A Review of Biographical Work in Palliative Care

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Abstract

Aim: We find several interventions in palliative care to cover psychosocial needs and to relieve distress of patients. There is a growing interest in therapies using biographical approaches, but discussion about interventions is sparse, and there is no concept for comprehensive and sustainable provision. Research on interventions with a single biographical approach is available, but there is no systematic review that tests a range of interventions. Therefore, we look at all studies using biographical approaches for patients and/or caregivers. **Methods:** In May 2017, the electronic databases of Medline, PubMed, EMBASE, Central, and PsycINFO were searched for qualitative and quantitative empirical reports. Interventions for patients, dyads of patient and caregiver, and bereaved caregivers were included. Data analysis follows the guideline PRISMA. **Results:** Twenty-seven studies were included – 12 using a quantitative evaluation and 15 using a qualitative evaluation. Interventions using biographical approach are widespread and show broad variations in comprehension and performance. The scope of interest lays on patient and family in trajectory of illness and bereavement. The most common interventions used were life review, short life review, dignity therapy, and bereaved life review. Biographical approaches increase quality of life and spiritual well-being and reduce depression. Interventions show effects independently of the number of sessions or provider. **Conclusions:** Transferability of concepts seems limited due to the implications of culture on themes emerging in interventions. In some case, there were predicting factors for responders and nonresponders. Further research is needed.

Keywords: Biography, life review, narration, palliative care, terminal care

INTRODUCTION

Existential suffering,[1] expressed as or related to anxiety, mental anguish, and psychosocial suffering, is frequent in patients with life-threatening disease and requires spiritual and psychosocial support in these patients. Biography interventions can offer a coping strategy with the creation of a life narrative. In some countries such as Australia, New Zeeland, the United Kingdom, interventions are not provided by professionals but by hospice biographers.[2,3]

The purpose of this article is to provide an overview of interventions using biography addressed to either patient, caregiver, or both, regardless of the interviewer, and with a special focus on implementation.

METHODS

Criteria for considering studies for this review

This systematic review was designed to evaluate interventions using a biographical approach for patients receiving palliative care and/or their family caregivers. We considered full reports concerning biographical approaches such as therapeutic life review, short-term life review, dignity therapy, and bereaved life review in English. Studies using biographical elements just for special purpose such as forgiveness or meaning were not included.

The primary outcome for the review was quality of life aspects such as spiritual well-being or reduction of depression. Studies on diseases requiring palliative care or advanced stage of life-threatening disease were included. The review used a mixed method approach, including both randomized controlled trials (RCTs) and other trials with qualitative and quantitative outcome measures. Theoretical reports or

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opinion papers ($n = 10$), single case reports ($n = 1$), studies on posttraumatic stress disorder ($n = 1$), reviews ($n = 1$), and two papers with a focus on health-care professionals were excluded.

Inclusion criteria

Eligible studies had to define the quality of life as outcome measure, and at least one treatment arm had to be a biographical intervention. Studies were included if they recruited participants with the following criteria and reported results from using biographical approaches:

- Age 18 years or more
- Participants of both sexes
- In- or outpatients in provision of palliative care and/or caregiver of patients in palliative care
- No psychiatric diagnosis (for example, posttraumatic stress disorder).

Search methods for identification of studies

Comprehensive searches of electronic database of Medline, PubMed, EMBASE, Central, and PsycINFO were undertaken. We also searched the reference lists of identified articles. In addition, the authors were contacted to obtain unreported data. Publications that met inclusion criteria were retrieved as full-text and qualitative studies classified along the COREQ reporting guideline[4] and quantitative according to the Cochrane Handbook for Systematic Reviews of Interventions.[5]

To identify studies, we developed a detailed search strategy [Supplementary Data 1, List of search strategies] for each electronic database and other resources. The search was restricted to publications in English language.

- Medline using OVID (to May 24, 2017): search strategy as detailed in supplementary data
- Central (to May 24, 2017): search strategy as detailed in supplementary data
- EMBASE (to May 31, 2017): search strategy as detailed in supplementary data
- PsycINFO using OVID (to May 24, 2017): search strategy as detailed in supplementary data
- PubMed (to May 24, 2017): search strategy as detailed in supplementary data.

Data collection and analysis

All studies with an abstract referring to an intervention using biographical elements in palliative care were retrieved in full.

Two authors (MH and MM) independently assessed risk of bias [Figures 1 and 2] for each RCT, using the criteria outlined in the Cochrane Handbook for Systematic Reviews of Interventions,[5] with any disagreements resolved by discussion or by involving other review authors (LR and SF).

The COREQ[6] was used as a checklist for the evaluation of the methodological quality of the qualitative studies as recommended by the Cochrane Qualitative and Implementation Methods Group.[7] The tool consists of 32 items – Domain 1: research team and reflexivity with 8 items, Domain 2: study design with 15 items, and Domain 3: analysis and findings with 9 items.

A spreadsheet was designed with data from each included trial. Information on study design, study size, setting, study limitations, patient characteristics, outcome measures, and results were entered and evaluated.

Quantitative data were organized using Review Manager 5 of the Cochrane Community (version 5.3, Cochrane St Albans House 57-59 Haymarket London SW1Y 4QX United Kingdom). All data from included studies were reviewed separately by two authors (MH and MM) and a subsample was cross-checked with two other authors (LR and SF). Disagreement was resolved by consensus with the other members of the review author team.

Meta-analysis

Meta-analysis was planned for each intervention using Review Manager 5. For most interventions, meta-analysis was not possible due to the wide range of methodologies and outcome parameters used in the studies. In bereaved life review, three studies from the same research group used the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being (FACIT-Sp) and the Beck Depression Inventory-II (BDI-II) as outcome measures, allowing for meta-analysis of the data.

