

Title page

Title: **Visual art intervention for people with stroke on holistic well-being: a critical review**

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Main document

Background

When a person has a stroke, he/she anticipates sudden weakness or numbness on one side of the body within minutes, affecting the physical ability to perform the activities of daily living (WHO, 2017). Other consequences of stroke include fatigue, cognitive deficits, incontinence, pain, sleep disturbances, visual impairment, aphasia, dysphagia, and demands for role and identity changes (Reynolds, 2012; Kneebone, 2016). If people fail to restore, adjust, and adapt to challenges/losses after a stroke, they may anticipate psychological distress, affective symptoms, social isolation, dependence, hopelessness, a loss of will to live (Rodin, et al., 2009). These consequences can cause turbulence in body image, social connectedness, emotional adjustment, identity, autonomy, and meaning in life (Stojković & Prlić, 2012). Thus, people with stroke experience all kinds of distortions and turbulence on holistic well-being, the body-mind-spirit. A majority of rehabilitation programmes for stroke focus on restoration of physical function, with little attention to enhance the psychosocial and spiritual well-being (Lo et al., 2018). Moreover, the prevalence of post-stroke depression are 31%, 25% and 23%, at the first year after a stroke, one to five years, and even more than five years respectively (Hackett & Prickles, 2014). Surprisingly, one out of four people with stroke report having psychosocial distress even up to five years post-stroke (Hackett & Prickles, 2014). Other impacts after a stroke include low compliance with rehabilitation, higher mortality rates, longer term of disability, hospital re-admissions, higher utilisation of health care facilities, poor adaptive functioning, a decline in quality of life, poor relationships, and even suicidal ideation (Kneebone & Jeffries, 2013; Ellis-Hill et al., 2015; Kneebone, 2016; Park & Kim, 2017). These factors may affect people with stroke, in reality they would ask “Why?” “What” and “What would happen next”. Meanwhile, searching for meaning after a stroke is another common

phenomenon. The suddenness of stroke, resulting in a distorted body image, causes turbulence in social connectedness, emotional adjustment, identity, autonomy, and meaning in life (Stojković & Prlić, 2012). Hence, the accumulating dependency that accompanies physical disability may manifest itself as a psychosocial crisis, with feelings of fear, uncertainty, and helplessness. Thus, this presented as a sign of suffering arising from a stroke implying they are looking for inner peace and spiritual well-being after a stroke (Yeung et al., 2011). As a result, it is particularly important to facilitate people with stroke, in their adverse life event, who are seeking equilibrium/harmony to achieve holistic well-being.

When the needs of people with stroke go unmet, demands between the person and their environment reach a breaking point of holism, thus, the person enter a state as incongruence (Yeung et al., 2011; Stojković & Prlić, 2012). Holistic well-being of a person refers to the sum and connection of body-mind-spirit of the person (Holism, n.d.). The person is the human being-in-the-world, within the three entities of body-mind-spirit (Watson, 2017). When the person connects body-mind-spirit as a whole, he/she can optimise his/her well-being and utmost function to live in holism (Wang, 2017). People have experienced a certain level of disability/dysfunctioning after a stroke, which is the breaking point of the body-mind-spirit (Yeung et al., 2011). As physical losses/changes after a stroke are less likely to be reverted, however, other aspects of well-being need to retain like inner-peace, self-respect, acceptable self-awareness, consciousness, and interconnectedness of body-mind-spirit. On the other hand, a holistic approach shifts the focus on “caring”, instead of curing after a stroke. The person’s health/well-being as a subjective experience can be facilitated when the person lives in harmony or balance with the environment. When the person can stay as congruence, he/she lives in harmony (Watson, 2017). Thus, this

further accomplishes a sense of control, which is subjected to an adjustment to continuous changes between the person and the environment. Similarly, it is important for people to re-establish the holistic well-being and reconnect the body-mind-spirit after a stroke. Therefore, enhancing the holistic well-being for people with stroke is of utmost importance.

Moreover, older people experience changes and functional decline during the aging process with impacts to their social relationships, socialisation, health, mobility, and ability of daily living. After a stroke, older people are in an even more disadvantaged situation. It may be a kind of devastating experience as perceived as “suffering” for older people after a stroke. They become more vulnerable and less capable to deal with the losses/challenges. The physical losses/changes of the body after a stroke may not be able to revert, it is still possible to retain other abilities of the person especially on the mind and spirit. Additionally, when people finally realise that lives can be “out of control” after a stroke, they may learn to “let go” gradually. Such “letting go” facilitates (older) people with stroke to adapt and adjust with the consequences of stroke, thus, they may be able to re-establish balance and harmony in their body-mind-spirit (Yeung, et al., 2011). Therefore, it is important to enhance the holistic well-being for older people with stroke.

