2, T3); in the CG, 18 completed T1 and T2, and only 6 completed all three tests (Figure 1).

The EG consisted of 31 boys and 20 girls, and the CG had 13 boys and 12 girls. The age of the children ranged from 5 to 17, with the majority (52.3%) aged between 9 and 12. A chi-square test revealed no significant differences in gender, age distribution, or family economic situation between the two groups. However, the number of participants completing the three tests was higher for the EG children (51%) than for the CG children (24%) (Table 2). Even if they had not completed all three tests, all children in both groups continued to participate in the MFT and the workshops. We also collected information from the EG group regarding mental health and found that 23 children (45%) had been diagnosed with learning difficulties

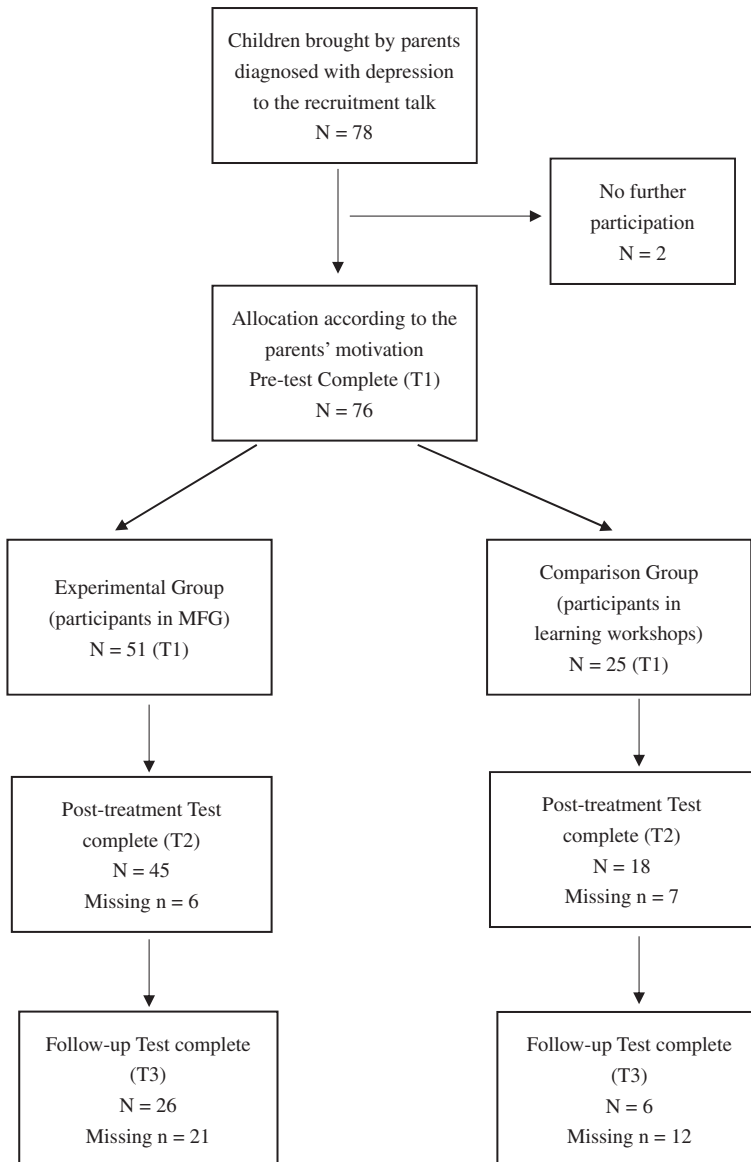


FIGURE 1 Flow chart of the study participants

(i.e., ADHD, ASD, ADD and dyslexia) or mental disorders (i.e., anxiety and depression); 25 (49%) had not received either diagnosis. Information on the remaining three children was not provided.