RESULTS

Twenty-seven studies were included – 12 using a quantitative evaluation and 15 using a qualitative evaluation. For three studies, two papers were reported on the same study protocol.[8-13] Three studies used a mixed methods approach and thus were included in both categories [Figure 3]. The most common interventions used were life review, short life review, dignity therapy, and bereaved life review.

Outcome measures/assessments

Outcome measures used most frequently were Functional Assessment of Cancer Therapy - Spiritual Well-being (FACIT-Sp) ($n = 8$) and Hospital Anxiety and Depression Scale (HADS) ($n = 4$) or Beck Depression Inventory (BDI) ($n = 3$). Other outcome measures were Palliative Dignity Inventory (PDI) ($n = 2$), Skalen zur Erfassung der Lebensqualität bei Tumorkranken (SELT-M) ($n = 1$), Functional Assessment of Cancer Therapy-General (FACIT-G) ($n = 1$), Activities of Daily Living (ADL) ($n = 1$), Profile of Mood States (POMS) ($n = 1$), and Center for Epidemiologic Studies Depression Scale (CESD) ($n = 1$).

Results of quantitative studies

We found five RCTs[8,10,14-16] and seven observational studies[17-23] evaluating life review, short life review, dignity therapy, and bereaved life review. Four of these studies used a quantitative evaluation[18,19,21,23] and three[17,20,22] a mixed methods approach. Seven studies (1 RCT and 6 other studies) were from the same research team. Interventions were performed by clinical psychologist ($n = 6$), psychologist or palliative care nurse ($n = 1$), research assistant ($n = 2$), author ($n = 2$), or social worker and nurse ($n = 1$). Nine of 12

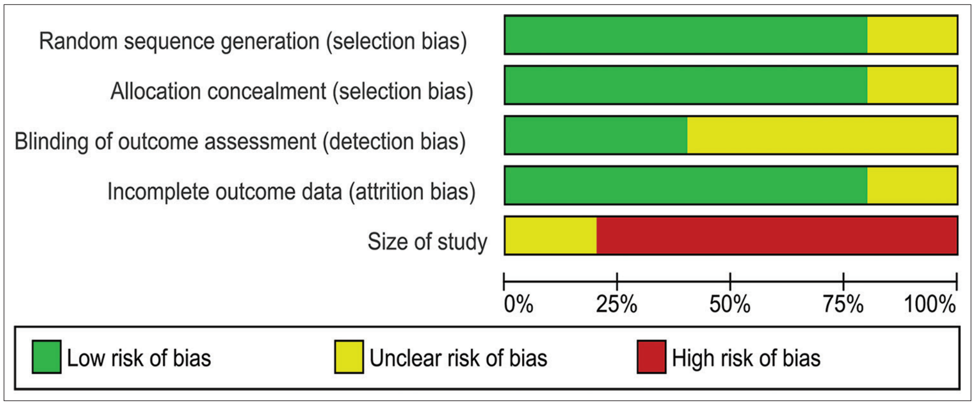
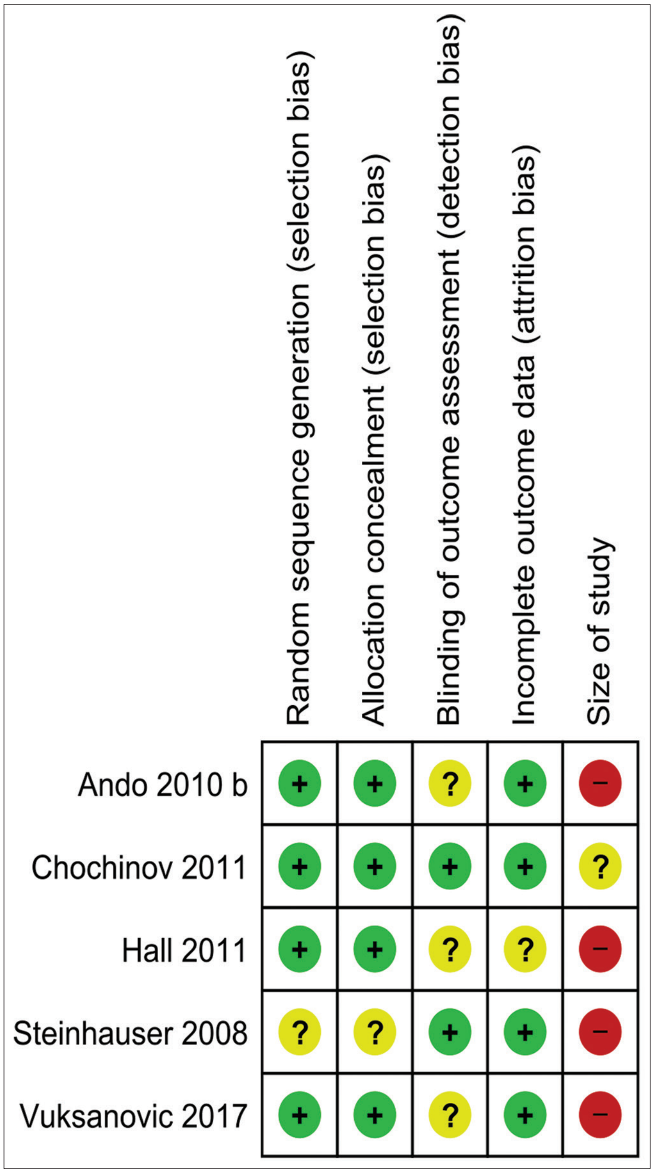


Figure 1: Risk of bias graph: Review of authors' judgments about each risk of bias item presented as percentage across all included quantitative studies



	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Size of study
Ando 2010 b	+	+	?	+	−
Chochinov 2011	+	+	+	+	?
Hall 2011	+	+	?	?	−
Steinhauser 2008	?	?	+	+	−
Vuksanovic 2017	+	+	?	+	−