For existing non-pharmacological interventions, there is a variety of interventions for people with stroke: structure exercise programme, educational programme, co-ordination of care, problem-solving intervention, motivational interviews, counselling and educational interventions, cognitive-behavioural-therapy, augmented cognitive-behavioural-therapy. These interventions showed some impacts on physical well-being – the “body” (Lai et al., 2006); some on psychosocial well-being – the “mind” (Johnson and Pearson, 2000; Lincoln & Flanagan, 2003; Davis et al.,

2004; Claiborne, 2006; Watkins, et al., 2007; Kneebone & Jeffries, 2013; Visser et al., 2013; Kootker, et al., 2017). While some found improvement in spiritual well-being – the “spirit” (Watkins, et al., 2007; Visser et al., 2013; Kootker, et al., 2017). However, little is known of the impacts using art therapy/art-based intervention for people with stroke on holistic well-being.

Art therapy/art-based interventions and people with stroke

Art therapy/art-based intervention employs visual and symbolic expression of personal experience and empowering transformation at individual, community, and societal level (Regev & Cohen-Yatziv, 2018). Art-making acts as a medium to facilitate expression of feelings, facilitate grievances, improved self-awareness and acceptance losses/changes after a stroke. Thus, the person’s body-mind-spirit can be enhance through verbal articulation, kinaesthetic, sensory, perceptual, and symbolic expressive communication. Hence, art-making allows people to explore a new learning opportunity and abilities, enable creativity through artwork, empower problem-solving skills and enhance positive changes (Morris, et al., 2016). Therefore, art therapy/art-based interventions have potential to enhance the holistic well-being (Regev & Cohen-Yatziv, 2011; Fraser et al., 2014). In general, art therapy is confined to therapist-led art-based activities, while art-based intervention refers to interventionist-led art-based programme. The art forms employs a variety of sensory functions such as sight, auditory, kinaesthetic and participatory (Baumann, et al., 2013), where art-based activities include music, dance, drama, visual art, storytelling, poetry, literature or journal writing, clay, group artwork, and mixed art formats (Regev & Cohen-Yatziv, 2018). Visual art is one of the most common art forms including drawing, painting, pottery, textile art, card-making, weaving, lacemaking and crafts-making (Regev & Cohen-Yatziv, 2018). Visual art fits better for people with stroke as it does not require participants to stand/move around,

meanwhile people can perform the activities even with a single hand, and less restrictive by their level of literacy. A critical review was conducted to assess and examine existing studies of participatory visual art intervention to promote holistic well-being for older people with stroke (Munn et al., 2009).

Methods

Eligibility criteria

Inclusion confined to studies published in English for all kinds of research designs using visual art intervention for older people/people with stroke on physiological, psychosocial and/or spiritual well-being. Exclusion to articles with interventions mixed with art form other than visual art, passive involvement, participants combined with other diseases, literature not written in English, and/or non-research related papers.

Type of studies? Study population?

Information sources

A search of databases included PubMed (MEDLINE), CINAHL, PsycINFO, Science Direct, Cochrane Library, and Cochrane Reviews, from 1996 onward. The institutional library search of the American Art Therapy Association Research Committee Art Therapy Outcome Bibliography (2015) to identify any relevant studies. How about the reference list of the recruited studies? Have searched or not?

Search strategies

Electronic Databases searched was performed using three sets of keywords: a) “stroke”, “post-stroke”; b) “art*”, “art* expression”, “art* therapy”, “art* drawing”, “art* & craft”, “visual art”, “visual art* therapy”, “media art*”, “art* making”, “artwork*”, “color therapy”, “expressive art*”, “creative art*”, “art*-based intervention*”; c) “holistic health”, “holistic well*being”, “holism”, “wellness”, “well*being”, “mental health”.

Data extraction and analysis

As there was no consensus/clear definition of “art* therapy” and “visual art”, both terms were used in the search strategy. Additionally, when searching for studies with participants aged 60 or above, the search engines generated only less than 10 number of articles. Therefore, a refinement of search strategies was made to (adult, aged 18 or above) people with stroke. The literature searched to extract data in terms of title, abstract, background, aims/objectives, participant description, study design, sample size, theoretical application, findings, and limitation/bias. An initial screening was conducted to review the relevance of the generated studies to exclude duplicated papers. Later, title and abstracts screening to review if the papers fit the inclusion criteria. Moreover, a line-by-line assessment of the full text studies independently conducted by two team members for eligibility including study design, settings, participant descriptions, intervention modalities (forms, duration, and frequency), sample size, findings, and any limitations/bias.

Quality Assessment

For quality appraisal, they were assessed by the following tools: the “Transparent Reporting of Evaluations and Non-Randomized Designs” (TREND) statement for non-randomized quantitative

studies (Fuller, et al., 2014), the “Critical Appraisal Skills Programme” (CASP) checklists for qualitative studies, and CASP for randomized control trial (RCT) (Critical Appraisal Skills Programme, 2018a & 2018b). Mixed method studies would be assessed by a combination of these tools.

