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The Effect of life review on depression and depressive symptoms in adults

A descriptive literature review

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Contents:

Abstract.....	2
1. Introduction	4
1.1 Definition.....	4
1.1.1 Definition of adults	4
1.1.2 Definition of depression	4
1.1.3 Definition of depressive symptoms	4
1.1.4 The definition of life review	4
1.2 Background of depression and depressive symptom.....	4
1.3 The quality of life of adults with depression or depressive symptoms	5
1.4 Aspects of life review	5
1.4.1.The development and application of life review	5
1.4.2 Life review’s theoretical basis	5
1.5 Nursing role	6
1.6 Nursing theory	6
1.7 Early review of the life review	7
1.8 The description of the research problem	7
1.9 Aim and research questions	8
2. Method.....	8
2.1 Design	8
2.2 Search strategy.....	8
2.3 Selection criteria.....	10
2.4 Selection process	10
2.5 Data analysis.....	11
2.6 Ethical considerations.....	12
3. Results	12
3.1 Organize information of articles.....	12
3.2 Life review intervention	13
3.2.1 The intervention ways from intervention group.....	13
3.2.2 the frequency of the intervention.....	14
3.2.3 the time of the intervention.....	14
3.3 The effects of life review	15
3.3.1 Depression symptoms decreased	15
3.3.2 Life satisfaction index increased	16
3.3.3 Behaviors changes	16
4. Discussion.....	17
4.1 Main results	17
4.2 Results discussion.....	17
4.2.1 The need for life review.....	17
4.2.2 The effect of life review	19
4.3 Method discussion	21
4.4 Clinical implications.....	22
4.5 Suggestions for further research	23
5. Conclusion	23
6. References	24
Appendix 1	30

Abstract

Background: Depression and depressive symptom is a big problem in the world, the population of people who suffered from depression is increasing. People with depression can have bad effect on their life in both physiology and psychology. Some research indicate that life review theory can be used to decrease the symptoms of depression.

Aim: To describe the effect of life review on depression and depressive symptoms in adults.

Method: Scientific articles with a quantitative approach were searched in the databases PubMed, CINAHL. Chose articles were processed in order to find out the effect of life review on depression and depressive symptoms in adults.

Result: Ten studies met the inclusion criteria through the comprehensive search. This review finding that the different life review interventions, such as life review sessions and life experience writing, self-book writing or album, could make contribution to the depression adults. The life review sessions were used frequently in most of studies. In addition, the best duraion of life review was within six months in most of studies.

Conclusion: this review shows that life review interventions may be effective in decreasing depressive symptoms, increasing life satisfaction index and having behaviors changes. This suggests that life review can be used in clincal nursing care for patient who have depressive symptoms. However, this findings was come from a number of RCT studies which have some limitations, such as lack of multicenter samples and the object of the study was not comprehensive. In order to achieve a higher level of design, more research needs to be done to further explore the effectiveness of life reviews.

Key words: : adult, depression, depressive symptom, life review.

背景： 抑郁症和抑郁症状是世界范围内的一个大问题，抑郁症患者的人数越来越多。抑郁症对人的生理和心理都会有很多不良影响。一些研究表明，生命回顾理论可以用来减轻抑郁症的症状。

目的： 探讨生活回顾对成人抑郁和抑郁症状的影响。

方法： 在 PubMed、CINAHL 数据库中进行定量检索。为了解生命回顾对成人抑郁和抑郁症状的影响，对所选文章进行了处理。

结果： 十项研究通过综合检索符合纳入标准。该结果发现不同的生活评论干预措施，如人生回顾课程和生活经历写作，自救书书写或相册制作。在大多数研究中经常使用人生回顾会议。此外，在大多数研究中，最佳的人生回顾是六个月内。

结论： 该综述表明，生活审查干预可能有效减少抑郁症状，提高生活满意度指数和改变行为。这表明生命审查可用于对患有抑郁症状的患者进行临床护理。然而，这一研究结果来自一些随机对照研究，这其中有些研究存在一些局限性，例如缺乏多中心样本，研究对象并不全面。为了实现更高水平的设计，需要进行更多研究以进一步探索生命评论的有效性。

关键词： 生活回顾，抑郁症，抑郁症状，成人。

1. Introduction

Depression is the leading cause of ill health and disability worldwide(WHO,2015). Depression is the theme of WHO's World Health Day 2017(WHO.2017). The Prevalence of depression in Afghanistan is 22.5%, in Switzerland is 6.16%, in United States is 4.45% and in China is 3.02%(Ferrari *et al.*,2013). Yu *et al.*(2011) had a survey in 29 cities of China, found that the prevalence rate of depressive symptom among older adults was 39.86% (Yu *et al.*,2012). Depression cause 76.4 million years lost to disability in the world, which is 10.3% of the total burden of disease(Ferrari *et al.*,2013).

1.1 Definition

1.1.1 Definition of adults

Person who are over than nineteen years old are adults according the international standard(WHO,2013).

1.1.2 Definition of depression

Depression is a common mental disorder. Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behavior, tendencies, feelings, and sense of well-being(Reiff *et al.*,2014). People who has at least two weeks of low mood can be diagnosed with depression(NIMH,2016).

1.1.3 Definition of depressive symptoms

DSM-IV-TR (Diagnostic and Statistical Manual of Mental Disorders IV text revision)points out that depressive symptom include: depressed mood, poor interests in activities, changes in appetite or weight, changes of sleep, speaking or moving faster or slower than before, easily feel fatigue, loss energy, feel worthless or guilty, inability to concentrate or suicide intention(Spitzer RL, 2002).

1.1.4 The definition of life review

Life review is a natural process that an individual recalls and evaluates their whole life experience, helping them solve past paradox to achieve a more profound self-concept (Butler,1964).

1.2 Background of depression and depressive symptom

Depression is a mental disorder which is one of the main causes of disability in the worldwide(WHO,2013). According to statistics, there are 300 million people suffering depression in the world, and the data of the depression patients was increased more than 18% between 2005 and 2015(WHO,2015). On this trend, depression will be the second

burden of disease which is only less than cardiovascular disease by 2020(Chapman&Perry,2008). However, according to the statistics, almost half of the population in the worldwide lived in a country with only two psychiatrists per 100,000 people(Ferrari *et al.*,2013). Depressive symptoms are easily to be ignored because it always come out with other illness, and depression often be underdiagnosed and undertreated in people's life(WHO, 2017).

1.3 The quality of life of adults with depression or depressive symptoms

Depression can have bad effect on feeling and thought. People with depression may have trouble in handling daily activities, such as poor sleep, poor appetite and no interest in work(NIMH, 2016). What's more, depression is the most reason for suicide, about 60% of people who died by suicide had been diagnosed by depression(Weitz E *et al.*, 2014). NIMH(2015) point out that depression affects people in different ways. Men, women, children, teens and older people with depression may confront with diverse plight. People with depressive symptoms have poorer functioning compared to those with chronic illness such as lung disease, hypertension or diabetes(WHO, 2017). Antidepressant medication now was used in clinical to reduce the depressive symptoms(Jennings *et al.*, 2018).

1.4 Aspects of life review

1.4.1.The development and application of life review

Butler firstly presented the concept of "life review" in 1963 (Mastel-Smith *et al.*,2007). Then, Butler developed his framework, suggesting that life review could be as a treatment in clinic(Butler,1974). Nowadays, life review had been applied in many population. For terminally ill cancer patients, the short-term life review intervention alleviated their depression and anxiety symptoms(Ando *et al.*,2010). For PTSD patients, life review had positive effect on them, which was as similar as other psychotherapies because it made patients to void recalling terrible memories(Esmaeili, 2010; Haight *et al.*,2000). For children, some studies showed that foster children who are separated from their biological parents or had immigrate background might have beneficial from the form of life review (Morgenstern, 2011; Zalpour, Abedin, & Heidari, 2011).