Figure 2: Risk of bias summary: Review of authors' judgments about each risk of bias item presented as percentage across all included randomized controlled trials

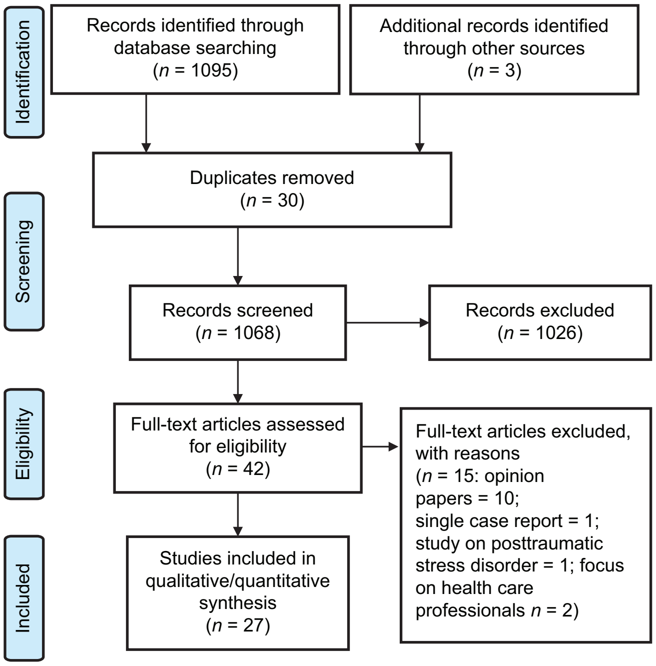


Figure 3: PRISMA flow diagram

included quantitative evaluations showed significant results on life review, short life review, and bereaved life review improving spiritual well-being, quality of life, and reduction of depression [Table 1].

Randomized controlled trials

RCTs[8,10,14-16] were evaluating life review,[8] short life review,[10] and dignity therapy.[13,14,16] The RCTs were conducted in Japan[10] on short life review and in the United States[8] on life review. Dignity therapy was evaluated in the United Kingdom,[24] in Australia,[16] and in a multi-site study in Canada, the United States, and Australia.[14] The sample size ranged from 45 to 326 patients receiving palliative care as in- and outpatients. Two of the RCTs were three-arm interventions;[8,16] the others compared the intervention with standard care. Steinhauser *et al*.[8] checked life review against relaxation Compact Disc and a control group with no intervention. Life review[8] as

Table 1: Quantitative studies

	Intervention	Country	Setting	Assessments	Main results
RCT					
Steinhauser, *et al*. (2008)	Three-arm intervention at three time points: LR, forgiveness, heritage, and legacy; attention control group: Nonguided relaxation CD; true control group: No intervention	USA, North Carolina	82 patients	ADL POMS CESD, QUAL-E	Intervention arm shows improvement in all outcomes, anxiety from 6.4 to 3.7, depression from 11.8 to 9.1, and QUAL-E from 3.4 to 3.7
Ando, *et al*. (2010;39)	SLR; control group: General support	Japan	68 patients	FACIT-Sp, HADS	Intervention group FACIT-Sp from 17.2±6.9 to 25.5±4.9 HADS from 17.1±5.6 to 10.3±3.2 Control group FACIT-Sp from 16.7±8.6 to 13.8±7.5 HADS from 20.1±8.5 to 21.2±8.3
Chochinov, *et al*. (2011)	DT; control group: Standard PC	Canada (Winnipeg), USA New York, Australia (Perth)	326 patients	FACIT-Sp HADS PDI SISC ESAS QOL	No significant differences between study arms. DT was significantly more likely to be experienced as helpful (χ^2=35.501; *P*<0.001), improve quality of life (χ^2=14.520; P<0.001), sense of dignity (χ^2=12.655; *P*=0.002); change how their family sees and appreciates them (χ^2=33.811; *P*<0.001) and be helpful to their family (χ2=33.864; *P*<0.001)
Hall, *et al*. (2011)	DT; control group: Standard care	London, UK	45 patients	PDI	No differences on PDI. In the intervention group hope increased from 37.09 to 38.0 (1 week) to 37.5 (4 weeks), control group from 37.35 to 35.87 (1 week) to 35.3 (4 weeks)
Vuksanovic, *et al*. (2017)	Three-arm intervention at two time points: DT; LR; waitlist control	Australia	70 patients	Brief Measure of Generativity and Ego-Integrity questionnaire, FACT-G PDI	DT significantly increased generativity and ego-integrity scores; FACT-G - no main effects; PDI - no significant differences; DT group had significantly higher generativity factor scores at completion of the study (95% CI 2.67, 3.41) compared with baseline (95% CI 3.52, 4.15, *P*<0.001). DT group had significantly higher ego-integrity scores at study completion (95% CI: 3.17, 3.77) compared with baseline (95%: CI 3.48, 4.22), *P*=0.01
Non-RCT					
Ando, *et al*. (2007;15)	LR Pre-post intervention	Japan	12 patients	SELT-M	Two groups effective and noneffective SELT-M from 2.57±0.61 to 3.58±1.0 *P*=0.013 and from 2.57±0.61 to 3.14±2.25, *P*=0.023
Ando, *et al*. (2008;17)	SLR Pre-post Intervention	Japan	30 patients	FACIT-Sp HADS NRS suffering, happiness	FACIT-SP from 16±8.2 to 24±7.1 HADS from 17±8.6 to 9.5±5.4
Ando, *et al*. (2010;40)	BLR Pre-post Intervention	Japan	21 bereaved caregivers	FACIT-Sp BDI-II	FACIT-Sp from 19.9±5.8 to 22.8±5.1 *Z*=2.2, *P*=0.028 BDI from 10.8±7.7 to 6.8±5.8 *Z*=−3.0, *P*=0.003
Ando, *et al*. (2012;10)	SLR Pre-post Intervention	Japan	34 patients	FACIT-Sp	FACIT-Sp from 17.2±6.9 to 25.5±4.9
Ando, *et al*. (2014;31)	BLR Pre-post Intervention	Japan	20 bereaved caregivers	FACIT-Sp BDI-II	BDI from 14.4±9.2 to 11.6±7.4 *t*=2.15, *P*=0.045 FACIT-Sp from 24.3±10.1 to 25.9±11 *t*=−1.0, *P*=0.341

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Table 1: Contd...