Interventions

A total of eight MFT groups with similar activities were offered for these Chinese families dealing with parental depression. Six groups (including two in the pilot phase) were held on campus. As the majority of the participants wished to attend an MFT program near their homes, two groups were organized at the agency. For the two groups in the pilot phase, our clinical team directed the design, development, and implementation, while a team of mental

TABLE 2 Demographic background of the children participants

	Overall (<i>N</i> = 76)	Experimental group (<i>N</i> = 51)	Control group (<i>N</i> = 25)	Chi-square Test of group differences
	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	χ^2 (<i>df</i>)
Gender				
Boy	44 (57.9)	31 (60.8)	13 (52.0)	.531 (1)
Girl	32 (42.1)	20 (39.2)	12 (48.0)	
Age				
<= 8	19 (25)	13 (25.5)	6 (24.0)	7.608 (11)
9–12	39 (51.3)	26 (51)	13 (52.0)	
13–18	18 (23.7)	12 (23.5)	6 (24.0)	
Education				
Primary 3 or lower	19 (25)	13 (25.5)	6 (24.0)	7.608 (11)
Primary 4–6	39 (51.3)	26 (51)	13 (52.0)	
Secondary school	18 (23.7)	12 (23.5)	6 (24.0)	
Family income (parents)				
<HK\$8,000 (<US\$1019)	20 (26.3)	13 (25.5)	7 (28)	5.080 (5)
HK\$8,000(US\$1019) – HK\$18,000 (US\$2293)	23 (30.2)	15 (29.4)	8 (32)	
HK\$18,000(US\$2293) – HK\$28,000 (US\$3567)	7 (9.2)	6 (11.8)	1 (4)	
HK\$28,000(US\$3567) – HK\$38,000 (US\$4841)	6 (7.9)	4 (7.8)	2 (8)	
>HK\$38,000 (>US\$4841)	14 (18.4)	13 (25.5)	1 (4)	
Missing	6 (7.9)	0 (0)	5 (20)	
Diagnosis with learning difficulties				
Yes		23 (45.1)		
No		25 (49.0)		
Missing		3 (5.9)		

health social workers from the agency were participant-observers. The six groups in the main study were led by the agency social workers.

Our clinical team comprised four social work academics (including the first three authors) who have the professional qualification of family therapist; the agency team consisted of 10 experienced registered social workers with an average of 13-years working experience. All of them had worked in the agency for over 5 years. None of the clinical team or the agency team members quit the project before it was completed.

To ensure the agency social workers' professional competence at leading the MFT, our clinical team provided professional training and supervision—workshops, onsite coaching, video reviews, and discussions—for the agency social workers before the start of the project and in the pilot and main phases of the study. These aspects are described in detail elsewhere (Ma et al., 2021).

Apart from the weekly planning meetings, a brief review during lunch and at the end of each day's program helped the group leaders identify emerging critical issues in the group, which would then be addressed in the afternoon or the following week. The following example illustrates this process. One morning, an adolescent daughter of a post-divorce family whose mother had placed her in residential care burst into tears while other families were happily

doing the “flying egg” group activity (in which the family had to build a container out of newspapers to catch an egg dropped from a height without it breaking). The daughter shouted angrily, “Have you guys ever thought of the egg's feelings when you dumped it here and there? Have you pondered if the egg likes to be treated like this?” During the lunch review, the group leaders discussed the emotional response of the adolescent daughter and decided to bring it up for discussion in the children and parent groups in the afternoon.

Measures

Ohio Youth Problems and Functioning Scales (OYPFS)

Originally developed by Ogles et al., (2001) to assess the outcomes of children and adolescents receiving mental health services, OYPFS consists of three parallel measures rated by the youth's parent, the youth, and the youth's agency worker, respectively. This study adopted only the youth version (for age 5 to 18), which measures problem severity and functioning. The scale included 40 items, with 20 on problem severity and 20 on the functioning of multiple aspects. Items of the problem severity subscale were rated on a 6-point Likert scale (never = 0; always = 5), with total scores ranging from 0 to 100 and higher scores denoting a greater number and severity of problems; the functioning subscale was rated on a 5-point Likert scale (extremely difficult = 0; coped very well = 4), with total scores ranging from 0 to 80 and higher scores denoting better coping. The two subscales have shown excellent validity and reliability, with a Cronbach's alpha of .93 (for the problem severity subscale) and .91 (for the functioning subscale). In this study, the reliability was highly satisfactory, with Cronbach's alpha being over .94 for both scales.