1.4.2 Life review's theoretical basis

Life review is based on Erikson's developmental theory whose advocated that the whole life of people could be divided by 8 consecutive and different stages. Only by solving the previous stage's conflicts, can person confront with next stage's conflicts. If

the conflicts were resolved actively, an individual would to achieve integrity(Watt,2000; Haight *et al.*,2006).

Person who is over than nineteen years old is defined a adult , according the international standard. Over adults age, 2 stages are recorded in Erikson theory. In adults stage, the conflict is "bearing and self-concentration". Because people start to raise children in this stage meanwhile they need undertake social work pressure (Erikson,1963). Another is mature stage in which people will afraid of death and become weak. The conflict of this stage is called “self -adjustment conflicts despair” (Erikson,1963).

There are some life review intervention ways, such as lectures ,group discussion , questionnaire and intervention and so on(Farkhondeh *et al.*, 2018). In life review therapy, guider conducting people to recall negative experience and positive experience according to different themes, such as important events, individual loss event ,the growth process (Farkhondeh *et al.*, 2018), which encourage them to resolve the paradox and gain the profound life meaning(Haight, 1992; Westerhof *et al.*, 2010).

1.5 Nursing role

The researchers pointed that life review was a therapy method which need be applied by person who studied the systemic life review knowledge(Chiang *et al.*,2008; Haight *et al.*, 2007). Just for this reason, nurses could conduct life review to provide care services(Sharif *et al.*,2018). In life review therapy, the role of nurse might be a conductor or a promoter as a result that nurses could recommend the patients to read some texts and novels, which will inspire them to recalling the life experience easier than before(Brodziak *et al.*, 2015, 2017a, 2017b). Nurses also could be a proponent because nurses would give advice for person when feeling sob for some negative life experience(Brodziak *et al.*, 2015, 2017a, 2017b).

1.6 Nursing theory

Neuman’s systemic model can provide a theoretical support to this study. Neuman systemic model which is comprehensive and dynamic state that individual have interaction with the environment. It emphasis on individual who have mutual effect on the environment(Neuman, 1982).

Some important parts consist the Neuman systemic model (1) inner circle: basic structure behalf the client’s features; (2) lines of resistance which is deemed as protective factors against stressors; (3) normal line of defense and flexible line of defense, on the condition that two lines expand, it will indicate the health enhancing(Neuman, 1982).

If people can handle the stimuli causing stress in a properly way, this stimuli will destroy the system underlying yet helping people to adapt this stimuli. In the opposite, the balance will be broken and then the diseases worse. Hence Neuman comes up with 3 levels precaution intervention in order that people can adjust themselves of keep the stabilization of the system(Neuman, 1982).

People diagnosed by depression have nervous and despair emotion which is deemed as stressor. Life review can be regarded as an external intervention which have influence on the whole system(it includes the psychological and physical aspects) of the human. Through the life review intervention, people can find a balance between themselves and environment in order to keep health(Neuman, 1982).

1.7 Early review of the life review

Some authors have wrote review about the life review in the previous years. In Zhang's article, their study is for cancer patients who have depressive symptoms. They made this review to examine and synthesize the best available evidence on the effects of life review on mental health and well-being among cancer patients, the results indicated that life review could reduce the depressive symptom of patients with cancer (Zhang *et al.*, 2017). Wang *et al.*(2017) study in order to evaluate the effects of therapeutic life review on spiritual well-being, psychological distress, and quality of life in patients with terminal or advanced cancer. And it was confirmed that patients with terminal cancer could have less depressive symptoms and less anxious through life review interventions(Wang *et al.*, 2017). Lan and his partners' study is to evaluate the effects of life review interventions on psychosocial outcomes among older adults which indicated that life review can have effect on older adults to relieve depressive symptoms (Lan *et al.*, 2017)

1.8 The description of the research problem

Depression is a psychological disorder which can easily cause the disability. Depression has a harmful effect on the people's sensation. However, the reason why people often overlook the depression is that people suffer from depression with other diseases simultaneous(WHO, 2017). Most of literature reviews focused on the effect of life review for terminally ill cancer patients, young and middle-aged people only or merely in elderly people, or put emphasis on the variety psychological problems (Zhang *et al.*, 2017; Pinguart *et al.*, 2012; Lan *et al.*, 2017). There are few researchers make a literature review about the effect of life review on depression and depressive symptoms in adults. This study makes a literature review whether the life review can make effect on

the depression and depressive symptoms of adults and it may provide references for further studies.

1.9 Aim and research questions

The aim of literature review is to describe the effect of life review on depression and depressive symptoms in adults.

Research questions:

1. What kind of life review interventions on depression and depressive symptoms can be used in adults?
2. What is the effect of life review on depression and depressive symptoms in adults?

2. Method

2.1 Design

A descriptive literature review was conducted (Polit&Beck, 2017).

2.2 Search strategy

In order to search articles, authors used the following search terms: life review(Free Text), Adult[Mesh], depression OR depressive symptom (Free Text). Using the databases and index of search terms: MeSH (PubMed), Cinahl. Search terms were first used separately and then combined with free text search terms in order to obtain a precise outcome that gained the accordance with aim of the study. The results were limited by using the Boolean operator “AND” and “OR”(Polit & Beck , 2017).

Authors searched the articles with certain limit in PubMed and Cinahl: *Publication date 2008 – 2018, English And Humans.(see Table 1)*

Table 1. Results of preliminary database searches.

Database + Date of search	Limits	Search terms	Number of hits	Potential articles (excluding doubles)
Medline through PubMed	University of Gävle, Humans	“life review”(Free Text)	340	

2018-05-03	2008-2018 English			
Medline through PubMed 2018-05-03	University of Gävle, Humans 2008-2018 English	"Adult"[Mesh]	655665 7	
Medline through PubMed 2018-05-03	University of Gävle, Humans 2008-2018 English	depression OR depressive symptom (Free Text)	391166	
Medline through PubMed 2018-05-03	University of Gävle, Humans 2008-2018 English	((“life review”) AND (depression OR depressive symptom) (Free Text)	100	
Medline through PubMed 2018-05-04	University of Gävle, Humans 2008-2018 English	((“life review”) AND "Adult"[M esh]) AND (depression OR depr essive symptom) (Free Text)	76	22
Medline through CINAHL 2018-05-04	University of Gävle, Humans 2008-2018 English	"life review" AND adult AND (depression OR depressive sympt om)	28	20
				Total 42

2.3 Selection criteria

The aim of literature review is to describe the effect of life review on depression and depressive symptoms in adults. And the research questions was the effective life review interventions and the effect of life review on depression and depressive symptoms in adults.

Inclusion criteria:

- (1) Study designs: randomized controlled trials (RCTs) or clinical controlled trials.
- (2) Participants: people with depression or depressive symptoms (age are over 19 years-old)
- (3) Interventions: life review.
- (4) Controls: no therapy, a placebo treatment, or usual care.

Exclusion criteria:

- (1) Study designs: other types of studies including descriptive paper, reviews and case reports.
- (2) Participants: participants with cognitive impairment or suffering from other disease or receiving other psychological interventions.
- (3) Interventions: except life review, have other interventions.