	Intervention	Country	Setting	Assessments	Main results
Ando, *et al*. (2015;13)	BLR Pre-post Intervention	Hawaii	20 bereaved caregivers	FACIT-Sp BDI-II	FACIT-Sp from 34.1±9.63 to 36.3±10.6 *t*=−2.6, *P*<0.05 BDI from 11.7±7.7 to 8.8±7.0 *t*=2.27, *P*<0.05
Sakaguchi, Okamura (2015)	Collage activity based on LR Pre-post intervention	Japan	11 cancer patients	FACIT-Sp HADS SESTC	FACIT-SP from 25.9±8.1 to 34.9±17.5 (*P*=0.002), HADS score significantly decreased from 11.6±6.3 to 6.4±3.7 (*P*=0.026)

LR: Life review, SLR: Short-term life review, BLR: Bereaved life review, ADL: Activities of Daily Living, POMS: Profile of Mood States, CESD: Center for Epidemiologic Studies Depression Scale, QUAL-E: Quality of Life at the End of Life, FACIT-SP: Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being, BDI: Beck Depression Inventory, SELT-M: Skalen zur Erfassung der Lebensqualität bei Tumorkranken, HADS: Hospital Anxiety and Depression Scale, NRS: Numeric Rating Scale, FACT-G: Functional Assessment of Cancer Therapy-General, SESTC: Self-Efficacy Scale for Terminal Cancer, PDI: Palliative Dignity Inventory

component of Outlook intervention showed improvement in all primary outcomes such as ADL, POMS, CESD, and Quality of Life at the End of Life. Chochinov *et al*.[14] looked at outcome measures such as FACIT-Sp, HADS, PDI, SISC, ESAS, and quality of life but found no significant differences in study arms. However, patients reported that the intervention had improved their quality of life ($\chi2 = 14.520$, 2 df; $P < 0.001$) and their sense of dignity ($\chi2 = 12.655$, 2 df; $P = 0.002$). Hall *et al*.[13] assessed the PDI and found no differences in testing dignity therapy against standard care. Vuksanovic *et al*.[16] compared dignity therapy with life review and a waiting-list control group. The focus of this study was evaluation of the legacy creation in dignity therapy. Dignity therapy demonstrated no significant differences in FACT-G and PDI but significantly increased scores of the Brief Measure of Generativity and Ego-Integrity. There were no differences between life review and dignity therapy intervention regarding dignity-related distress and quality of life outcomes including physical, social, emotional, and functional well-being. Short life review[10] in comparison to standard care led to significant improvements in all primary outcomes such as FACIT-Sp and HADS.

Risk of bias

From the five RCTs included in the review, 80% (4/5) were classified as low risk of bias in selection bias, 40% (2/5) as low risk in detection bias, and 80% (4/5) as low risk in attrition bias. However, 80% (4/5) were evaluated as high risk of bias concerning study size as they had fewer than 50 patients per treatment arm [Figures 1 and 2]. We defined studies with 0–2 unclear or low risks of bias to be high-quality studies, with 3–5 unclear or high risks of bias to be moderate-quality studies, and with 6–8 unclear or high risks of bias to be low-quality studies.

Observational studies

The other studies[17-23] were evaluating life review[17,23] with patients, short life review[18,20] with patients, and bereaved life review[19,21,22] with caregivers. Six of the single-arm interventions were conducted in Japan and only one study in the United States.[22] The sample size ranged from 11 to 34 patients or 20–21 caregivers. Independent from the number of questions, life review led to a decrease of depression and an increase of the quality of life. Studies evaluating life review[17,23] assessed spiritual well-being with FACIT-Sp and SELT-M. Ando *et al*.[17] classified patients in an effective and noneffective group based on scores of SELT-M. Quality of life and spiritual well-being increased significantly in the effective group. The authors identified predictors for the effectiveness of the intervention such as positive view of life, pleasure in daily activities, and good human relationships. Interventions evaluating short life review[18,20] reported an increase of spiritual well-being measured with the FACIT-Sp.

Meta-analysis

A meta-analysis was performed for the effects of bereaved life review. This analysis showed no significant effect on FACIT-Sp [standardized mean difference (SMD): 0.29, 95% confidence interval (CI): 0.65–0.06; Analysis 1.1; Figure 4]. In contrast, there was a significant effect of the intervention in the BDI (SMD: 0.43, 95% CI: 0.07–0.79; Analysis 1.2; [Figures 4 and 5].

Results of qualitative studies

Within the 18 included studies providing qualitative data, we found 2 reports[9,12] with qualitative evaluations from RCTs,[8,15] 15 other studies,[11,17,20,22,25-35] and 1 qualitative evaluation of transcripts of dignity therapy.[36] In addition to the reports from RCTs, three studies followed a mixed methods approach.[17,20,22] Five studies evaluated life review,[9,17,25,27,33] two studies short life review,[20,26] four studies bereaved life review,[11,21,22,32] and one dignity therapy.[12] The remaining studies dealt with biographical approaches that were slightly different. A Chinese study focused on dignity in illness trajectory.[29] A study from the United States looked at reminiscing,[30] a study from Canada on a Living With Hope Program,[34] and one from the United States examined life history of disease.[35] Interventions were provided by a clinical psychologist ($n = 5$), psychologist or pastoral care worker ($n = 1$), psychologist or social worker or palliative care nurse ($n = 1$), social worker or palliative care nurse ($n = 3$), research assistant ($n = 4$), and author ($n = 1$). The sample size ranged from 11 to 45 patients, from 13 to 24 dyads of patient and caregiver, and from 19 to 20 bereaved caregivers. All patients received end-of-life care or palliative care in inpatient and outpatient settings [Table 2].

