

Dignity therapy, psycho-spiritual well-being and quality of life in the terminally ill: systematic review and meta-analysis

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ABSTRACT

Objectives Dignity therapy (DT) is a brief, individualised psychotherapy that aims to alleviate psychosocial and spiritual distress in the final stages of life. It is unknown yet whether DT can enhance sense of dignity and improve psychological and spiritual well-being as well as quality of life of terminally ill patients.

Methods We searched PubMed, EMBASE, CINAHL plus, ProQuest Health & Medical Complete, PsycINFO and the Cochrane Library, as well as Chinese databases including Weipu Data, Wanfang Data and China National Knowledge Infrastructure from inception to 30 April 2021, for randomised controlled trials (RCTs) assessing the effects of DT on dignity, psycho-spiritual well-being and quality of life of terminally ill patients receiving palliative care.

Results We identified 507 unique records, and included 9 RCTs (871 participants). Comparator was standard palliative care. DT did not improve terminally ill patients' sense of dignity ($p=0.90$), hope ($p=0.15$), spiritual well-being ($p=0.99$) and quality of life ($p=0.23$). However, DT reduced anxiety and depression after intervention (standardised mean difference, $SMD=-1.13$, 95% CI $(-2.21$ to $-0.04)$, $p=0.04$; $SMD=-1.22$, 95% CI $(-2.25$ to $-0.18)$, $p=0.02$, respectively) and at 4 weeks post-intervention ($SMD=-0.89$, 95% CI $(-1.71$ to $-0.07)$, $p=0.03$; $SMD=-1.26$, 95% CI $(-2.38$ to $-0.14)$, $p=0.03$, respectively).

Conclusion DT can be offered as a psychological intervention for terminally ill patients to reduce their anxiety and depression. More studies are needed to further evaluate the effects of DT on terminally ill patients' dignity, spiritual well-being and quality of life.

INTRODUCTION

Terminally ill patients face a myriad of experiences that threaten to undermine their psychological, existential and

Key messages

What was already known?

- ⇒ Dignity therapy (DT) has shown great promise as a value-affirming intervention for palliative patients.
- ⇒ The beneficial effects of DT on end-of-life experience are clear; however, previous original studies and systematic reviews reported that effectiveness of DT has yet to be proven.

What are the new findings?

- ⇒ DT is an effective psychological intervention for terminally ill patients to reduce their anxiety and depression after immediate intervention and at 4-week follow-up.
- ⇒ However, the effects of DT on terminally ill patients' dignity, spiritual well-being and quality of life need further verification.

What is their significance?

- ⇒ DT can be offered to terminally ill patients as a choice to decrease their anxiety and depression.
- ⇒ More robust evidence is needed to confirm the short-term and long-term effects of DT on terminally ill patients' spiritual well-being and quality of life.

spiritual integrity. They suffer from not only a series of complex physical symptoms but also psychological distresses, such as anxiety, fear, helplessness and despair. These distresses to a large extent deprive them of the sense of meaning and value of life, and reduce their quality of life (QoL) and dignity.¹ Improving terminally ill patients' QoL and ensuring them a peaceful and dignified death are the main goals of palliative care, which deals with patients' physical suffering, addresses their psychological and spiritual domains of end-of-life experience and improves their QoL in the end-of-life stages by



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means of early identification and impeccable assessment and treatment of multidimensional suffering.²

Over the past decade, dignity therapy (DT) has emerged as one of the most studied psychotherapeutic interventions in palliative care. DT, a brief, individualised psychotherapeutic intervention proposed by Canadian scholar Harvey Max Chochinov as a novel psychotherapy, was used to relieve psychological and existential distress in terminally ill patients.^{3–7} DT is conducted by trained therapists guiding terminally ill individuals through discussions, which aim to settle relationships of terminally ill patients and loved ones, share words of love and prepare a legacy document for loved ones.^{3,5}

DT has shown great promise as a value-affirming intervention for palliative patients.⁸ Literature showed that DT has clear and consistent overwhelming acceptability,^{3,5,9,10} which is quite rare for any medical therapies,⁵ especially in psychosocial spiritual care.⁵ In the first trial of DT conducted by Chochinov and his team,³ 91% of terminally ill patients were satisfied with the intervention; 86% reported that it was useful or very useful; 76% indicated heightened sense of dignity; 68% and 67% had increased ‘sense of purpose’ and ‘sense of meaning’, respectively; 47% showed increased desire to live; and 81% indicated that it helped or would be of help to their family. Another study¹¹ indicated that DT outperformed standard palliative care (SPC) and client-centred care and could improve terminally ill patients’ QoL, sense of dignity, spiritual well-being and change how family see and appreciate them, as well as to be helpful to their family.