2.4 Selection process

The initial articles which authors searched were 76 in PubMed. In CINAHL database, there were 28 articles in initially search. At first, combined two database, there were 42 articles recorded in total without duplicate articles. Then authors examined the title of the articles and found 37 articles were accordance with the title. The next step was that authors examined the abstract of the rest articles. Eight articles were removed. In the end, there were 10 articles were selected as potential articles which were read carefully by two reviewers. The reason why 19 articles were removed was that 8 articles were literature review and 4 articles refer to irrelevant diseases or 5 articles were not quantified studies and 2 of these were no empirical articles. (*see Figure 1*)

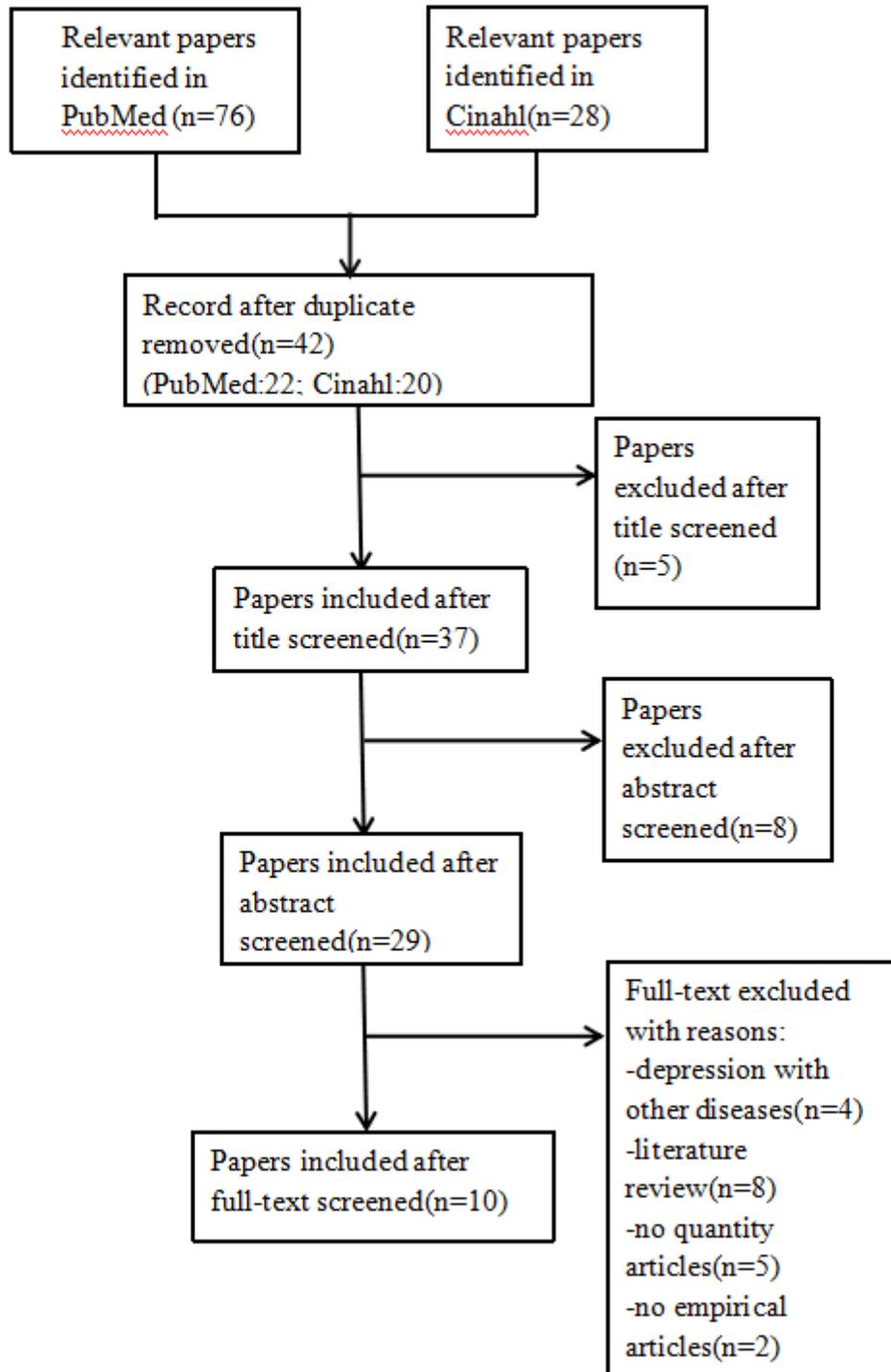


Figure 1 Flow chart of the systematic literature search

2.5 Data analysis

Once the certain articles had been searched, read abstract and commented, the information had to be analyzed and synthesized (Polit & Beck, 2017). All selected articles were read by the each author one by one and then authors abstracted key descriptive details of the included studies, including title, design, participants, data collection

methods, data analysis methods, aim and results. According the aim, authors extracted the results part respectively and identified the similarities or differences of results in all selected articles. Through compared the similarities or differences of results, authors assessed the articles which have same results, then making category it .

2.6 Ethical considerations

Authors read these articles objectively rather than restricting by their own views and attitudes. Result was not be changed easily. They are not refer to plagiarism, and the degree projects didn't involve plagiarism and coping.

3. Results

The results were based on 10 articles which were quantitative studies. All of the articles used randomized controlled trial. Westerhof's(2009) study was a multicenter randomized controlled trial. The studies were from 7 countries, and 728 participants joined in these studies totally. The average age of the participants was from 57.31 to 84.04. Six kinds of scales were used in these studies to assess the effect of the intervention. The authors took 5 interventions for participants to decrease the depression of the participants, gave sessions is the most used intervention. A large number of the studies have intervention weekly. There was a common results in 10 articles: After accepting life review intervention, intervention group' s depression symptoms have been improved obviously. Life review had a positive effect on depression and depressive symptoms in adults.

3.1 Organize information of articles

All the included articles were random controled studies.

These 10 studies were from 7 countries: Spain(Preschl *et al.*, 2012; Selva *et al.*,2012;Latorre *et al.*, 2015), Australia(Gonçalves *et al.*,2008), Netherlands(Westerhof *et al.*,2009), America(Chippendale *et al.*,2012), Dutch(Korte *et al.*,2012; Lamers *et al.*, 2014), Singapore(Chan *et al.*, 2013), Japan(Ando *et al.*, 2014).

There were 728 participants in the studies, which included 242 male and 486 female. The part of participants were recruited in 3 different ways. Publishing advertisement in local and national newspapers and magazines was the most approaches(Westerhof *et al.*,2009; Korte *et al.*, 2012; Preschl *et al.*,2012). A study took a radio interview and commercial transsction to recurit the participants(Korte *et al.*,2012). Another study

collected the data in a database of outpatients who received treatment for depression (Selva *et al.*,2012).

Most of the studies recruited the participants who were over 65 years old(Gonçalves *et al.*,2008; Preschl *et al.*,2012; Selva *et al.*,2012). In Lamer *et al.*(2014), the authors chose the samples of the youngest average age in this study with the average age of intervention group being 57.31 and control group being 58(Lamers *et al.*,2014). Chippendale *et al.*(2012) chose the samples of the oldest average age in this study with the average age being 84.04.

Five kinds of scales were used in these studies to assess the effect of the intervention. GDS(Geriatric Depression Scale) and CES-D(Center for Epidemiological Studies Depression-Scale) were used most in those studies. Because 4 studies used GDS (Gonçalves *et al.*,2008; Chippendale *et al.*,2012; Selva *et al.*,2012; Chan *et al.*, 2013) and 4 studies used CES-D(Westerhof *et al.*,2009;Korte *et al.*,2012;Lamers *et al.*, 2014; Latorre *et al.*, 2015). Moreover, BDI-II(Beck Depression Inventory-II) was used in 2 studies(Preschl *et al.*, 2012; Ando *et al.*, 2014), which was applied in articles. Furthermore, Lamers *et al.*(2014) used MHC-SF scale(Mental Health Continuum-Short Form Scale) to assess the effect of the intervention(Lamers *et al.*,2014) and Korte (2012) used HADS(Hospital Anxiety and Depression Scale) to evaluate the effect of intervention.