Perceived Competence Scale (PCS)

Adapted from Harter's (1982) scale, the 8-item PCS assessed the children's perceptions of four domains of their competence: cognitive, social, physical, and general self-worth. The children's responses were given via a 4-point Likert scale (strongly disagree = 1; strongly agree = 4). Higher scores denoted higher levels of perceived competence. Its Cronbach's alpha in this study was 0.85, indicating satisfactory reliability.

Parent–child relationship scale (PCR)

The shortened version ($n = 14$ items) of the PCR (Fine et al., 1983) was adapted to assess the children's perception of their father–child relationship (7 items) and mother–child relationship (7 items), or their relationship with other important family members. Response was via a 5-point Likert scale (never = 1; always = 5), with higher scores denoting a better parent–child relationship. The Cronbach's alpha for the PCR in this study was 0.88, indicating satisfactory reliability.

Student Social Support Scale (SSSS)

The multidimensional SSSS ($n = 60$ items) (Demaray & Elliott, 2001; Nolten, 1994) was adapted and shortened to thirty items for use in this study. It assessed the children's perception of the availability and importance of social support from four sources: parents, teachers,

classmates, and friends. Responses were via a 5-point Likert scale (never = 1, always = 5) for availability, and (very unimportant = 1, very important = 5) for importance. Higher scores denoted a higher frequency of getting support and greater importance given to the support. The Cronbach's alpha for the SSSS in this study was 0.98, indicating high reliability.

Statistical analysis

Data were analyzed with SPSS statistical software using an intention-to-treat approach that included all participants. Prior to all hypothesis testing, this study adopted a Chi-square test and *t* test to assess whether the sociodemographic characteristics and the baseline conditions of the children in the CG differed from those of the EG children. A Group \times Time repeated measure ANCOVA with the baseline means as the covariate was performed for all the outcome measures to examine both the time effects of the intervention and the effects of the intervention types. The Bonferroni correction was applied to establish the significance level. Post hoc *T* tests were conducted to compare the mean scores of the different scales at T1, T2, and T3 for both the EG and CG. Given the sample size of 76, to detect a median effect size ($f = .30$) using a repeated measure ANCOVA (Gothe & McAuley, 2016), the power was estimated to be 62.5% (lower than the suggested 80%) using a two-tailed alpha level of .05.

RESULTS

In the pre-treatment phase, the results of the *t* test showed no significant differences between the EG and CG children in terms of functioning, perceived sense of competence, relationship with the father and frequency/importance of perceived social support on the whole. However, the EG children (mean = 22.65, *SD* = 18.56) scored higher on problem severity than did the CG children (mean = 15.12, *SD* = 9.57), with $t = -.332$, $p < .05$, which indicated that the EG children had significantly more behavioral problems than did the CG children. The EG children scored significantly lower in the frequency (mean of CG children = 4.46, *SD* = .63; mean of EG children = 3.80, *SD* = .123; with $t = 2.434$, $p < .05$) and importance of perceived support from teachers (mean of the CG children = 4.44, *SD* = .57; mean of the EG children = 3.93, *SD* = 1.08; $t = 2.434$, $p < .05$) and the importance of their mother's support (mean of the CG children = 4.38, *SD* = .64; mean of the EG children = 3.92, *SD* = 1.02, with $t = 2.003$, $p < .05$) (Table 3). In other words, the EG children's perceived social support from teachers, both in terms of frequency and importance, was lower than that of the CG children. Their perceived importance of social support from their mothers was lower than that of the CG children too. No significant intergroup difference was identified in the other measured aspects.

Effects of treatment

Results of the Group \times Time repeated measure ANCOVA analysis showed no significant main effect of time or intervention types, nor an interaction effect of time and intervention, on almost all the outcome measurements, except for the marginally significant time effect on the children's perceived importance of other members in the family ($F = 4.144$, $p < .05$, $\eta^2 = .228$), which became insignificant when the Bonferroni correction was applied (Table 4). Paired-sample *t* tests revealed that the EG children's perceived importance of social support from other family members was significantly higher at the three-month follow-up and immediately after completing the MFT than at the baseline.