The beneficial effects of DT on end-of-life experience are clear; however, previous original studies^{3,11} and systematic reviews^{5,6} reported that the effectiveness of DT has yet to be proven. They found that DT did show significant improvements in outcomes in single group and pre–post-trial studies^{4,9} while few significant differences were found in randomised controlled trials (RCTs) on primary outcome measures, such as dignity, when compared with standard care control groups.^{5,6} Regarding this issue, Hall and colleagues¹² indicated that DT might not directly address terminally ill patients’ physical symptoms or functions, and thus it might not be wise to use the patient dignity inventory (PDI) which includes these dimensions to evaluate the effects of DT. Another possible explanation is that those studies’ sample sizes were small and might be underpowered,⁵ since the sample size was mainly between 10 and 40.^{8,9,13,14} Further to this, a short interval between the completion of DT and follow-up assessment might not be appropriate to collect data,⁵ as patients may need more time to change by reflecting on DT experience¹⁴ or sharing the legacy documents with significant ones.⁵ A longer interval may be needed before follow-up assessment, despite terminally ill patients’ deterioration or even death over a long time.⁵

Previous systematic reviews^{5,6,15,16} have synthesised findings from existing DT studies, but have not yet summarised the overall effects of DT on dignity, psycho-spiritual well-being and QoL of terminally ill patients in a meta-analytically manner. Therefore, this review aimed to examine DT’s effects in randomised design studies, on a number of outcomes, including dignity, psycho-spiritual well-being and QoL in terminally ill patients who received palliative care but not active treatment, to improve estimates of the size of the effect.

METHODS

This meta-analysis was conducted following the reporting guideline of Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement.¹⁷

Search strategy

The following databases, including PubMed, EMBASE, CINAHL plus, ProQuest Health & Medical Complete, PsycINFO and Cochrane Library, were thoroughly searched from inception to 30 April 2021. The keywords and MeSH searches were ‘dignity therapy’, ‘dignity psychotherapy’, plus reviewing the reference lists of eligible studies and relevant reviews. We also searched three commonly used Chinese databases including Weipu Data, Wanfang Data and China National Knowledge Infrastructure using the keyword ‘dignity therapy’. Although we applied no language restrictions, we excluded studies that were published in languages other than English or Chinese. All relevant search findings were then exported to Endnote X8¹⁸ for further assessment.

Selection criteria

The inclusion criteria were: (1) RCTs, sustaining any length of follow-up; (2) study participants were terminally ill patients with an incurable diagnosis and receiving palliative care regardless of the care settings; (3) study measures focusing on terminally ill patients’ dignity, psycho-spiritual well-being and QoL; and (4) the intervention of DT followed the complete protocol of DT proposed by Chochinov and colleagues.¹¹ The exclusion criteria were: (1) study participants were not at the end stage of their life or those still receiving active treatments instead of hospice or palliative care; (2) studies using an abbreviated version of DT; and (3) preliminary study that is part of a bigger RCT. The comparator was SPC. Outcomes of interest were dignity, psychological distress with a focus on anxiety and depression, spiritual well-being and QoL.

After removing duplicates, the first two authors independently checked study eligibility of each title and abstract generated by search strategy. Those meeting the inclusion criteria were obtained full texts for further evaluation. Disagreements about inclusion were resolved by consensus. The process of data selection is outlined in [figure 1](#).

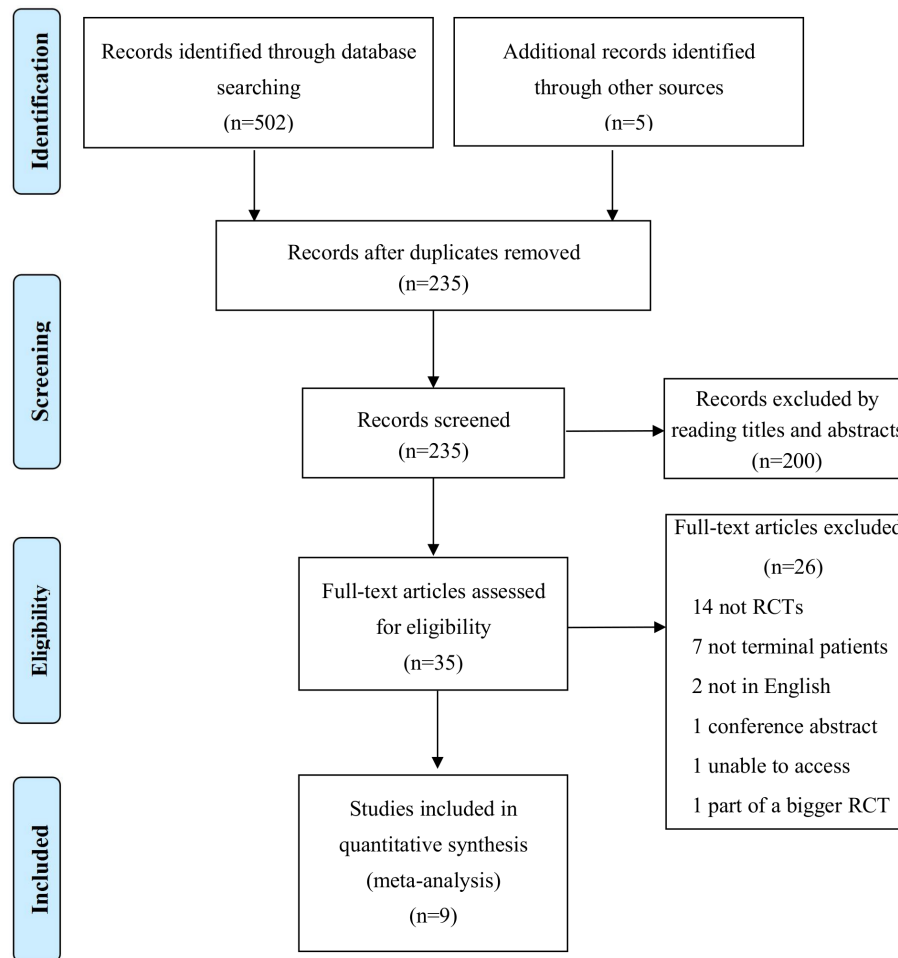


Figure 1 PRISMA flow diagram. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses; RCTs, randomised controlled trials.