3.2 Life review intervention

3.2.1 The intervention ways from intervention group

Four kinds of interventions were taken in these 10 articles. Five articles's interventions were sessions, which focused on different life themes in verity life stage(Gonçalves *et al.*,2008; Westerhof *et al.*,2009; Selva *et al.*,2012; Chan *et al.*, 2013; Latorre *et al.*, 2015). The interviewers raised questions for participants to discuss what was the most impressive events in their life as following. Gonçalves *et al.*(2008) held sessions about 5 period of life in order to recall specific and positive memories of participants(Gonçalves *et al.*,2008). Westerhof *et al.*(2009) focused on 4 periods of life sessions to assess weather the depressive symptoms were alleviated(Westerhof *et al.*,2009). Selva *et al.*(2012) also conducted sessions, focusing on 4 life period to encourage participants to share their autobiographical memory through related scales to assess the effect of the intervention(Selva JPS *et al.*,2012). Chan *et al.*(2013) held 4 periods of life sessions to stimulate participants to express their feelings(Chan *et al.*, 2013). What's more, Latorre *et al.*(2015) host sessions individually to prompt specific memories(Latorre *et al.*, 2015).

The rest of 3 articles applied different intervention approaches, including writing life memories and resulting questions which perplexed them a lot. In Chippendale's study, they encouraged participants to write stories about their life outside of workshop times (Chippendale *et al.*, 2012). Preschl *et al.* (2012) used a computer system—Butle system to write positive and negative experiences of participants (Preschl *et al.*, 2012). In Lamers *et al.* (2014), it offered online-guided self assistance. Concerning this assistance, participants would receive a self-help book which comprised seven modules questions that were required to finish in 10 weeks. Then participants should send their questions to the counselors by e-mail. Counselors would provide a feedback to participants after receiving the letters (Lamers *et al.*, 2014). Ando *et al.* (2014) held life review sessions to help participants to recall memories and participants would be accepted psychological therapies after attending sessions. The psychologist made a album according the therapies reflect of the participants as following. The last step is that participants were required to read the album together meanwhile they supposed to recall the memories again (Ando *et al.*, 2014).

3.2.2 The frequency of the intervention

The frequency of the intervention had 6 methods. Most of the studies had interventions weekly (Chippendale *et al.*, 2012; Preschl *et al.*, 2012; Ando *et al.*, 2014; Selva *et al.*, 2012; Lamers SMA *et al.*, 2014; Latorre *et al.*, 2014), but each intervention cost different time. Chippendale *et al.* (2012) had intervention each cost 90 mins (Chippendale *et al.*, 2012). Preschl *et al.* (2012) had intervention each intervention spent 1~1.5 hours (Preschl *et al.*, 2012). Ando *et al.* (2014) have interventions each cost 30~60 mins (Ando *et al.*, 2014). Moreover, Gonçalves *et al.* (2008) had two interventions per week, each intervention cost one hour (Gonçalves *et al.*, 2008), Westerhof *et al.* (2009) had 12 interventions each cost 2 hours (Westerhof *et al.*, 2009).

3.2.3 The time of the intervention

The interventions spent duration of times. Two studies spent 2 weeks time on taking interventions (Gonçalves *et al.*, 2008; Ando *et al.*, 2014). Two studies spent 6 weeks on intervention (Preschl *et al.*, 2012; Latorre *et al.*, 2014). Another 2 studies had interventions for 8 weeks (Chippendale *et al.*, 2012; Chan *et al.*, 2013). Selva *et al.* (2012) had interventions for 4 weeks (Selva *et al.*, 2012), Lamers *et al.* (2014) had intervention for 10 weeks (Lamers *et al.*, 2014).

3.3 The effects of life review

3.3.1 Depression symptoms decreased

3.3.1.1 Short term effect

In our review, the study which life review effects were measured less than 6 months was defined as short term. The authors of 9 articles conducted a study in short term (Gonçalves *et al.*, 2008; Chippendale *et al.*, 2012; Preschl *et al.*, 2012; Ando *et al.*, 2014; Latorre *et al.*, 2015; Korte *et al.*, 2012; Lamers *et al.*, 2014; Westerhof *et al.*, 2012; Chan *et al.*, 2012).

The authors of articles conducted 8 studies in pre-test and pro-test (Gonçalves *et al.*, 2008; Chippendale *et al.*, 2012; Preschl *et al.*, 2012; Ando *et al.*, 2014; Latorre *et al.*, 2015; Westerhof *et al.*, 2012; Lamers *et al.*, 2014; Korte *et al.*, 2012). Such studies indicated that the GDS-15 (Geriatric Depression Scale) or CES-D (Center for Epidemiologic Studies Depression Scale) scores decreased by life review lessons and writing reminiscences or giving a feedback from the consultants (Gonçalves *et al.*, 2008; Chippendale *et al.*, 2012; Latorre *et al.*, 2015; Korte *et al.*, 2012; Lamers *et al.*, 2014). The 2 studies applied the BDI-II (Beck Depression Inventory-II), indicating that the depressive symptoms were relieved by life review sessions and interviews (Preschl *et al.*, 2012; Ando *et al.*, 2014). However, 1 study used CES-D scale, suggesting that the life review therapies had not an obviously effect on depression patients (Westerhof *et al.*, 2012). 7 studies convinced that the life review therapies could benefit the depression patients from diverse intervention ways and through different scales. 1 studies showed that life review interventions could not have an apparently effect on depression symptoms.

In the second month, Chan *et al.*, (2012) presented that patient's depression symptoms were improved by life review therapies with the scores of GDS-15 scale descending, which could help us to realize whether the depression symptoms were improved or not.

In the third month, 2 articles showed that the depression symptoms decreased after patient accepting the life review intervention (Korte *et al.*, 2012; Westerhof *et al.*, 2012). But in another study, because of comparing the different control groups, the authors achieved the different results. The one result was that patients's depression symptoms were alleviated. The other result was that there were also no significant differences ($p > 0.05$) between intervention group and control group (Lamers *et al.*, 2014).

3.3.1.2 Long term effect

In our review, the study which life review effects were measured more than 6 months were defined long term(including the sixth month).

In the sixth month, 2 articles both showed that there were no obvious difference between intervention groups and control groups , indicating that life review therapies had a few effect on depression symptoms(Selva *et al.*, 2012; Lamers *et al.*, 2014).

In the ninth month, two studies asserted that life review therapies had an apparently effect on depression symptoms(Westerhof *et al.*, 2009; Korte *et al.*, 2012).

In the twelfth month, one articles pointed that only small fluctuations between intervention and control groups, which suggested that life review therapies could not contribute to improve the depression symptoms(Lamers *et al.*, 2014).

3.3.2 Life satisfaction index increased

Three articles mentioned the life satisfactions of depression adults' s patients, indicating that the life satisfactions were improved by Mental Health Continuum Short Form Scale and LSIA's(Life Satisfaction Index of American) scores increasing.(Latorre *et al.*, 2015; Gonçalves *et al.*, 2008; Preschl *et al.*,2012). Emotional, psychological, and social well being were measured with the Mental Health Continuum Short Form and the Client Satisfaction Questionnaire, which showed that a obviously improvement in social well being with scores increasing(Latorre *et al.*, 2015). The another study measured the life satisfaction by Life Satisfaction Index, indicating an increase in life satisfaction of depression patients with the score changing from 13.40 to 21.20 [$t(20)=-3.83, p<0.05$] after life review therapy(Gonçalves *et al.*, 2008). In the other study, the author applied the LSIA to assess life satisfaction , indicating that life satisfaction index increased when patients experienced the life review therapies(Preschl *et al.* , 2012).