Data synthesis

The data synthesis process was conducted after data extraction on the remaining articles. All data were entered into an Excel file to facilitate comparison by the first author (PP) and her colleague (TH) and analysed according to three validated assessment tools independently. Later, PP and TH discussed the consistency and discrepancy of the results on the statement/checklists. A third reviewer (EK) was consulted if any discrepancies arising for a final decision. Thereafter, a summary of the included studies was drafted by the team.

Results

This review was conducted from 1st May to 30th Jun 2018. Initially, a total of 116 potential articles were generated from the search engine. Ten articles were duplicated and excluded. Hence, following strictly to the inclusive and exclusive criteria, 94 out of the 106 papers were excluded at which stage? Title screening or full text screening? Twelve articles remained, while two studies were excluded as participants mixed with non-stroke participants and intervention combined other art forms instead of visual art. Eventually, ten studies were included for data extraction and quality assessment. There were a proportional spread of methodological and philosophical approaches among these ten studies: quantitative studies (n=3), qualitative studies (n=6), and mixed method

(n=1). This review was reported according to the format of PRISMA checklist (2009) as shown in Figure 1.

Findings

Participants

The 10 included studies were published from 1996 to 2019 using visual art interventions for people with stroke. These studies were conducted in five countries: Korea, the United Kingdom, Australia, Israel and Hong Kong (SAR). Participants and settings varied from in-patients acute post-stroke unit (Gohen & Soroker, 2000), post-stroke patients in rehabilitation units (Carmi & Mashiah, 1996; Kim et al., 2008; Kim & Kang, 2013; Ali et al. 2015; Morris et al., 2016; Morris et al. 2019), and people with stroke in community settings (Sit et al. 2017; Beesley et al. 2011; Michaels, 2010). None was conducted in a residential home setting. The sample size ranged from one to eighty participants. Most of the included studies recruited people with stroke (aged 18 or above), while one study included their caregivers (Kim & Kang, 2013) and one study included the artists as well (Morris et al., 2016). Only two studies targeted at older people with stroke (Kim and Kang, 2013; Sit et al. 2017). A summary of the characteristics of the included studies is shown in Table 1.

Intervention modalities

The interventions modalities varied from individual-based programme (Carmi & Mashiah, 1996; Kim et al., 2008; Michaels, 2010) to group-based programme (Gohen and Soroker, 2000; Beesley et al. 2011; Ali et al. 2015; Sit et al. 2017). Meanwhile, three studies adopted a mixed mode of both group and individual-based visual art programmes (Kim & Kang, 2013; Morris et al., 2016;

Morris et al., 2019). Additionally, the duration of the visual art intervention programmes varied from six weeks to six months. For programme sessions, the included studies varied from twice weekly to once weekly and the duration ranged from 40 minutes to 150 minutes per session. However, two studies had not specified the frequency nor the duration (Carmi & Mashiah, 1996; Michaels, 2010). Given that the optimal therapeutic dosage referred as duration time frequency, the optimal therapeutic dosage ranged from 150 to 1,920 minutes. Besides, three studies attempted to employ a structured intervention protocol, Sit et al. (2017), with the “Leisure Art-based Creative Engagement” visual art programme, and Morris et al. (2016 & 2019), with the “Creative Engagement Intervention” visual art programme. For the interventionists, majority of studies were conducted by professional therapists, while one study employed nurses as interventionists (Sit et al., 2017) as shown in Table 2.

Outcome measures

For the outcome measurements employed in the included studies, they were categorised as physiological well-being - the “body”, psychosocial well-being - the “mind”, and spiritual well-being – the “spirit”. The outcome measurement on physiological well-being included Aphasia Quotient, Western Aphasia Battery, Motor-Free Visual Perception Test, Fugl-Meyer, and Functional Independent Measure in Kim et al. (2008). Moreover, psychosocial well-being measures included Hospital Anxiety Depression Scales, therapy outcome measures in Ali et al. (2015), Positive and Negative Affect Scale in Morris et al. (2019). Meanwhile, the spiritual well-being measures included Purpose in Life in Kim and Kang (2013), Mini-mental Status Examination, Wechsler Adult Intelligence Scale in Kim et al. (2008), Visual Analogue Self-esteem

Scale, Recovery Locus of Control scale, Trait Hope Scale, General self-efficacy, and Self-efficacy for art in Morris et al. (2019). The outcome measurements are presented in Table 3.