Data extraction and quality assessment

Data were extracted from the included studies and were presented using matrix, a standardised extraction form. The extraction included: author, year, study design, sample size, setting, participant characteristics, comparator, outcome measures and results, which included dignity, psychological outcomes, spiritual outcomes and QoL. Continuous variables, for instance, means and SD, for primary and secondary outcomes were extracted for meta-analysis directly or indirectly via calculating from relevant reported statistical results.

Risk of bias in individual studies

Risk of bias was assessed independently by two authors using the Cochrane Collaboration's tool for assessing risk of bias in randomised trials,^{19 20} which includes random sequence generation (selection bias), allocation concealment (selection bias), blinding of participants and personnel (performance bias), blinding of outcome assessment (detection bias), incomplete outcome data (attrition bias), selective reporting (reporting bias) and other bias. Each domain was categorised as three

levels: low risk of bias, unclear and high risk of bias. Disagreements were resolved by consensus.

Data analysis

The Cochrane Review Manager V.5.4 statistical software was used to analyse the data. The heterogeneity of the included studies was examined by using χ^2 and I^2 statistics. If I^2 was less than 50% and the p value was greater than 0.10, the heterogeneity was considered to be low (homogeneity), and a fixed-effect model was used to combine statistically homogeneous studies.²¹ Otherwise, a random-effect model was used to summarise the results. All outcomes were continuous data, and weighted mean differences (WMD) were used when outcomes had same measurement scales, with corresponding 95% CI; standardised mean differences (SMD) were calculated when different scales were used to measure outcomes. Sensitivity analysis was conducted to explore sources of heterogeneity. For studies reporting results at multiple time points, sensitivity analyses were performed including results from other time point for each study in separate

models. In this study, all the statistical tests were two tailed, with $p < 0.05$ indicating significant difference.

RESULTS

Study selection

A total of 507 articles were identified. After removing duplicates (272 studies), 235 were assessed by titles and abstracts, of which 200 were excluded due to not meeting the inclusion criteria. The remaining 35 studies were reviewed in full text, 14 of which were excluded because of non-RCTs, 7 were excluded for not focusing on terminally ill patients, 1 was excluded due to unavailability of data, another was excluded as a conference abstract, 2 were excluded as not written in English or Chinese and 1 was excluded because of being part of a bigger RCT and repetitive data. Finally, nine RCT studies were included.^{11 12 22–28} See [figure 1](#) for the study selection process.

Study characteristics

The nine included RCTs involved 871 participants. Characteristics of included studies were shown in [table 1](#). Sample size of the studies varied between 45 and 326, and all participants had a terminal diagnosis receiving palliative or hospice care in a hospital, community or at home. DT in all included studies was delivered face to face except one that was delivered via videophone,⁸ which was included based on the judgement that DT was applied according to the DT protocol, and patients and therapists were still able to see and hear one another, thus patients had similar experience as face-to-face DT.

Outcomes included: (1) dignity, measured by the PDI; (2) psychological well-being with a focus on anxiety and depression, measured using the Hospital Anxiety and Depression Scale, Self-rating Anxiety Scale, Self-rating Depression Scale or items in the Structured Interview for Symptoms and Concerns (SISC); (3) general spiritual well-being, measured by the Functional Assessment of Chronic Illness Therapy spiritual well-being scale and hope, measured by the Herth Hope Index and item in SISC; and (4) QoL, measured using the EuroQoL-5 Dimension, Functional Assessment of Cancer Therapy-General or the QoL Scale. Among the nine studies, three^{11 26 28} assessed results immediately after the completion of the intervention. Additional follow-up analyses were done in six studies,^{12 22–25 27} ranging from 4 days to 30 days later. Since DT is considered as a psychological and spiritual intervention, physical symptoms do not seem to be directly influenced by DT,^{22 29} so we did not include outcome measures of physical distress besides the domain of symptom distress in PDI.

Among the nine studies, six^{11 22–25 27} involved patients with terminal illness associated with a life expectancy of less than 6 months but one²⁶ with less than 12 months, and the other two studies^{12 28} did not mention patients' life expectancy but stated they had

advanced or incurable disease and received palliative care.

Risk of bias of the included studies

Risk of bias assessment is shown in [figure 2](#). Six studies reported details of randomisation processes and allocation concealment. All studies consistently lacked blinding of participants and personnel to the intervention, which was expected because of the nature of the intervention. Five studies did not describe the blinding of outcome assessment (detection bias). The three studies from China did not detail the process of risk of bias. Other potential biases were generally well addressed.

Effects of DT on dignity

Five studies^{11 12 24 26 27} involving 498 terminally ill patients (270 in the DT group, 228 in the control group) reported the effect of DT on dignity. However, the original data of PDI in one study²⁴ was unavailable. Scaling of dignity was the same, which was the PDI, so WMD was used. One study²⁷ showed statistically significant difference in dignity between DT and the control group while the others^{11 12 26} showed no significant differences. The results demonstrated that the effect of DT on dignity was not statistically significant (SMD = -0.51, 95% CI (-8.40 to 7.39), $p = 0.90$). Heterogeneity of the included studies was large ($p = 0.01$, $I^2 = 73%$) ([figure 3](#)), and a sensitivity analysis was then conducted. After excluding the study by Wang and Zhang,²⁷ the pooled effects overall size showed no significant difference in dignity between the DT group and the control group (SMD = 2.79, 95% CI (-2.50 to 8.08), $p = 0.30$) and heterogeneity was slight ($I^2 = 0%$, $p = 0.93$).