TABLE 3 The comparison between the EG and CG of children at baseline

	Control group	Experimental group	<i>t</i>	<i>df</i>	Two-tails significance
	Mean (<i>SD</i>)	Mean (<i>SD</i>)			
Youth problem severity	15.12 (9.57)	22.65 (18.56)	-2.332	73.748	.022
Youth functioning	79.44 (12.86)	73.14 (18.01)	1.563	74	.122
Perceived sense of competence	3.36 (.40)	3.15 (.84)	1.459	73.966	.149
Father-child relationship	4.25 (1.24)	3.68 (1.30)	1.755	68	.084
Mother-child relationship	4.10 (.77)	3.92 (.89)	.877	74	.383
Frequency of perceived social support					
Overall	4.13 (.65)	3.73 (1.14)	1.631	73	.107
Father	3.83 (1.15)	3.44 (1.37)	1.055	54	.296
Mother	4.31 (.77)	3.96 (1.27)	1.450	70.207	.151
Other in the family	4.08 (.96)	3.58 (1.39)	1.642	48.333	.107
Teacher	4.46 (.63)	3.80 (1.23)	2.434	70	.017
Friend	4.13 (.80)	3.82 (1.42)	1.176	67.175	.244
Importance of perceived social support					
Overall	4.22 (.58)	3.85 (1.00)	1.665	71	.100
Father	4.10 (.78)	3.60 (1.14)	1.683	55	.098
Mother	4.38 (.64)	3.92 (1.02)	2.003	70	.049
Other in the family	3.74 (.93)	3.59 (1.32)	.446	63	.657
Teacher	4.44 (.57)	3.93 (1.08)	2.200	70	.031
Friend	4.28 (.65)	4.02 (1.19)	.979	67	.331

Note: Youth problem severity: sum of 20 items, 0 = never, 1 = one or two times, 2 = several times, 3 = often, 4 = most of the time, 5 = always (range: 0–100); the higher score, the severe of the presenting problems.

Youth functioning: sum of 20 items; 1 = extremely difficult, 2 = quite difficult; 3 = some difficult; 4 = doing okay, 5 = doing great; (rang 0–100); the higher the score, the better the children's functioning.

Perceived sense of competence: mean of 8 items; 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree; higher score denotes higher level of sense of competence.

Parent-child relationship: mean of 7 items; Never = 1, Seldom = 2, Sometimes = 3, Often = 4, Always = 5; The higher the score, the better the parent-child relationship.

Frequency of perceived social support: mean of 15 items in total; Never = 1, Seldom = 2, Sometimes = 3, Often = 4, Always = 5; The higher the score, the more support perceived.

Importance of perceived social support: mean of 15 items in total; 1 = extremely not important, 2 = not important, 3 = some important, 4 = important, 5 = extremely important; The higher the score, the more importance attached to the support.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Though the ANCOVA results for the four measurements did not support the hypotheses regarding the efficacy of the MFT for children, the results did show that, immediately after the MFT and at the three-month follow-up, the EG children's behavioral problems were steadily improving; their functioning was improved, and their father-child and mother-child relationships had also improved. The CG children did not show such a trend of change in these aspects of life. Also notable were some significant improvements in the overall and multiple aspects of the EG children's perceived social support. This group's frequency of overall perceived social support, perceived social support from father and perceived social support from others in the family had increased from 3.73 ($SD = 1.14$), 3.44 ($SD = 1.37$), 3.58 ($SD = 1.39$) at the baseline to 4.32 ($SD = .63$), 4.29 ($SD = .85$), and 4.51 ($SD = .93$) three months after the MFT, with $t = -2.285$, -2.194 , and -2.752 , respectively, and $p < .05$ (Table 4). The results indicate that the MFT has the potential to be effective at enabling children of depressed parents to increase

their perceived social support in general and, specifically, the support from their fathers and from other family members.