Life review was conducted in two,[17,33] three,[9,27] or four[25] sessions. Emerging themes in life review[9] were childhood,

Table 2: Qualitative studies

	Intervention	Country	Setting	Findings
RCT				
Steinhauser, *et al*. (2009)	Three-arm intervention at three time points: LR, forgiveness, heritage, and legacy; attention control group: Nonguided relaxation CD; true control group: No intervention	USA, North Carolina	18 patients	Life story: Cherished times, accomplishments/forgiveness: Things done differently, forgiveness asked, forgiveness offered, peace/heritage and legacy: Lessons learned, lessons to share with loved ones, advice to other generations, legacy
Hall, *et al*. (2013)	DT; control group: Standard care	London, UK	45 patients and caregiver	Themes underlying DT: Generativity, continuity of self, maintenance of pride, hopefulness, and care tenor were evident in the intervention group. Just hopefulness and care tenor in the control group
Non-RCT				
Ando, *et al*. (2007;15)	LR pre-post intervention	Japan	12 patients	Overall QOL score and spirituality subscale score significantly increased; effective group: Positive view of life, pleasure in daily activities, balanced evaluation of life noneffective group: Worries about future caused by disease, conflicts in family relationships, confrontation of practical problems
Ando, *et al*. (2007;5)	LR Four sessions	Japan	16 patients	Text analysis showed differences according to age, disease stage, and gender Main concerns related to age 40 - Children 50 - How to confront death 60 - Death-related anxiety 70 - Resignation about death; evaluative reminiscence of their lives 80 - Relationships with others
Ando, *et al*. (2009;7)	SLR Pre-post intervention	Japan, Korea, America	43 patients 20 Japanese, 16 Koreans, 7 Americans	Japan: Good human relationships and transcendence; achievements and satisfactions; good memories and important things; bitter memories Korea: Religious life; right behavior for living; strong consideration for children and will; life for living America: Love, pride, will; good, sweet memories; regret and feelings of loss
Ando, *et al*. (2010;19)	BLR Pre-post intervention	Japan	21 bereaved caregivers	Division according to FACIT-Sp findings into two groups 1=Effective group (scores from 3 to 14) 2=Noneffective group (scores from −12 to <3) 1. Good memories of family; loss and reconstruction; pleasant memories of last days, 2. Suffering with memories; disagreement on funeral arrangements; regret and sense of guilt
Keall, *et al*. (2011)	LR Three sessions	Sydney Australia	11 patients	Overarching themes: Life review, current situation, legacy/principles
Ando, *et al*. (2012;10)	SLR Pre-post intervention	Japan	34 patients	Findings in 20 narratives (1) Human relationships; to live in the present (2) Birth of children; pleasant memories (3) Illness; marriage, divorce (4) Company or work; raising children or education (5) Achievements at work; attitude to cope with illness (6) Message to children; getting along with others (7) To live sincerely; consideration for others (8) Stormy life; self-centered life
Xiao, *et al*. (2012)	LR Three sessions	China	26 patients	Six categories: Accepting one's unique life; feelings of emotional relief; bolstering A sense of meaning in life; leaving a personal legacy; making future orientations; barriers to a life review
Ho, *et al*. (2013)	Dignity interview One session	Hong Kong China	18 patients	Two major themes to maintain dignity were identified: Personal autonomy and family connectedness

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Table 2: Contd...

	Intervention	Country	Setting	Findings
Ingersoll-Dayton, *et al*. (2013)	Reminiscing five sessions	USA Midwest	24 couples - patient with caregiver	Positive aspects found: Dyads enjoyed reliving story of life and life story book, planned to share it with others, fostered communication, meaningful engagement, and helped memory
Ando, *et al*. (2014;31)	BLR Pre-post intervention	Japan	19 bereaved caregivers	The analysis of the narratives made an allocation according to the stages of TTM possible
Ando, *et al*. (2015;13)	BLR Pre-post interventions	Hawaii	20 bereaved caregivers	Significant improvement in spiritual well-being and significant reduction of depression; interviews: Five categories: Learning from practical caring experience, positive understanding of patients, recognition of appreciation, self-change or growth, and obtaining a philosophy
Ando, *et al*. (2015;13)	BLR Pre-post intervention	Japan	20 caregivers	Findings in narratives were selected into changes and value changes: 1. Learning from the deceased×s death and self-growth, 2. Healing process, 3. Relating with others, 4. Relating with society, 5. Performing new family roles/values: 1. Continuing grief work, 2. Living with a philosophy, 3. Attaining life roles, 4. Keeping good Human relationships 5. Enjoying life
Dahley, Sanders (2016)	LR Pre-post intervention	USA Midwest	15 residents and 18 family members	Six major themes of LR emerged: Affirmed prior knowledge; created a living legacy; revealed new information; opened communication; enhanced understanding of the older adult; and affirmed older adult
Duggleby, *et al*. (2016)	LWHP Pre-post intervention	Canada	13 dyads (patients and caregivers)	LWHP fostered according to the analysis 1. Reminiscing 2. Leaving a legacy 3. Positive reappraisal 4. Motivating processes
Hannum, Rubinstein (2016)	Life history Three sessions	USA Baltimore	15 patients	Illness is disrupting individual biography into three time segments: Recalled past; existent present; imagined future
Hack *et al*. (2010)	Fifty transcripts of DT	Canada and Australia	50 patients	Main findings: “Family,” “pleasure,” “caring,” “a sense of accomplishment,” “true friendship,” and “rich experience”