Further analyses were conducted to evaluate the effect of DT on the subdomains of the PDI (including symptom distress, existential distress, dependency, peace of mind and social support). Three studies^{11 26 27} reported differences in the five sub-domains of this scale as continuous variable. Heterogeneity of the included studies was large ($p < 0.001$, $I^2 = 91%$), and a random-effect model was thus applied to pool the data. The results demonstrated there were no decreases in the subdomains of PDI but there was a significant difference on the overall dignity (WMD = -0.98, 95% CI (-1.87 to -0.08), $p = 0.03$) ([figure 4](#)). After excluding the study by Wang and Zhang,²⁷ heterogeneity of the included studies was small ($p = 0.54$, $I^2 = 0%$), and the pooled effects overall size showed that DT did not have a significant impact on terminally ill patients' dignity (WMD = 0.16, 95% CI (-0.14 to 0.45), $p = 0.30$).

Effects of DT on anxiety and depression

Anxiety and depression were reported in five studies^{11 12 23 25 27} including 468 terminally ill patients. Three studies^{11 12 25} showed no statistically significant differences in anxiety and depression post intervention

Table 1 Characteristics of studies

Reference	Study design Sample size	Setting	Participants	Comparator/ control groups	Outcomes			Follow-up
					Dignity	Psychological	Spiritual	
Chochinov <i>et al</i> ¹¹	3-arm RCT N=326	Hospital or community-based palliative care	Patients with terminal illness	SPC (n=111) CCC (n=107)	PDI	Anxiety and depression (HADS)	FACIT spiritual well-being scale; Hope (SISC)	2-item QoL scale N/A
Hall <i>et al</i> ¹²	RCT N=45	Hospital palliative care (both inpatient and outpatient)	Patients with advanced cancer	SPC (n=23)	PDI	Anxiety and depression (HADS)	Hope (HHI)	EQ-5D, two items assessing QoL 1 week and 4 weeks after DT
Iani <i>et al</i> ²²	RCT N=64	Palliative care unit	Terminally ill patients	SPC (n=32)	N/A	N/A	FACIT spiritual well-being scale	N/A 7–10 days, 15–20 days
Jia <i>et al</i> ²³	RCT N=62	In-patient palliative care	Patients with advanced lung cancer	SPC (n=31)	N/A	Anxiety (SAS) Depression (SDS)	N/A	N/A 1 month after DT
Julião <i>et al</i> ²⁴	RCT N=80	Inpatient palliative care	Patients with terminal illness	SPC (n=39)	PDI	N/A	DfD; DS	N/A Day 4, day 15 and day 30 after DT
Julião <i>et al</i> ²⁵	RCT N=80	Inpatient palliative care	Patients with terminal illness	SPC (n=39)	N/A	Anxiety and depression (HADS)	N/A	N/A Day 4, day 15 and day 30 after DT
Vuksanovic <i>et al</i> ²⁶	3-arm RCT N=70	Hospital and home palliative care	Patients with advanced illness	SPC (n=24) LR (n=23)	PDI	N/A	N/A	FACT-G N/A
Wang and Zhang ²⁷	RCT N=94	In-patient palliative care	Patients with advanced lung cancer	SPC (n=47)	PDI	Anxiety (SAS) Depression (SDS)	N/A	N/A 10 days after DT
Xu <i>et al</i> ²⁸	RCT N=50	In-patient palliative care	Patients with advanced cancer	SPC (n=25)	N/A	N/A	N/A	QoL N/A

CCC, client-centred care; DfD, desire for death; DS, demoralisation syndrome; DT, dignity therapy; EQ-5D, EuroQoL-5 Dimension; FACIT, Functional Assessment of Chronic Illness Therapy; FACT-G, Functional Assessment of Cancer Therapy-General; HADS, Hospital Anxiety and Depression Scale; HHI, Herth Hope Index; LR, life review; N/A, not available; PDI, Patient Dignity Inventory; QoL, quality of life; RCT, randomised controlled trial; SAS, Self-rating Anxiety Scale; SDS, Self-rating Depression Scale; SISC, Structured Interview for Symptoms and Concerns; SPC, standard palliative care.

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Chochinov 2011	+	+	-	+	+	+	?
Hall 2011	+	+	-	?	+	+	?
Iani 2020	+	+	-	-	+	+	?
Jia 2015	-	-	-	?	?	?	?
Juliao 2014	+	+	-	+	+	?	+
Juliao 2017	+	+	-	+	+	+	+
Vuksanovic 2017	+	+	-	+	+	+	?
Wang 2018	+	?	?	?	?	?	?
Xu 2018	-	-	-	?	?	?	?

Figure 2 Risk of bias summary of the included studies.

between the DT group and the control group, while two other studies^{23 27} showed significant differences. Heterogeneity of the included studies were large, and the $I^2=96%$, $p<0.001$ for anxiety, and the $I^2=95%$, $p<0.001$ for depression, respectively. Random-effect models were, therefore, performed and the pooled effect size showed that there were significant differences on anxiety (SMD=-1.13, 95% CI (-2.21 to -0.04), $p=0.04$) (figure 5) and depression (SMD=-1.22, 95% CI (-2.25 to -0.18), $p=0.02$) (figure 5) between DT and the control group. Given the heterogeneity, a sensitivity analysis was performed to verify the reliability of the results. After excluding

three studies^{23 25 27} that showed different results from the analyses, the results did not favour the DT group on the variables of anxiety (SMD=0.14, 95% CI (-0.11 to 0.39), $p=0.28$) and depression (SMD=-0.10, 95% CI (-0.35 to 0.15), $p=0.45$).