3.3.3 Behaviors changes

Five articles mentioned the behaviors change after patients accepting life review interventions, including the change of accuracy of memories and life meaning, views of family members's relationship or acceptance of bareavement(Gonçalves *et al.*, 2008; Westerhof *et al.*, 2009; Chan *et al.*, 2013; Ando *et al.*, 2014; Korte *et al.*, 2012). Gonçalves *et al.* (2008) reported that 11 women receipted 5 periods life review session. What's the most notably was that participant could recall the tiny and exactly memories after taking part in life review sessions. In Westerhof *et al.* (2009) study, it emphasized on the importance of personal meaning, which showed that participant were easier to see

coherence and purpose in their life after accepting life review sessions. Chan *et al.* (2013) indicated that the depression symptoms were improved and this intervention might enhance communication and social interaction among the participants and their families and friends, thus contributing to their mental health statuses. In another study, the author focused on the bereavement family and discover people who accept life review intervention with much changes as followings, (1) acceptance of the reality of the loss, (2) experience of the pain of grief, (3) adjustment to an environment from which the deceased is missing, and (4) reinvestment of energy in other possibilities(Ando *et al.*, 2014). Ando *et al.* . (2014) also presented that the bereavement life review contribute to adjustment and reinvestment. Moreover, in Korte *et al.* (2012) study, the authors held that through life review therapies, the extroversion person was easier to become energetic on the grounds that they might see the “silver lining”, contributing to recall positive memories.

4. Discussion

4.1 Main results

This review intended to sum up the effects of the life review treatments on depression adults in the past decades. 10 studies met the inclusion criteria through the comprehensive search. This review finding that the different life review interventions, such as life review sessions and life experience writing, self-book writing or album, could make contribution to the depression adults. The life review sessions were used frequently in most of studies. In addition, the best duraion of life review was within six months in most of studies. The authors believed that life review interventions could have the positive effect on depression adults in a certain degree, majoring in the depression symptoms alleviated, life satisfaction index increasing and behaviors changed.

4.2 Results discussion

4.2.1 The need for life review

People with depression or depressive symptoms needed interventions to ease their mental state. Mental health was always be ignored by people in the worldwide, and depression was undiagnosed and untreated in in society today(Ferrari *et al.*, 2013). If healthcare staff could give interventions to patients, the depressive symptoms could be reduced. In this review, the authors conducted five kinds of interventions: life review sessions, life experience writing, self-help book and album. In those interventions, life

review sessions were the most used in this review. Because participants were guided to recall the memories of their life and they communicated with each other as following. The communication with scholars could help depression patients feel grateful because someone was willing to listen to their opinions, which could meet their understanding needs(Gaydos, 2005). Life review sessions provided a platform for patients to recall life experiences, through talking and listening, the depressive symptoms of patients could be alleviated (Gaydos, 2005). This result was familiar with Zhang *et al.*(2017) study. In Zhang *et al.* (2017) review, it proved that face-to-face life review sessions could reduce the depressive symptoms. And they considered that the face-to-face session was private, so people might feel safely to share their feelings(Zhang *et al.*, 2017). It could be seen from this result, patients needed a guider to guide them to finish life review sessions(Farkhondeh *et al.*, 2018). In Brodziak's study, nurses could be a conductor to help patients to do some activities, recalling the memory of life(Brodziak *et al.*, 2015, 2017a, 2017b). Life review sessions could be organized by nurses for depression patients to reduce their depressive symptoms.

Life review writing was another frequently used intervention which were discussed in this review(Sharif *et al.*,2018). Some participants showed great interests in writing. A study Stanton(2000) had done shows that people with writing expression not easy to produce generate negative emotions(Stanton *et al.*, 2000).We considered it might because their emotions have a confiding exit in writing. Nurses in this intervention as information recipients, they could discuss with patients about their life experience, give advice to help them reduce the psychological burden and reduce the depressive symptoms (Brodziak *et al.*, 2015, 2017a, 2017b). This result was similar with Zhang(2017)'s review. Zhang(2017) regarded the writing content as a product. They considered that people could take it out later and recall the memories which could help them keep in a positive state and reduce the depressive symptoms(Zhang *et al.*, 2017). However, Lan's(2017) review indicated that old patients prefer oral expression(Lan *et al.*, 2017). This might be related to the patient's education level and age, and this could have a further research about it.

The duration of intervention also played a important role in life review(Lan *et al.*, 2017). In this review, the arthors confirmed that the intervention lasting 6-8 weeks could have the best effect on depression adults (Haight *et al.* , 2007). It might be that according the Erikson theory, he devided the whole life by 8 stages. And if people solved the conflicts in every stage, they will achieve the ego-integrity(Erikson,1963). So the participants need enough time to recall their whole life. This was consistent with Lan *et*

al. (2017) review, the authors thought that the life review intervention which lasted less than 8 weeks would not have obviously effect on older patients for the reason that the reviewers and listeners need a sufficient time to establish the trust and relationship and discuss the detail of the life. Some evidence showed that the effect of life review on depression people was relevant with the duration of time that being identified 6-8 weeks was optimal(Haight *et al.*, 2007). But it is not similar with the previous review. In Wang *et al.*(2017) review, they didn't have a clear result about the best duration of interview. because the frequency and intervention time had great disparity in the review(Wang *et al.*, 2017).

In this review, the intervention times ranged from two to ten(Preschl *et al.*, 2012; Selva *et al.*,2012; Latorre *et al.*, 2015; Gonçalves *et al.*,2008; Westerhof *et al.*,2009; Chippendale *et al.*, 2012; Korte *et al.*,2012; Lamers *et al.*, 2014; Chan *et al.*, 2013; Ando *et al.*, 2014). Of those, giving intervention weekly and having eight times was most used. It might because an intervention could help patients keep in a positive state for a short time that could be estimated for about one week. What's more, have intervention weekly was easier to operate, because adults might have their work and other life trivia need to be handle. In previous review, the articles had averaged 10.1 intervention during the study(Pinquart *et al.*,2012). In Zhang's(2017), the intervention ranged from two to eight(Zhang *et al.*,2017). And in another study, the intervention ranged from four to twelves(Lan *et al.*,2017). However, the intervention times was not discussed in these previous reviews.

4.2.2 The effect of life review

Most of results for depressive symptomatology indicated a significant interaction between time and group. In this review, the authors confirmed that life review interventions had more remarkable effects in short term therapy(less than the sixth months), but in long- term (more than 6 months) follow-up study , the effect would be identified inconsistently (Preschl *et al.*, 2012; Selva *et al.*,2012; Latorre *et al.*, 2015; Gonçalves *et al.*,2008; Westerhof *et al.*,2009; Chippendale *et al.*, 2012; Korte *et al.*,2012; Lamers *et al.*, 2014; Chan *et al.*, 2013; Ando *et al.*, 2014). This results was consistent by the previous study which indicated a favorable effect of life reviews on cancer patients in short-term but no evidence supporting the effect on cancer patients in long- term, possibly due to the worsening physical and mental condition of terminal ill cancer patients(Wang *et al.*, 2017; Kruizinga R *et al.*, 2016). Lan *et al.* (2017) also did the

similar results indicating that the intervention have positive effect on older people who accepted life review interventions less than 8 weeks and the review failed to get the effect of life review on psychology symptoms in long-term. The reason why the long term 's effect was not apparently may that depression adults's emotion could not be regulated in long period. According to the Neuman's systemic model , adults with depression was regard as a stressor. Life review which could be conducted by nurses be regarded as an external intervention which have influence on the whole system(it includes the psychological and physical aspects) of the human. Through the life review intervention, people could find a balance between themselves and environment in order to keep health(Neuman, 1982).

This review suggested the positive effects on QOL(Latorre *et al.*, 2015; Gonçalves *et al.*, 2008; Preschl *et al.*,2012). Similarity, Zhang *et al.*(2017) reported that a very large positive effect on QOL of cancer patients for the reason that positive feeling would be maintained when patients experienced the life review process. In addition, Wang *et al.*(2017) tentatively put forward to the promising effect on life review in patients with terminal or advanced cancer due to their validity of QOL instruments that was recommended in clinical(De Boer *et al.*, 2004). In contrast, a previous study had an inconsistent conclusion in QOL on the ground that small sample size. And identified articles with different outcomes might influence the accuracy of results(Lan *et al.*, 2017). It might be because depression patients recalling wonderful memories would be living with appreciation. Furthermore, previous studies showed that through recalling painful memories could help depression people to gain new insight into their life(Woods *et al.* , 2005).