LR: Life review, SLR: Short-term life review, BLR: Bereaved life review, LWHP: Living with Hope Program

social connections (family, friends, and loved ones), and work and career. Asked about accomplishments, patients referred to their education, children, financial stability and coping with illness. Major concerns were related to age, with patients in their forties focused on children, in their sixties on death-related anxiety, and in their eighties on relationships with others.[25] Ando *et al*. highlighted gender-related differences. In the terminal stage of disease, men spoke about “desire for death” and “how to confront death” whereas women used phrases such as “resignation to life.” Emerging themes depended on the cultural background.[26] Americans were interested in love, pride, will, and good memories; Koreans in religious life, right behavior for living, and strong consideration for children and will; and Japanese in good human relationships, transcendence, achievements, and satisfaction. In the study of Dahley and Sanders,[33] the intervention opened the communication between patients and caregivers and enhanced understanding between the generations. Family connectedness and personal autonomy were identified as the two major themes in dignity interviews in Hong Kong.[29] Analysis of transcripts found family, pleasure, caring, a sense of accomplishment, true friendship, and rich experience as topics.[36] Hall *et al*.[12] reported important topics in dignity therapy such as generativity, continuity of self, maintenance of pride, hopefulness, and care tenor.

Bereaved life review led to significant improvement in spiritual well-being and significant reduction of depression.[22] Caregivers reported on practical caring experience, positive understanding of patients, and recognition of appreciation, growth, and obtaining a philosophy in the review. Changes were described[32] as learning from the relative´s death, healing process, relating with others and society, and performing new family roles.

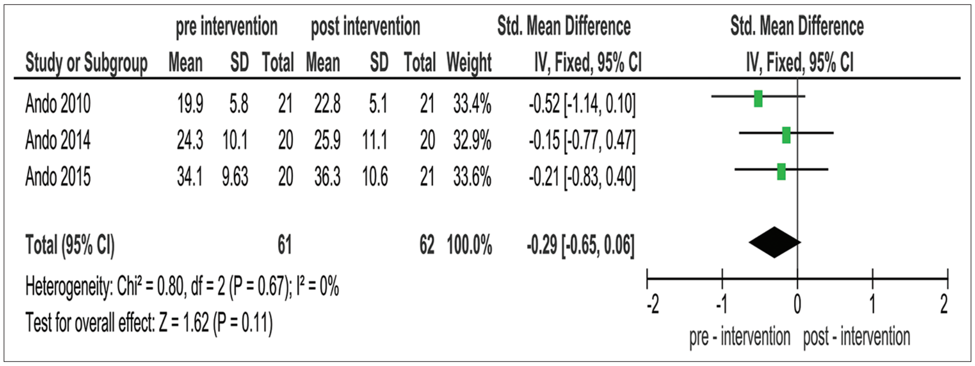
Positive result was described in a group of responders (effective group)[17] but not in nonresponders (noneffective group) who worried about the future in relation to disease, conflicts in family relationships, and confrontation of practical problems. The effective group had a positive view and a balanced evaluation of life.

Quality of included studies

The quality of included studies was low on average based on the COREQ tool.[6] Information about research team and reflexivity was sparse. The study design was described in depth, and most studies gave detailed information about analysis and findings [Supplementary Data 1].

DISCUSSION

Our review provides an overview of interventions in palliative care using biographical approaches. There was evidence

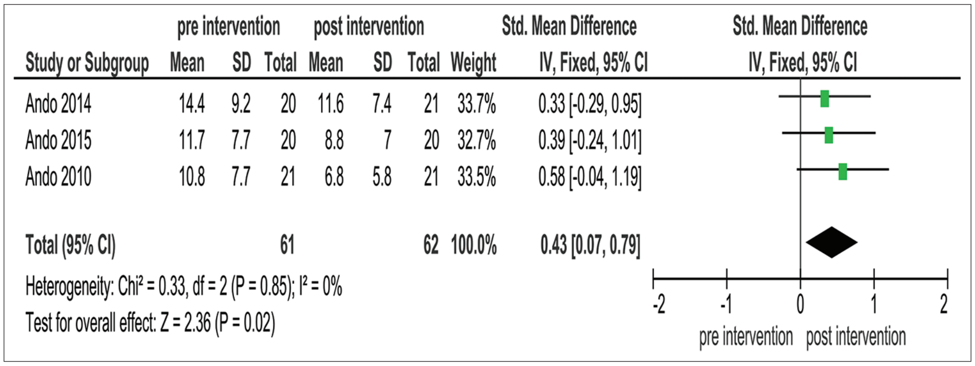


Study or Subgroup	pre intervention Mean	SD	Total	post intervention Mean	SD	Total	Weight	Std. Mean Difference IV, Fixed, 95% CI
Ando 2010	19.9	5.8	21	22.8	5.1	21	33.4%	-0.52 [-1.14, 0.10]
Ando 2014	24.3	10.1	20	25.9	11.1	20	32.9%	-0.15 [-0.77, 0.47]
Ando 2015	34.1	9.63	20	36.3	10.6	21	33.6%	-0.21 [-0.83, 0.40]
Total (95% CI)			**61**			**62**	**100.0%**	**-0.29 [-0.65, 0.06]**

Heterogeneity: Chi² = 0.80, df = 2 (P = 0.67); I² = 0%

Test for overall effect: Z = 1.62 (P = 0.11)

Figure 4: Forest plot of meta-analysis of the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being