Three studies^{12 23 25} involving 116 terminally ill patients (58 in the DT group, 58 in the control group) reported anxiety and depression at 4-week follow-up. Scaling of anxiety and depression in the studies were different, thus, SMD was used. There was a high level of heterogeneity in the meta-analysis for anxiety ($I^2=74%$, $p=0.02$) and depression ($I^2=84%$, $p=0.002$), and random-effect models were then applied to pool the data. The pooled effects size showed there was statistically significant difference on anxiety (SMD=-0.89, 95% CI (-1.71 to -0.07), $p=0.03$) and depression (SMD=-1.26, 95% CI (-2.38 to -0.14), $p=0.03$) at 4-week follow-up between the DT group and the control group (figure 6).

Effects of DT on hope, spiritual well-being and QoL

Two studies^{11 12} including 245 terminally ill patients (120 in the DT group, 125 in the control group) explored hope after intervention. Scaling of hope was different in the two studies, and thus SMD was used. Heterogeneity was slight ($p=0.30$, $I^2=7%$), and a fixed-effect model was performed to summarise the results, which showed no statistically significant difference (SMD=0.18, 95% CI (-0.07 to 0.44), $p=0.15$) on terminally ill patients' hope between the DT group and the control group, although in favour of DT (figure 7).

Two studies^{11 22} with 254 participants (123 in the DT group, 131 in the control group) reported general spiritual well-being after intervention. The scales used in the two studies measuring spiritual well-being were the same, and thus, WMD was used. The result showed that heterogeneity was slight ($p=0.27$, $I^2=17%$), and a fixed-effect model was performed, which demonstrated that there was no significant difference (WMD=0.00, 95% CI (-1.18 to 1.18), $p=0.99$) on spiritual well-being between the DT group and the control group (figure 7).

Three studies^{11 12 28} with 295 participants (145 in the DT group, 150 in the control group) reported QoL after immediate intervention. Two studies^{11 12} showed no significant difference in QoL between the DT group

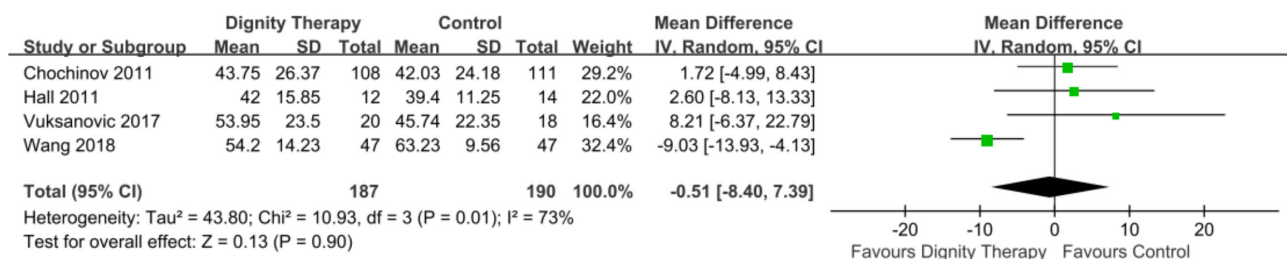


Figure 3 Effect of Dignity Therapy on overall dignity at post intervention.