The review showed that through the life review interventions, the patients would have some positive behaviors changing that it included views of family members' s relationship or acceptance of bareavement and depression symptoms improved. Moreover, life review might enhance communication and social interaction among the participants and their families and friends, thus contributing to their mental health statuses(Gonçalves *et al.*, 2008; Westerhof *et al.*, 2009; Chan *et al.*, 2013; Ando *et al.*, 2014; Korte *et al.*, 2012). This was consistent with the previous study which indicated that life review could help patients to become more confident and gain the problem- solving abiliies (Lan *et al.*, 2017). A study had a similarly result, suggesting that patients changed their passive emotion and recognized the life value, which help patients to improve thier self-confidence and self-esteem.(Chiang *et al.*, 2008). Because life review encourage them to

resolve the paradox and gain the profound life meaning(Haight, 1992; Westerhof *et al.*, 2010).

4.3 Method discussion

A literature review can be applied within a study and in the form of a isolated publication, such as the present study. On the basis of the Polit&Beck(2017), a literature review was to collect a large amount of relevant information on a subject while analyzing, reading, organizing and refining the current progress of the topic, which is regarded as an academic paper that provide a comprehensive introduction and elaboration. According to Polit&Beck(2017), the authors have used clear and particular inclusion and exculsion criteria, which reinforce the reproducibility of the study. One of the selected inclusion was that the identified articles must be written in English, which could be regarded as an advantage or a limitation. The reason why articles written in English was a limitation was that English was not the first language of authors, which wouldl cause the misunderstanding. Moreover, other language's articles have been omitted. The advantage of identified articles in English depended on globalized and credible outcomes. In order to avoid misunderstandings, the authors have used translate software and consulted the foreign friends grammatical problems when necessary. The identified articles must be published in 2008-2018 years, which was also regarded as an advantage and a limitation. The authors would miss the early related articles but the advantage is that the included articles would conform to the up-to-date and advanced researches. The other inclusion criteria was that articles were free in databases, which was also a limitation due to missing other paying articles.

The authors chose a literature review, as the aim of study was to know the effect of life review on depression adults. The results are based on quantitative articles, which is seen as a convincing approach when the aim is to test the causal hypothesis(Polit &Beck.,2012)in this case, the effect of life review.

The authors have searched related articles in 2 different databases in order to find abundant articles and increase the reliability. It included PubMed, Cinahl. In order to search articles, authors used the following search terms: life review(Free Text), Adult[Mesh], depression OR depressive symptom (Free Text). Search terms were firstly used separately and then combined with free text search terms in order to obtain a precise outcome that gained the accordance with aim of the study. The results were limited by using the Boolean operator "AND" and "OR"(Polit & Beck , 2017). According to Polit

&Beck (2017) , using the Boolean operators was a strength for the reason that it could narrow the articles's fields to gain the precious results. In addition, the authors also used the synonyms, which was seen as an advantage on the account of less missing the articles. However, few databases were used in search process and some articles would be neglected, which also was regard as a limitation.

The authors had read the selected articles lonely in order to ensure that the authors could achieve the understanding of articles in their own thoughts instead of being influenced by each others (Polit & Beck, 2017). As the following, the authors discussed the articles and gained the the consensus results. Nevertheless, due to the using of limited condition, it might miss the related articles.

The articles which this review collected were not assessed by the quality evaluation. It might be seen as a limitation because of as a vulnerable groups' personal information which should be attached importance.

The selected articles are written by different countries's authors who come from Spain, Australia, Netherlands America, Dutch, Singapor, Japan. It would increase the reliability and perform the global influence. The identified articles showed the different cultural and educational background of people. However, no articles were written by Chinese Mainland's authors, which might be difficult for nurses to applied in clinical. However, one article concerns about TaiWan that is belong to China with similar cultural backgrounds and medical systems. And it increase the transferability.

4.4 Clinal implications

In view of the beneficial effects of life review on depression, it is suggested that life review can be used in clinical nursing practice to reduce the depressive symptoms and it also had effect on quality of life and life satisfactions. Erikson(1963) states that a person's life is a process of ego integrity. Each stage of the life has challanges, if persons failed the challange, their despair and depression will increase(Erison,1963). If the challange could be resolved, the depressive symptoms could be reduced. It was established that the depression patients most often seek care for primary care providers like nurses, rather than mental health specialists(Uebelacker *et al.*, 2006). Nurses was the promoters in the treatment, learning life review therapy can help reduce the depressive symptoms of the patients in the clinal. In the longer run, life review used more and more in the clinal, people paid more attention to the mental health, people with preexisting symptoms of depression could get timely treatment.

4.5 Suggestions for further research

After reviewing the literature review of this study, it is suggested that life review can have effect on depression, but it is established the existing research is not comprehensive enough. The effect of long-term life review was not significant. In order to increase the effect of live review on depression patients, in the further researches, the conduction can be more controlled, and have a longer follow-up, it will be more effective. In this review, we had a confusion that may be people of different ages are effective for different life review interventions. Writing may have a greater impact on young people, sessions may have a better effect for the elderly. Our review could not demonstrate this result. Future researches can control two variables of age and intervention to get conclusion about this.

5. Conclusion

In conclusion, this review shows that life review interventions may be effective in decreasing depressive symptoms, increasing life satisfaction index and having behaviors changes. This suggests that life review can be used in clinical nursing care for patient who have depressive symptoms. However, this findings was come from a number of RCT studies which have some limitations, such as lack of multicenter samples and the object of the study was not comprehensive. In order to achieve a higher level of design, more research needs to be done to further explore the effectiveness of life reviews.

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Appendix 1

Authors	Title	Aim	Design and approach	Sample	Data collection method	Method of data analysis	Intervention	Control group	Result
Gonçalves DC, Albuquerque PB & Paul C, 2008, Australia	Life review with older women: an intervention to reduce depression and improve autobiographical memory	To assess the efficacy of Life Review as an intervention strategy in working with older women with depressive symptoms, specifically through promotion of the specificity of autobiographical memories	Randomized controlled trial, quantitative study.	Intervention group: 11 women Control group :11 women Age: >65 Samples were collected from an adult social daycare center located in the north of Portugal.	GDS(geriatric depression scale) is used in the pre-test and the post-test.	Not mentioned	Intervention group pre-test measures. Intervention:Each session focused on a life period (infancy, adolescence, adulthood, present and future), comprised 14 questions, aimed at recalling specific and positive memories. Frequency: two sessions per week, each session cost one hour. Time: two consecutive weeks. Post-test measures were taken one week after the intervention was completed.	Control group 1. pre-test measures. 2. Post-test measures. 3. No treatment.	Depressive symptoms declined from 10.10 to 5.00 in the intervention group, with a statistically significant difference with respect to the control group [t(20)=3.58, p<0.05] and a large effect size (r=0.64).
Westerhof GJ,	Improvement in	To assess the	Multicenter	Intervention group:	CES-D(Cente	two-step hierarchic	Intervention group	Control group	The depression scores in the intervention group (meanT0 =