The EG children also attached more importance to the mother's support after the MFT intervention, with the means increasing from 3.92 ($SD = 1.02$) in the pre-treatment phase to 4.37 ($SD = .78$) in the post-treatment phase, with $t = -2.087$ and $p < .05$. The EG children's perceived importance of support from other family members at the three-month follow-up (mean = 4.29, $SD = .68$) was found to be significantly higher than that in the pre-treatment phase (mean = 3.59, $SD = 1.32$), with $t = -2.113$ and $p < .05$ (Table 4).

DISCUSSION

The study represents the continued efforts of our clinical team to develop a clientele-specific and culturally resonant model of multiple family therapy in a Chinese context, namely Hong Kong. It adapted our previous model of the MFT (Ma et al., 2017) to the service needs of the children of depressed parents; in addition, the EG children's positive changes illuminate the potentially promising effects of an MFT on different aspects of these children's lives and warrant further development and testing of the intervention. This study added evidence to the limited literature on the intervention outcome of the MFT with regard to helping children with depressed parents and their families (Valdez et al., 2013); it also highlighted the importance of professional care for children of parents with mental illnesses (Cooklin & Barnes, 2020).

At the baseline (T1), compared to the CG children, the EG children had more behavioral problems, which may possibly be explained by the fact that the EG depressed parents' psychological distress levels were higher than those of the CG depressed parents (Ma et al., 2021). The symptoms of depression and anxiety in these depressed parents were more pronounced for depressed mothers with low household incomes and those who had been born outside Hong Kong (Xia & Ma, 2021). Consistent with the results of overseas studies (Withers, 2020), the EG depressed parents' higher psychological distress levels might negatively affect the performance of their parental roles and functions, as well as their parent-child relationships. Their family resources were limited due to poverty, unemployment, and migration. Being pre-occupied with their depressive symptoms, the EG depressed parents might be under-responsive or over-reactive in response to their children's needs, which, in turn, would affect their parent-child relationships and their sense of self-efficacy.

The results of the repeated measure ANCOVA in this study showed that the MFT did not have any effects on different aspects of the children's lives. Hence, the four hypotheses cannot be confirmed. However, potentially positive effects of the MFT were found for the EG children's perceived frequency of social support, both overall and that from the father and other family members three months after the MFT intervention. The positive effects of the MFT may be attributable to the parents' increased awareness of their children's needs, the creation of a sense of community, and a network of mutual help within the MFT, which in turn would reduce the sense of loneliness that children of depressed parents usually develop (Cooklin & Barnes, 2020). Probably for similar reasons, significant positive effects resulting from the MFT were also shown for the EG children's perceived importance of their mother's and other family members' support, indicating that the EG children attached more importance to their mother's support immediately after the intervention and to other family members' support at three-month follow-up. Notably, children in the CG did not go through a similar change in the post-treatment phase or at the three-month follow-up.

As the EG children had more behavioral problems to begin with, it is not surprising to see that they benefited more from the MFT intervention than did the healthier CG children. The results also indicated the potential efficacy of the MFT in decreasing children's behavioral problems and in improving their functioning on the whole, which was different from

TABLE 4 Effects of treatment on experimental group and comparison group (ANCOVA for time effect and interaction effect analysis and paired-sample Tests for within group comparison)