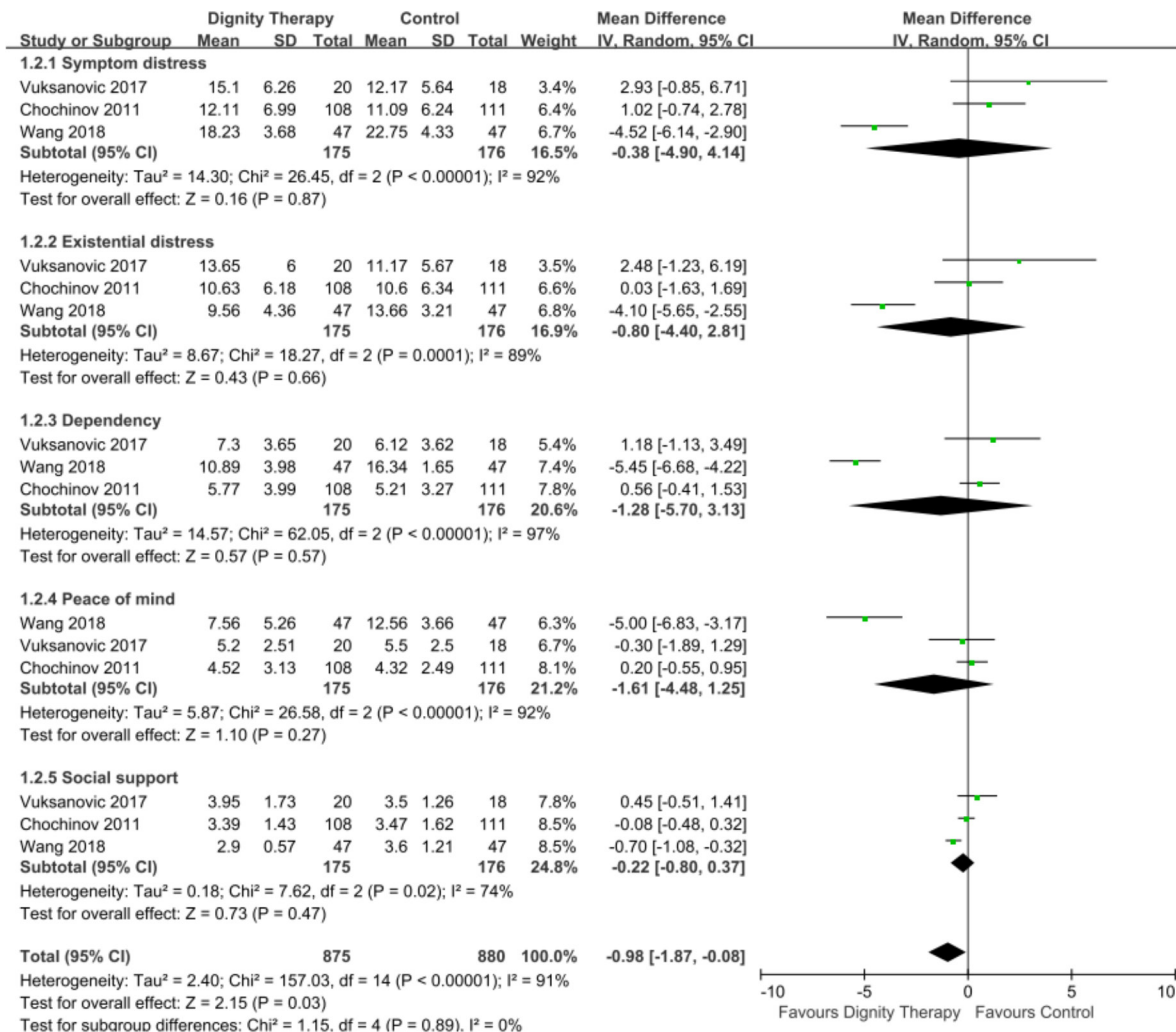


Figure 4 Effects of Dignity Therapy on PDI subdomains at post intervention. PDI, Patient Dignity Inventory.

and the control group, while the other study²⁸ showed significant difference. Heterogeneity of the included studies was moderate ($I^2=49\%$, $p=0.14$), and therefore, a fixed-effect model was performed. The pooled effect size revealed no significant difference between the DT group and the control group (SMD=0.14, 95% CI (-0.09 to 0.37), $p=0.23$), though in favour of the DT group (figure 7).

Other findings

High satisfaction with DT was consistently reported by patients in the majority of the included studies.^{11 12 22 25 26} None of the included studies reported side effects. Instead, studies reported that compared with SPC, DT was significantly more likely to be experienced by patients as helpful by changing how family sees and appreciates them,¹¹ making them feel more valued,^{11 25} improving their meaning in life,^{11 12} helping them prepare for the future and unfinished business,^{11 25} and promoting generativity and ego integrity.^{11 12 25 26}

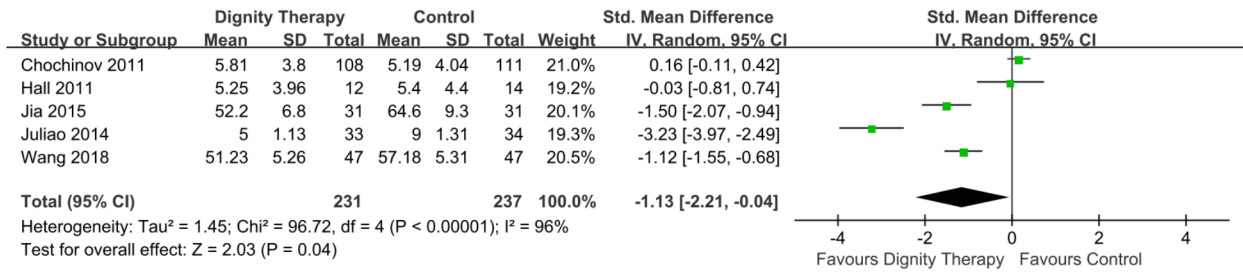
Three of the nine studies explored patients' perspectives on the effects of DT on their family, and patients

in these studies believed that DT was helpful to their family now or in the future.^{11 12 26} One study assessed the benefits of DT from the perspectives of family members or carers, in which the majority of family members deemed DT to be helpful by changing the way they saw or appreciated the dying family, and would like to recommend it to others.²⁶ However, DT was not statistically significant helpful than other interventions such as client-centred care or life review.^{11 26}

DISCUSSION

This systematic review and meta-analysis evaluated the effects of DT on dignity, psycho-spiritual well-being and QoL in terminally ill patients receiving hospice or palliative care, regardless of the cultural contexts, care settings and patient diagnoses. Results showed that compared with SPC, DT is more effective to improve terminally ill patients' anxiety and depression in general; however, it seems that there is no impact on their sense of dignity, hope, general spiritual well-being and QoL. Although there is no significant influence on