Study or Subgroup	pre intervention Mean	SD	Total	post intervention Mean	SD	Total	Weight	Std. Mean Difference IV, Fixed, 95% CI
Ando 2014	14.4	9.2	20	11.6	7.4	21	33.7%	0.33 [-0.29, 0.95]
Ando 2015	11.7	7.7	20	8.8	7	20	32.7%	0.39 [-0.24, 1.01]
Ando 2010	10.8	7.7	21	6.8	5.8	21	33.5%	0.58 [-0.04, 1.19]
Total (95% CI)			**61**			**62**	**100.0%**	**0.43 [0.07, 0.79]**

Heterogeneity: Chi² = 0.33, df = 2 (P = 0.85); I² = 0%

Test for overall effect: Z = 2.36 (P = 0.02)

Figure 5: Forest plot of meta-analysis of the Beck Depression Inventory

from five randomized controlled trials on the effects of life review, short life review, and dignity therapy, showing positive effects in some, but not all outcome parameters. Patients and caregivers reported improvement of quality of life, but this seemed to depend on the absence of acute conflicts and problems. Overall, the quality of the evidence has to be rated as moderate. Thematic analysis demonstrated differences in the predominant topics between patients in different countries, challenging transferability of results to other cultural settings.

There was a high variability in the interventions, with no standardization of the number of questions, number of sessions, and implementation procedures. Most interventions were developed and evaluated in single research teams. There was no comparison between different biographical approaches. This makes comparison of studies very difficult if not impossible. Palliative care is guided by the preferences and priorities of the individual patient, so lack of standardization might be an advantage. The review of Keall *et al*.[37] looking at quantitative life review interventions found 10 different life review interventions with patients in 14 studies. The authors evaluated the diversity of interventions positively as it allows practitioners to select a suitable intervention for their clientele. However, similar to our review, they also reported a variety of outcome measures used in the studies, even if studies were conducted in the same country.

Keall *et al*. reported high attrition rates due to the number of sessions so that shorter interventions fared better. Significant results in a broad range of outcome measures were found in 11 of 14 studies, and 8 of the interventions were evaluated as probably efficacious.

Relation between quantitative and qualitative results

Evaluations of biographical approaches in palliative care are complex. The qualitative studies described predicting factors for responders to life review, suggesting that biography work may be less suitable for patients grappling with unsolved conflicts and worries that may find it hard to get positive feedback from their life story while still trying to cope with overwhelming psychosocial distress.

Bereaved life review was effective in the reduction of depression but did not lead to an improvement in spiritual well-being. Qualitative evaluation linked this to suffering with memories, disagreement on funeral arrangements, and regret and sense of guilt in a group of nonresponders. This may be related to the structure of the intervention, as distress caused by these cofactors may not be resolved in an intervention with only two sessions. Coping with grief and loss may need more time and an intervention with more frequent session. These findings confirm the probability of predictors for the effectiveness of biographical interventions. Short life review was only used by one research team. In a multisite study, they found an impact of different cultures on the topics raised by the patients in the review. This suggests the assumption that transferability of interventions might not be given. The emerging themes show only little similarities.

This finding might have relevance for all interventions, so that qualitative studies should evaluate cultural impact. In consequence, interventions need to be tailored. Qualitative and quantitative studies provided divergent results for dignity therapy**.** In comparison with standard care, dignity therapy reached higher scores of generativity and ego-integrity in controlled trials. Patients experienced the intervention as helpful for themselves and their family, with an improvement of their quality of life. However, there were no significant differences between study arms looking at the main outcome measures FACIT-Sp, PDI, and HADS. This is consistent with the results of the review of Fitchett *et al*.,[15] where patients also reported high benefits for themselves and their families, with improved quality of life, sense of dignity, generativity, and ego-integrity, but outcome measures such as FACIT-Sp and PDI did not show significant differences. Increase of spirituality is associated with higher well-being in general,[38] but according to the authors of the review to spirituality and well-being, this conclusion cannot be drawn. However, the lack of significance in the standardized instruments might be related to lacking sensitivity of these measures to the effects of dignity therapy rather than to a lack of effectiveness.

In the qualitative data, we found generativity, continuity of self, maintenance of pride, hopefulness, and care tenor as major topics raised by participants in the biographical intervention. This is similar to the review of Guo and Jacelon[24] who found autonomy, relieved symptom distress, respect, being self, meaningful relationships, dignified treatment, and care. Dignity therapy was always linked to leaving a legacy, but other interventions (outlook, short life review, and bereaved life review) had legacy as a component as well.

Limitations of this study

There were a number of factors limiting the comparability of results. Methodological quality was poor, for example, related to small study size. There was no consensus on study methodology nor assessment instruments and a lack of standardization of the interventions. Some interventions were only evaluated by a single research team. A significant number of studies were conducted in Japan, limiting transferability of results to other settings.

CONCLUSIONS

Psychosocial interventions are needed in palliative care as part of the holistic approach. Biographical interventions offer a therapeutic option to relieve depression, distress, and suffering. Using trained staff members with special qualifications such as psychologists or chaplains for these interventions will require a significant amount of resources.

Keall *et al*.[37] described life review interventions as time-consuming and costly but with the cost-saving potential to be performed by trained volunteers. Fitchett *et al*.[15] said that dignity therapy is an expensive intervention but also put up the question of administering dignity therapy by chaplains as specialists for spiritual care rather than generalists like nurses. Identification of cost-effective solutions, for example, with trained volunteers might be a good option for resource-poor settings. Interventions might need to be tailored to cultural perceptions and expectations. Further research is needed to explore sustainable concepts for provision and implementation.

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Conflicts of interest

There are no conflicts of interest.