Variables	Comparison group				Experimental group				Repeated measure MANCOVA							
	Baseline		Post-test		Follow-up		Baseline		Post-test		Follow-up		Time effect		Group*Time Interaction effect	
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	F	η^2	F	η^2
Youth problem severity	15.12 (9.57)	14.33 (12.87)	14.17 (7.25)	14.17 (7.25)	22.65 (18.56)	19.16 (.30)	12.96 (10.67)	12.96 (10.67)	.930	.032	.772	.027				
Youth functioning	79.44 (12.86)	73.67 (15.11)	79.17 (12.77)	79.17 (12.77)	73.14 (18.01)	76.76 (72)	82.08 (9.98)	82.08 (9.98)	1.942	.065	2.079	.069				
Perceived sense of competence	3.36 (.40)	3.23 (0.50)	3.64 (.35)	3.64 (.35)	3.15 (.84)	3.26 (.25)	3.23 (.60)	3.23 (.60)	1.045	.036	1.584	.054				
Father-child relationship	4.25 (1.24)	3.65 (1.15)	3.63 (.85)	3.63 (.85)	3.68 (1.30)	4.03 (.18)	4.33 (1.25)	4.33 (1.25)	.574	.022	.022	.001				
Mother-child relationship	4.10 (.77)	4.04 (0.84)	4.05 (.89)	4.05 (.89)	3.92 (.89)	4.16 (.20)	4.36 (.73)	4.36 (.73)	1.344	.049	.247	.009				
PSS overall (freq)	4.13 (.65)	4.02 (.84)	4.00 (.86)	4.00 (.86)	3.73 (1.14)	3.92 (.78)	4.32 (.63)*	4.32 (.63)*	.978	.036	.319	.012				
PSS from father (freq)	3.83 (1.15)	3.94 (1.25)	3.77 (1.09)	3.77 (1.09)	3.44 (1.37)	3.62 (1.30)	4.29 (.85)*	4.29 (.85)*	.531	.032	.193	.012				
PSS from mother (freq)	4.31 (.77)	4.26 (.96)	4.08 (.94)	4.08 (.94)	3.96 (1.27)	4.30 (.93)	4.45 (.93)	4.45 (.93)	1.054	.062	.078	.005				
PSS from other fam (freq)	4.08 (.96)	4.09 (.78)	4.27 (1.16)	4.27 (1.16)	3.58 (1.39)	3.97 (1.05)	4.51 (.62)*	4.51 (.62)*	.639	.038	1.666	.094				
PSS from teacher (freq)	4.46 (.63)	4.08 (.84)	3.67 (.91)	3.67 (.91)	3.80 (1.23)	3.99 (.98)	4.33 (.83)	4.33 (.83)	1.921	.107	.520	.031				
PSS from friend (freq)	4.13 (.80)	4.00 (.83)	4.13 (.96)	4.13 (.96)	3.82 (1.42)	3.88 (1.12)	4.20 (.81)	4.20 (.81)	1.260	.073	.027	.002				
PSS overall (imp)	4.22 (-.58)	4.33 (.42)	4.76 (.33)	4.76 (.33)	3.85 (1.00)	4.01 (.85)	4.32 (.61)	4.32 (.61)	2.141	.076	.208	.208				
PSS from father (imp)	4.10 (.78)	4.14 (.87)	4.73 (.43)	4.73 (.43)	3.60 (1.14)	3.75 (1.26)	4.18 (1.15)	4.18 (1.15)	3.048	.179	.877	.059				
PSS from mother (imp)	4.38 (.64)	4.59 (.60)	4.83 (.41)	4.83 (.41)	3.92 (1.02)	4.37 (.78)*	4.60 (.69)	4.60 (.69)	2.537	.153	.525	.036				
PSS from other fam (imp)	3.74 (.93)	3.94 (.63)	4.73 (.60)	4.73 (.60)	3.59 (1.32)	3.72 (1.20)	4.29 (.68)*	4.29 (.68)*	4.144*	.228	2.002	.125				
PSS from teacher (imp)	4.44 (.57)	4.33 (.44)	4.89 (.17)	4.89 (.17)	3.93 (1.08)	4.03 (1.09)	4.20 (.81)	4.20 (.81)	1.972	.123	.681	.046				
PSS from friend (imp)	4.28 (.65)	4.37 (.64)	4.93 (.15)	4.93 (.15)	4.02 (1.19)	4.10 (1.07)	4.38 (.73)	4.38 (.73)	2.731	.163	.834	.056				

* $p < .05$, ** $p < .01$, *** $p < .00$ (original), # $p < .008$ (Bonferroni correction).

the findings of Valdez et al.'s (2013) study in regard to the treatment outcome of the MFT for Latino families facing maternal depression. The youth in their study reported increased peer problems after the intervention, a result for which the authors suggested further investigation (Valdez et al., 2013). Following the efforts of Valdez et al. (2013), our study contributed by indicating the positive effect the MFT had on children's functioning.