Anxiety



Depression

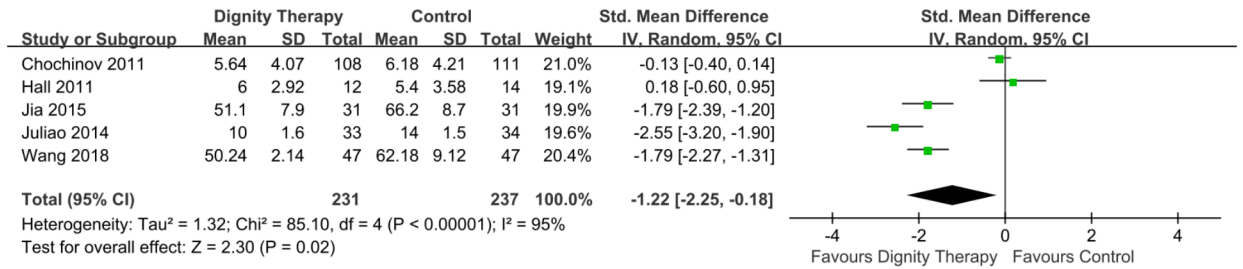


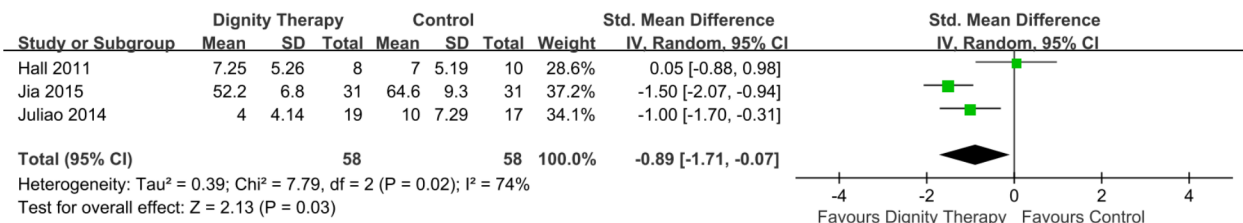
Figure 5 Effects of Dignity Therapy on anxiety and depression at postintervention.

patients' dignity, the results demonstrated that there was a decrease on the overall dignity-related distress of terminally ill patients, which is consistent with the finding of a previous systematic review and meta-analysis.¹⁵ This is probably because DT was developed based on several specific items of the dignity model, so it has significant impacts on patients' overall sense of dignity; however, its effects could not be reflected in the domains of existential distress, dependency, peace of mind and social support, respectively.⁵

The significant meta-analysis results on anxiety and depression presented in this study are inconsistent with the findings of a previous meta-analysis,³⁰

which indicated that the effect of DT on anxiety is inconclusive, but consistent with the results of another meta-analysis¹⁵; the latter demonstrated that DT could improve advanced cancer patients' anxiety and depression.¹⁵ The inconsistent findings do not mean that DT is ineffective for anxiety in palliative patients as the base level of anxiety in all included studies was relatively low, resulting in difficulty in detecting significant differences. It was suggested that patients with higher levels of distress may benefit more from DT than those with low levels,⁵ so further research should explore whether patients with high levels of anxiety can benefit from DT. In this study, statistically significant decrease

Anxiety



Depression

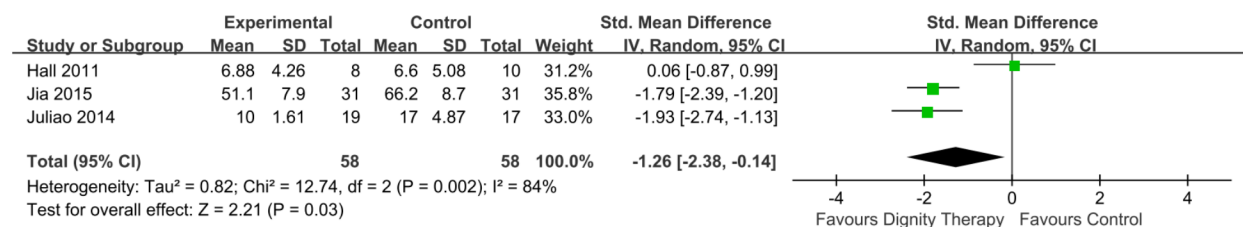
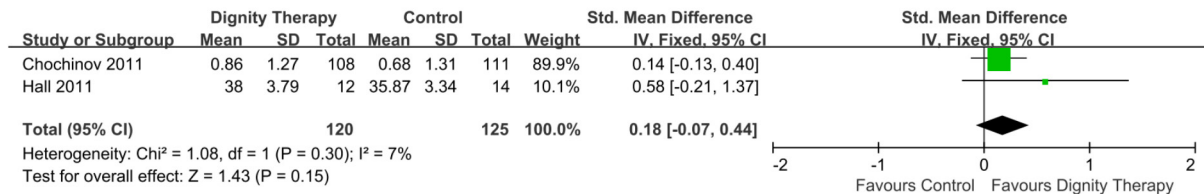
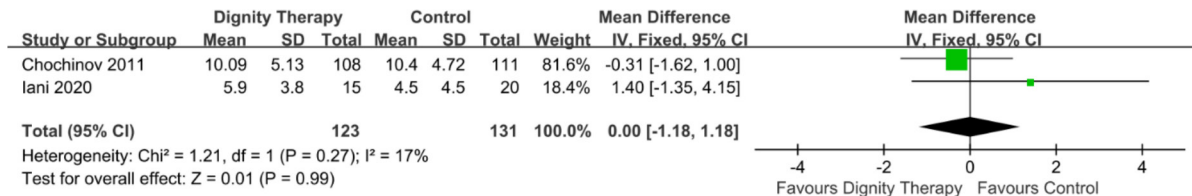


Figure 6 Effects of Dignity Therapy on anxiety, depression at 4-week follow-up.