Bohlmeijer ET, Beljouw IMJ & Pot AM, 2009, Netherlands	Personal Meaning Mediates the Effects of a Life Review Intervention on Depressive Symptoms in a Randomized Controlled Trial	impact of a life review intervention on personal meaning in life and the mediating effect of personal meaning on depressive symptoms as the primary outcome of this form of indicated prevention.	randomized controlled trial, quantitative study.	Number:79 Age: 64.4 Gender%: Male: 26.5 Female: 73.5 Control group: Number:75 Age: 64.2 Male: 28.4 Female: 71.6 Participants were recruited through local and national newspapers and magazines targeted at an older audience or by the professionals of the 11 participating community mental health centers.	r for Epidemiological Studies Depression Scale) and is used in intervention, 3 months after the intervention and 9 months later at follow-up .	al regression analysis.	Intervention: session focuses on one theme: your name, smells from the past, houses you have lived in, recognizing your resources, hands, photographs, friendship, balance, thread of life and turning points, longing and desire, the future in me, and identity. Frequency: not mentioned. Time:12 sessions each cost 2hr. 6 months follow-up.	Watched a 20-min educational video movie “The Art of Growing Older”. The participants met one time in small groups to watch this video, with group discussion afterward. With no treatment.	21.3 [SD = 7.7], meanT1 = 15.0 [SD =7.4], and meanT2 = 15.1 [SD = 8.3]) compare favorably with those in the control group (meanT0 = 20.1 [SD = 7.6], meanT1 = 18.2 [SD = 9.0], and meanT2 = 17.0 [SD = 8.7]). less depressive symptoms at followup than the control group.
Chippendale T, Bear-Lehman J, 2012, America	Effect of Life Review Writing on Depressive Symptoms in Older Adults: A Randomized	To study the effect of life review through writing on depressive symptoms in older adults	Randomized controlled trial ,quantitative study	1.Intervention group Number:23 2.Control group number:22	GDS scale(Geriatric Depression Scale)	1.Analysis of variance (RMANOVA) 2.T- tests	Intervention group Intervention: presentation of information on writing techniques by the group	Control group No treatment	Descriptive statistics showed that the mean change in GDS score for the treatment group was 2.70 (SD 5 4.09), whereas for the control group, the mean was 0.32 (SD 5 2.41). P= 0.05, with statistically significant.

	d Controlled Trial	residing in senior residences		<p>Average Age: 84.04</p> <p>Male: 14 Female: 31</p> <p>Recruited from four different senior residences</p>	Time: Pre- test, Post-test.		<p>leader, timed writing exercises, and encouragement to write stories about their life outside of workshop time. During each session, participants read their written work aloud and received positive feedback on their writing from other participants and the group leader. Specific writing prompts that related to a specific period of one's life were given each week.</p> <p>Frequency: weekly,each interventoin cost 90 mins.</p> <p>Time: 8 weeks.</p>		
						1.T-tests	Intervention group	Control group	

<p>Korte J, Bohlmeijer ET, Cappeliez P, Smit F & Westerhof GF, 2012, Dutch</p>	<p>Life review therapy for older adults with moderate depressive symptomatology: a pragmatic randomized controlled trial</p>	<p>To identify subgroups for life review intervention might be particularly effective.</p>	<p>Randomized Controlled trial, quantity astudy</p>	<p>1.Intervention group number:100 Age:63.3 Female: 80 Male: 20 2. Control group number:102 Age:63.3 Female:73 Male:26.5 Participants were recruited from September 2008 to September 2009through advertisements in newspapers and information booklets, plus a radio interview and commercial</p>	<p>1. CES-D 2. HADS Time:Measures at baseline (t0), post-intervention (t1: 3 months after baseline) and follow-up (t2; 3 months after the end of intervention). Only the intervention condition completed an extended follow-up (t3; 9 months</p>	<p>2.Regression analysis 3.x2 tests</p>	<p>Intervention :The intervention, ‘The stories we live by’, is conducted in groups of four to six participants and consisted of eight similarly structured sessions Frequency:2 hours once Time:8 times</p>	<p>Intervention : Participants in the control condition received no intervention. However, they had unrestricted access to care as usual, that is they were not withheld from any treatment (e.g. they may receive psychological treatment). After conclusion of the RCT, the intervention was offered to them. Frequency:No mention Time:No mention</p>	<p>CES-D and HADS scales: Compared to the control condition, participants in the intervention condition reported significantly decreased depressive symptoms at post-treatment (B=x5.3, p<0.001) and first followup (B=x5.0, p<0.001). The effects of the intervention condition were maintained at the second follow-up [t(99)=5.7, p<0.001]. The proportion of participants who reached a clinically significant change at post-treatment on the CES-D in the life review therapy condition was 31/68 (45.6%) versus 12/71 (16.9%) in the care-as-usual condition [OR 3.77, 95% confidence interval (CI) 1.38–10.30, p<0.001, NNT=3.5]. At follow-up, in the intervention condition, 35/68 (51.5%) participants versus 15/71 (21.1%) participants in the control condition showed a successful outcome (OR 3.76, 95% CI 1.45–9.72, p<0.001, NNT=3.3).</p>
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					after the intervention) whereas the control condition received the intervention after 6 months.				
Preschl B, Maercker A, Wagner B, Forstmeier S, Banfios RM, Alcaniz M, Castilla D & Botella C, 2012, Spain	Life-review therapy with computer supplements for depression in the elderly: A randomized controlled trial	To investigate a life-review therapy in a face-to-face setting with additional computer use.	Randomized controlled trial, quantitative study	Intervention group number: 20 Control group number: 16 Age: >65 Man: 24 Woman: 12 suffered from minimal to moderate depression	BDI-II (Beck Depression Inventory-II) :Pre-test six-week post-test.	1.T test 2.Chisquare tests	Intervention group Intervention: Computer intervention(30 mins): Describe a special moment in your life as a teenager that you enjoyed a lot. Face-to-face intervention:(1 hr): Did anyone make fun of you as a teenager or treat you disrespectfully? Do you remember such a moment? What did that mean to you?	Control group 6-week face-to-face intervention.	BDI-II score in the post-test show that decrease in depressive symptoms in the intervention group was significantly larger than in the control group. In the pre-test, BDI-II score in intervention group is 19.0 and control group is 16.5. In the post-test, intervention group decreased to 10.0 and control group decreased to 15.1(p <0.05) .

				Patients were recruited through advertisements in newspapers, supermarkets, libraries, pharmacies, general practitioners' practices.			How did you feel in that situation? Frequency: weekly, each session cost 1~1.5 hr. Time: 6 weeks.		
Selva JPS, Postigo JML, Segura LR, Bravo BN, Córcoles MJA, López MN, Trives JJR & Gatz M, 2012, Spain	Life review therapy using autobiographical retrieval practice for older adults with clinical depression	Examine the efficacy of life review based on autobiographical retrieval practice for treating depression in older adults.	Randomized controlled trial, quantitative study	Intervention group number: 18. Controlled group number: 19 . Age: 64~83 MINI: score over 24 and determined as major depression. Participants derived from a database of outpatients who received treatment for depression at six health care centres	GDS(geriatric depression scale) andBHS (Beck hopelessness scale) are used in Pre-test Post-test Six-week follow-up Six-month follow-up.	T-test & chi-square	Intervention group Autobiographical memory pretest. Intervention:session focus on a particular life period —childhood, adolescence, adulthood, and summary. Frequency: weekly. Intervention Time: 4 weeks.	Control group Autobiographical memory pretest. Have psychologist one hour each week for 4 weeks. 6 weeks after the intervention have an autobiographical memory posttesting.	Results the GDS measure of depression, where there again was significant linear change, $X^2(1)=5.9$, $p=.0151$, and significant quadratic change, $X^2(1)=7.8$, $p=.0052$. Condition did not significantly predict individual differences in change in depression on the GDS, $X^2(3)=7.5$, $p=.0575$. For BHS, there was no significant linear or quadratic change, and there were no significant effects of condition.