The EG children's positive changes in perceived social support, both overall and from the father and other family members, may lead empirical evidence for the efficacy of the MFT in strengthening the children's emotional connections within the family (Lemmens et al., 2009; Sanford et al., 2003; Valdez et al., 2013), specifically connections with their fathers and other family members such as siblings. Through the MFT, the group leaders created a platform, which was safe and free of stigma and discrimination. Similar to the reaction of children in the case of the therapeutic mechanism of *Kidstime* (Cooklin & Barnes, 2020), the children felt secure and safe playing with their mothers (whether depressed or healthy), their fathers and their siblings. By inviting and encouraging the whole family's participation, the MFT gave these families quality time together. This may have helped especially those healthy parents who may have been ignoring their children's emotional needs because of the twin responsibilities of supporting the family financially and seeking treatment for the ill spouse. Quality family time is crucial for children of parents with parental depression—it is usually lacking due to the unsatisfactory mental health of the ill parent. More importantly, via intrafamily activities (e.g., family story, blindfold) and interfamily activities (e.g., radio program or magic forest), these children could openly discuss their concerns about parental depression. Echoing Cooklin and Barnes' (2020) suggestions about providing children with appropriate information concerning their parents' mental health issues, the open discussion and intergenerational dialog between these children and their parents on the taboos and myths about parental depression used in this MFT program did help to ameliorate the children's confusion, shame, anger and sense of loneliness.

Two reasons may explain the EG children's positive changes. First, during the MFT, the children were free from worrying about and taking care of their depressed parents and they could be themselves, enjoying age-appropriate activities, as their parents were taken care of and were gainfully engaged in the MFT. The MFT activities and the atmosphere might have lessened the children's burden of being young carers, allowing them to look after their own needs. Second, their psychological distress was reduced, possibly because of their depressed parents' positive changes after attending the MFT. The remarkable changes in the depressed parents and their children during the post-treatment phase and at the three-month follow-up might have had reciprocal positive effects on one another. As the children became less depressive and less anxious, the parents might have become warmer, more caring and spontaneous in relating to their children (Withers, 2020). They were observed smiling more while playing with their children, which might have made them more approachable; perhaps they became an "anchor" which the children could depend on (Cooklin & Barnes, 2020). It is not surprising that, after the MFT, the children attached more importance to maternal support and to other family members' support.

Despite the children's positive changes after the MFT intervention, some refinement of the children's activities is needed. Age-appropriate information on depression, which may be delivered via creative media such as skits or videos, should be offered (Cooklin & Barnes, 2020). More outdoor activities should be organized to help deepen the children's interfamily friendships and enhance their sense of self-efficacy.

Also, with about 45% of the EG children having special learning difficulties (e.g., ADHD, ASD, dyslexia), there is a clear need for specialized school-based and community-based training and supportive educational services in addition to the provision of the MFT. The same is applicable to the low-income families dealing with parental depression, which were plagued by unemployment, financial difficulties, poor housing conditions and marital discord. Mobilization of societal resources and the provision of social services is an integral part of helping these families.

Caution is required when interpreting the results of our study because of certain limitations. First, as the group assigning of the participating families, including the children of the depressed parents, was not randomized with consideration of the children's characteristics but were based on the depressed parents' motivation and commitment, it may have skewed the sample and affected the external validity of the study. Second, similar to what has occurred in other panel studies, the non-response rate of the children from the pre-treatment phase to the post-treatment phase and from the post-treatment phase to the three-month follow-up was high, especially that of children in the comparison group, which led to unbalanced groups and may have resulted in skewed results. Third, the small sample size and the consequent lack of sufficient statistical power for a sophisticated analysis limits the possibilities for hypothesis testing. Lastly, the self-reported nature of the measures adopted means they might not have captured any positive changes in the children occurring after the MFT intervention.

In view of the limitations of our study, it is recommended that future researchers adopt a randomized control trial research design with the arrangement of a wait-list control group to increase the response rate and the external reliability of the study. A larger sample from mental health clinics and hospitals, as well as community-based psychiatric rehabilitation agencies, should be recruited. If resources allow, incentives such as a visit to a theme park could be offered to increase the children's response rate. In addition, a qualitative section that explores the child participants' subjective experiences of the MFT would also be illuminating for understanding the efficacy as well as the change mechanism of the MFT in helping children of parents diagnosed with depression.

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