Hope



Spiritual well-being



Quality of life

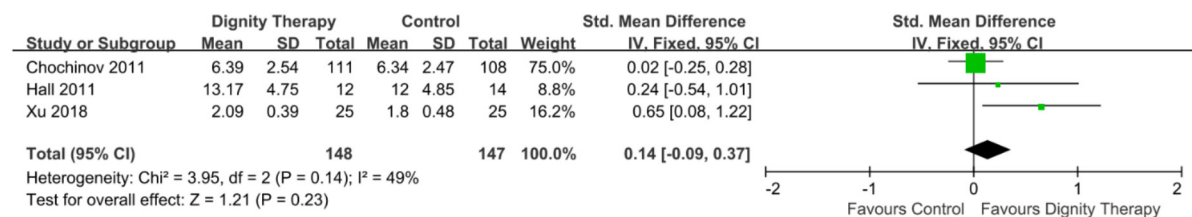


Figure 7 Effects of Dignity Therapy on hope, spiritual well-being and quality of life after intervention.

in patients' anxiety and depression was found in the DT group, indicating that terminally ill patients may benefit from DT in relieving anxiety and depression.

In terms of the long-term effects, although 1-month follow-up effects of DT on neither anxiety nor depression was significant, compared with the control group, DT was a promising intervention to decrease anxiety and depression, as the pooled effect sizes on both anxiety and depression were in favour of the DT group. Patients may need more time to reflect on their DT experience or to share the DT documents with significant others, to allow for changes that may emerge.⁵ In order to capture the long-term impact and to determine the ideal interval between the completion of DT and follow-up evaluation, future study may include longer interval, such as 1 week, 2 weeks or even longer, for follow-up assessment of outcomes. More studies were needed to determine the long-term effects on anxiety and depression at different time points.

It is noteworthy that the statistical heterogeneities of anxiety, depression and QoL were large, which are probably due to various measurements having been used. Li and colleagues discussed in their systematic review that the measurement of patients' anxiety and depression was based on a subjective scale,

which led to a risk of bias when measuring relevant outcomes.¹⁵ Another reason might be the difference in the quality of evidence included in this review. The three studies^{23 27 28} from China did not introduce the detailed processes of quality control, making it impossible to determine the risk of biases; in addition, low-quality evidence may affect the reliability of the combined results.¹⁵

Although this systematic review demonstrated that DT did not impact terminally ill patients' hope, several studies indicated that DT increased patients' hopefulness.^{12 25} As their health condition deteriorates, terminally ill patients would gradually lose their sense of confidence in the future, which damages their dignity and lowers their hope level.⁷ Hope is considered to be fundamental to life, a dimension of spirituality, which is a particularly relevant concept in palliative and end of life care.^{12 31} A previous RCT⁷ demonstrated that family participatory DT programme had a positive effect on promoting terminally ill patients' hope, which may be because strong family support may buffer emotional distress among patients and their family members. However, it is necessary to further validate the impact of family participatory DT on terminally ill patients' hope in future studies.

Spiritual well-being of terminally ill patients was not improved by DT in this systematic review and meta-analysis. Fitchett and colleagues⁵ proposed that DT is an intervention with a strong spiritual element; however, spiritual effects of DT have not been sufficiently, consistently measured in prior studies, so there is no possible to conduct a meta-analysis of impacts of DT on spiritual well-being with more RCTs. However, some previous studies^{7,15} focusing on family participatory DT indicated that DT can be a helpful spiritual intervention, especially in enhancing patients' sense of value, improving their meaning in life and helping with unfinished business. This is possibly because DT involves reminiscence on important or memorable life experiences as well as expressing wishes and aftermath concerns. This is also strongly supported by previous non-RCT studies.^{3,32}

This systematic review showed that DT could not improve terminally ill patients' QoL compared with SPC, which is consistent with a previous systematic review.¹⁵ However, a quasi-experiential study³³ showed that DT could lead to more improvement in terminally ill patients' QoL, compared with routine care. Both patients and family members believed that DT is helpful to the family as the generativity document containing messages of love, affirmation and support from the patient, could help family members during the time of grief as a source of comfort.^{10,34} This provides further evidence for the immediate and long-term benefits that generating a legacy document can have on individuals and their family. The only issue regarding family experiences of DT was that family members were occasionally dissatisfied with the legacy document because of superficial responses given by the patient or a distorted image of the patient describing by the document, informing that patients who are too sick, delirious, or otherwise cognitively impaired should be excluded from DT.¹⁰

Limitations

This study has limitations. DT was developed based on the dignity model of palliative care, so this study assessed the effects of DT on terminally ill patients who were receiving palliative care. However, its effects on patients who were not in the end stages of their lives or those who were not receiving palliative care were unaddressed. Although studies have shown that DT could be helpful to grieving family members, the effects of DT on family members need further verification using meta-analysis. Existing studies mainly assessed the impacts of DT on patients with relatively low distress levels, and further studies are needed to confirm the effectiveness of dignity in patients with high levels of distress.

CONCLUSION

DT is helpful to terminally ill patients; it could decrease their anxiety and depression and be helpful to their

family, but the definite effects of DT on terminally ill patients' sense of dignity, spiritual well-being and QoL need to be further proved using appropriate measurements. DT could be offered as a choice to patients with life-threatening illness, and deeper effects on patients and its impacts on family members need to be further explored.

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