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Supplementary Material Table 1: Consolidated Criteria for Reporting Qualitative Research

Item	Study																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Domain 1: Research team and reflexivity																		
1. interviewer (I)	?	?	?	?	?	N	N	?	Y	Y	N	N	N	N	N	Y	?	?
2. credentials	Y	Y	Y	Y	N	N	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	?
3. occupation	?	?	?	?	?	?	?	?	Y	?	?	?	?	?	?	?	?	?
4. gender	?	?	?	?	?	?	Y	?	Y	Y	?	?	?	?	?	?	?	?
5. Experience and training	?	?	?	?	?	Y	Y	Y	Y	Y	?	Y	?	?	?	?	?	?
6. relationship established	?	?	?	?	?	N	?	?	?	?	?	Y	?	?	?	?	?	?
7. participant knowledge of (I)	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
8. (I) characteristics	?	?	?	?	?	?	?	Y	Y	?	?	?	?	?	?	?	?	?
Domain 2: study-design																		
9. methodological orientation and theory	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	?	Y	Y	Y	Y	Y	?
10. sampling	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
11. method of approach	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
12. sample size	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
13. non-participation	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	N
14. setting of data collection	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	?
15. presence of non-participants	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
16. description of sample	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
17. interview guide	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Y	N	Y	N
18. repeat interviews	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
19. audio/visual recording	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
20. field notes	Y	N	Y	N	N	?	?	?	?	?	Y	Y	?	?	?	?	Y	?
21. duration	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	?	Y	Y
22. data saturation	N	N	N	N	N	N	N	N	Y	?	?	?	?	?	?	?	?	?
23. transcripts returned	N	N	Y	N	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	N	N
Domain 3: analysis and findings																		
24. number of data coders	N	N	N	Y	N	Y	Y	N	Y	Y	Y	N	Y	N	Y	Y	Y	N
25. descriptiion of the coding tree	N	Y	Y	Y	Y	Y	N	N	N	Y	N	N	Y	Y	Y	N	N	N
26. derivation of themes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
27. software	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	N	N	N	N	Y	N	?
28. participant checking	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N
29. quotations presented	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
30. data and findings consistent	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	?
31. clarity of major themes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	Y
32. clarity of minor themes	Y	Y	Y	N	N	Y	N	Y	Y	Y	N	N	N	N	N	N	N	N

Allison Tong, Peter Sainsbury, Jonathan Craig; Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups, International Journal for Quality in Health Care, Volume 19, Issue 6, 1 December 2007, Pages 349–357. Rating: criterion fullfilled= yes = Y; criterion not fullfilled= no = N; no information in the text = ?

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Medline and PsycInfo search strategy - Using OVID

A systematic review of biography in palliative care

#	1.	(palliati* OR palliative care OR hospice OR terminal care OR terminally ill).mp.
#	2.	Story telling.mp.
#	3.	reminiscene.mp.
#	4.	Reminiscing.mp.
#	5.	Life review.mp.
#	6.	autobiographical memory.mp.
#	7.	biography.mp.
#	8.	life-narrative.mp.
#	9.	life narrative.mp.
#	10.	random*.ti,ab.
#	11.	factorial*.ti,ab.
#	12.	assign*.ti,ab.
#	13.	allocat*.ti,ab.
#	14.	evaluation study*.ti,ab.
#	15.	prospective study*.ti,ab.
#	16.	comparative study*.ti,ab.
#	17.	qualitative study*.ti,ab.
#	18.	18 and 19 and 20

CENTRAL search strategy

A systematic review of biography in palliative care

#	1.	(palliative OR “palliative care” OR hospice OR “terminal care” OR “terminally ill”):ti,ab,kw
#	2.	“Story telling”
#	3.	“reminiscene” or “reminiscing”
#	4.	“Life review”
#	5.	“autobiographical memory”
#	6.	“biography”
#	7.	“life-narrative” or “life narrative”
#	8.	factorial*:ti,ab
#	9.	placebo*:ti,ab
#	10.	assign*:ti,ab
#	11.	allocat*:ti,ab
#	12.	“evaluation study”:ti,ab
#	13.	“prospective study”:ti,ab
#	14.	“comparative study”:ti,ab
#	15.	“qualitative study”:ti,ab
#	16.	2-7/OR
#	17.	8-15/OR
#	18.	16 and 17 and 1

EMBASE search strategy

A systematic review of biography in palliative care

#	1.	(palliative OR ‘palliative care’ OR hospice OR ‘terminal care’ OR ‘terminally ill’)/exp
#	2.	‘Story telling’/exp
#	3.	(reminiscene or reminiscing)/exp
#	4.	‘life review’/exp
#	5.	‘autobiographical memory’/exp
#	6.	biography/exp
#	7.	(‘life-narrative’ or ‘life narrative’)/exp
#	8.	factorial*:ti,ab
#	9.	placebo*:ti,ab
#	10.	assign*:ti,ab
#	11.	allocat*:ti,ab
#	12.	‘evaluation study’:ti,ab
#	13.	‘prospective study’:ti,ab
#	14.	‘comparative study’:ti,ab
#	15.	‘qualitative study’:ti,ab
#	16.	2-7/OR
#	17.	8-15/OR
#	18.	16 and 17 and 1

Search strategy Pubmed

(palliative[All Fields] OR “palliative care”[All Fields] OR (“hospices”[MeSH Terms] OR “hospices”[All Fields] OR “hospice”[All Fields] OR “hospice care”[MeSH Terms] OR (“hospice”[All Fields] AND “care”[All Fields]) OR “hospice care”[All Fields]) OR “terminal care”[All Fields] OR “terminally ill”[All Fields]) AND (“Story telling”[All Fields] OR reminiscent[All Fields] OR reminiscing[All Fields] OR “Life review”[All Fields] OR “autobiographical memory”[All Fields] OR (“biography”[Publication Type] OR “biography as topic”[MeSH Terms] OR “biography”[All Fields]) OR “life-narrative”[All Fields])