Chan MF, Ng SE, Tien A, Ho RCM & Thayala J, 2013, Singapore	A randomised controlled study to explore the effect of life story review on depression in older Chinese in Singapore	to investigate the effects of the life storybook creation process on depressive symptoms among older community-dwelling Chinese adults in Singapore.	Randomized controlled trial, quantity study	1. Intervention group number:14	GDS-15 (Geriatric Depression Scale).	1. generalised estimating equations (GEE)	Intervention group	Control group	GDS-15 scale: The average depression score in the intervention group decreased from 7.9 in week 1 (baseline) to 2.5 in week 8, while the average depression score in the control group decreased from 6.3 in week 1 to 5.3 only in week 8. The GEE model result showed that the average depression scores in week 2, week 3 and week 8 differed significantly between groups (week 2: $\chi^2 = 12.82$, $P < 0.001$; week 3: $\chi^2 = 4.73$, $P = 0.030$; week 8: $\chi^2 = 15.25$, $P < 0.001$). Adjusted for other variables in the model, the change in depression score was significantly different between groups at week 2 (adjusted difference in means $b = 3.24$, $P < 0.001$), week 3 ($b = 2.61$, $P = 0.030$) and week 8 ($b = 4.36$, $P < 0.001$), and almost significantly different at week 4 ($b = 2.45$, $P = 0.058$). The only confounding variable that had a statistically significant effect was age ($b = 0.10$, $P = 0.027$), indicating that adjusted for the other variables, the depression score decreased by 0.10 for each increase in age of 1 year.
				Age:70.4			Time: Five time points: first interview (baseline in week 1), second interview (week 2), third interview (week 3), fourth interview (week 4) and fifth interview (week 8).	2. X ² tests	
				Female:12 Male:2			Intervention group	Control group	
				2. Control group number:12			Frequency: No mention		
				Age:68.9			Time: 8 weeks		
				Female:3 Male:9					
				Community-dwelling older adults aged 60 years and above were recruited.					

Ando M, Sakaguchi, Y, Shiihara Y & Izuhara K, 2014, Japan	Universality of Bereavement Life Review for Spirituality and Depression in Bereaved Families	To investigate the effects of the bereavement life review on depression and spiritual well-being of bereaved families in a setting that does not specialize in palliative care.	Randomized controlled trial, quantitative study.	Sample number: 20 Mean age: 68 Male: 10 Female: 10 A leader of a support group in one area in Japan selected participants in the study from members of the support group	BDI-II (Beck Depression Inventory Second Edition) and FACIT-Sp (Functional Assessment of Chronic Illness Therapy – Spiritual) are used in the pre-test and post-test two weeks later.	Scores on the FACIT-Sp and BDI	Intervention: first session, the participants reviewed their life with a clinical psychologist. therapist transcribe the key words of the first session and use it to make album and give it to the participants in the second session then therapist viewed the album together and agreed upon the contents. Frequency: weekly. each session cost 30~60 mins. Time: 2 weeks.	No treatment	After the Bereavement Life Review, the BDI-II score decreased from 14.4 + 9.2 to 11.6 + 7.4 (t ¼ 2.1, P ¼ .045, n ¼ 20) and the FACIT-Sp score increased from 24.3 + 10.1 to 25.9 + 11.1 (t ¼ 1.0, P ¼ .34, n ¼ 20). The BDI-II score was significantly correlated with the FACIT-Sp score (r ¼ .75, P ¼ .00). The BDI scores of females were significantly higher than those of males both pre (male: 9.3 + 8.9, female: 19.5 + 6.6, P ¼ .02) and postintervention (male: 7.2 + 5.9, female: 16.0 + 6.2, P ¼ 0.02). The FACIT-Sp scores of male were higher than those of females pre (male: 29.1 + 11.3, female: 19.5 + 6.2, P ¼ .59) and postintervention (male: 29.8 + 11.1, female: 21.9 + 10.0, P ¼ .21)
Lamers SMA, Bohlmeijer ET, Korte J, & Westerhof	The Efficacy of Life-Review as Online-Guided Self-help for Adults:	To investigate whether life-review is broadly applicable and effective for both middle-	Randomized control Trial, quantity study	1. Intervention group number: 58 Average Age: 57.31 Male: 14 Female: 24	1. CES-D (Center for Epidemiologic Studies Depression	1. Measure s ANOVA 2. Missing Value Analysis: Impute all missing	Intervention group 1. Intervention : Participants received the self-help book comprising seven modules that had to be finished.	Control group 1. Intervention content: Daily writing about emotional experiences.	1. CES-D scale: (1) There was a main effect of time on depressive symptoms. The Intervention group decreased 8.43 points in depressive symptoms between baseline (t0) and 3 months (t1; d change = -0.99)

GJ, 2014, Dutch	A Randomized Trial	aged and older adults.		<p>2.Control 1 group number:58 Average Age:56.86 Male:13 Femal: 25</p> <p>3.Control 2 group numbers:58 Average Age :56.64 Male:13 Female:25</p>	<p>on Scale)</p> <p>2.MHC-SF scale</p> <p>Time:After intervention,0,3,6,12months.</p>	<p>data on the continuous measures with the expectation-maximization method.</p>	<p>Frequency:not mention</p> <p>Time:10 weeks</p> <p>Conductor:Authors</p> <p>2.Intervention : Participants were asked to send their texts and questions, up to a maximum of one page, to their counselor.</p> <p>Frequency:weekly</p> <p>Time:not mention</p>	<p>Frequency:15-30 minutes</p> <p>Time: During 1 week. 3-4 consecutive days.</p> <p>2. Intervention: They had unrestricted access to care as usual .</p> <p>Frequency:Not mention</p> <p>Time: Not mention</p>	<p>and the control 2 group decreased 4.15 points (d change = -0.48)between baseline (t0) and 3 months (t1).</p> <p>(2)Compared intervention group with Control 1 group on depressive symptoms at 3 (t1), 6 (t2), and 12 months (t3) There was a significant main effect of time on depressive symptoms. Both the two groups decreased on depressive symptoms between baseline (t0) and 3 months (t1; d change lifereview = -0.99; d change expressive writing = -1.04), and showed only small fluctuations between 3 (t1), 6 (t2), and 12 months (t3).There were also no significant differences (p > 0.05) between intervention group and control 1 group.</p> <p>2.MHC-SF scale: Results also showed a significant decrease in anxiety symptoms and a significant increase in emotional, psychological, and social well-being between baseline (t0) and 3 months (t1) in both groups.</p>
							Intervention group	Control group	

<p>Latorre JM, Serrano JP, Ricarte J, Bonete B, Ros L, & Sitges E, 2015, Spain</p>	<p>Life Review based on Remembering Specific Positive Events in Active Aging</p>	<p>To examine the effects of autobiographical retrieval practice based on LR in Specific Positive Events in a community sample of older adults.</p>	<p>Randomized controlled trial, quantity study</p>	<p>1. Intervention group number:29 Age:65.17 Gender:38% male,62%female. 2.Control group number:26 Age: 65.54 Gender:27% male,73female.</p>	<p>CES-D (Center for Epidemiologic Studies-Depression scale) Time:Pre-test - test</p>	<p>1. ANOVA analysis . 2.T-test</p>	<p>Intervention c: Participants were told that the study was investigating the effects of memory recall on mood and that the interviews were designed to evoke memories.The LR consisted of autobiographical retrieval practice that entailed focusing on a particular life period . Frequency:weekly Time:2nd to 7th week</p>	<p>Intervention: The active control (AC) group comprised a “media workshop” in which participants were formed into small groups of four or five participants. Frequency: Six weekly sessions Time:8 weeks Conductor:interviewer.</p>	<p>CES-D scale:Results for depressive symptomatology indicated a significant interaction between time and group, $F(1.53) = 8.49, p = .005, \eta^2 = .14$. Follow-up analyses showed a significant decrease in depressive symptomatology in the LR group, $t(28) = 2.33, p = .027$, but no significant change in the control group. In the LR group, depressive symptomatology decreased 35.5% between pre-test and post-test ($d = -0.59, 95\% \text{ CI} [-1.11, -0.06]$). However, there is a slight increase in depressive symptomatology ($d = 0.24, 95\% \text{ CI} [-0.31, 0.78]$) in the control group.</p>
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