For qualitative outcomes of the included studies, one study used mixed methods (Ali et al., 2015), and six studies adopted qualitative approaches (Carmi & Mashiah, 1996; Gohen & Soroker, 2000; Michaels, 2010; Beesley et al., 2011; Morris et al., 2016; Sit et al., 2017). Upon review and analysis, the qualitative data can be categorised as four main themes including a variety of dimensions like facilitated ventilation, self-expression, experiences, discovery, creativity, insights, emotional status, locus of control, self-esteem, enjoyment, engagement, transferences, relationships, etc. Among the six qualitative studies, one study attempted to measure/describe holistic well-being as the overall outcome (Sit et al., 2017). A summary of the thematic description of the findings is presented in Table 4.

Theoretical application

Two studies denoted improvement on the psychological status (Kim et al., 2008), and improvement in anxiety and depression (Ali et al., 2013) as their focus of studies. While one study evaluated painting as language (Carmi & Mashiah, 1996), and one focus on enhancement for insight, moods, relationship and attitude changes while (Gohen and Soroker, 2000). Besides, one emphasized the impacts of art-based intervention on purpose in life (Kim and Kang, 2013), and one studied the impacts on quality of life (Beesley et al., 2011). One study elaborated using art as non-verbal psychotherapy for opening up a mental space/thinking about stroke as the focus (Michaels, 2010). However, the statement of theoretical application could not be explicitly identified among the above listed studies. Strictly speaking, only three studies demonstrated

theoretical application: Sit et al. (2017) attempted to elaborate on the findings based on Watson's Caring Theory, meanwhile, Morris et al. (2016 & 2019) adopted the Creative Engagement Intervention Model.

Quality appraisal

Upon quality appraisal for the three non-randomized quantitative studies (Kim and Kang, 2013; Kim et al, 2008; Ali et al., 2015), it was found that their research designs were generally not vigorous in the following aspects: background of any theories used, and interventions with compliances were unable to be recognised. The issues with an assignment method for blocking and minimising potential bias, blinding, and unit of analysis for adjusting standard error were not clearly illustrated. Moreover, regarding statistical methods, the involvement of complex methods of correlated data could not be pinpointed. Further, adjusted analysis and imputed missing data on unit of analysis. Nevertheless, for participants flow included enrolment of participants for an eligibility check, and follow-up of lost participants could not be identified. The matter of handling baseline data were categorised as incomplete, included a baseline comparison of specific diseases/target populations. For outcomes and estimation of primary and secondary outcomes, the inclusion of null and negative findings, and testing on pre-specified causal pathways of the intervention were not demonstrated. Hence, upon discussion, it was found there were lack of a summary of adverse events, an interpretation of results taking study hypotheses into account, sources of potential bias. Most importantly, the generalisability of the studies was not clearly illustrated (Appendix I). Besides, for quality appraisal of randomized controlled trial on Morris, et al. (2019) study, the research design has fulfilled most of the assessed items, except in the area of the randomisation participants in the intervention, both researchers and participants, and no

information specified whether the trial stopped earlier and/or incomplete. Hence, the evidence for any consideration of important clinical outcomes when exploring other relevant information affecting the decision on the results were not explicitly spelt (Appendix II).

For the quality appraisal of the six qualitative studies and one mixed method study, they did not address/could not show discussion on recruitment (Appendix III). Additionally, there was little evidence/a lack of evidence of discussion on any saturation of data, and how researchers responded to events during the study (Carmi & Mashiah, 1996; Ali et al., 2015; Beesley, et al., 2011; Michaels, 2010; Gohen & Soroker, 2000; Morris et al., 2016; Sit et al., 2017). In addition, the six studies showed little evidence/a lack of evidence of a discussion of the extensive contradictory data (Carmi & Mashiah, 1996; Michaels, 2010; Beesley, et al., 2011; Ali et al., 2015; Morris et al., 2016; Sit et al., 2017).

Discussion

This study attempted to address what research objective?

For this review, the included studies matched the inclusion criteria and were reviewed in detail for uses of visual art intervention to promote holistic well-being for people with stroke. There were 10 included studies, which was a small number of all the retrieved articles. However, a great extent of the included studies focus on “medical model” addressing on “treating/curing” of disease-related symptoms like anxiety and depression after a stroke. With particularly relating to enhancement of holistic well-being for people with stroke, some of the included studies focus on impacts of physiological, psycho-social, and/or spiritual well-being. Only a few attempts to focus on holistic well-being and/or a combination of them. As highlighted, physical losses/changes after

a stroke may not be able to revert, there is a need to shift the focus on holistic approach by enhancing the holistic well-being for people/older people with stroke.

Intervention modalities

There was a lack of consensus on visual art intervention modalities (art forms, duration and frequency as optimal dosage), group-based/individual-based programme, and/or intervention programme/protocol. Moreover, most qualitative studies employed therapist-led approaches, which demanded flow of the art-making activities for interpreting and exploring meaning of the art pieces by the therapist. In such context, the participant's thoughts and ideas may not be fully presented and/or understood. This echoes to criticism with Lo et al., (2018) and Regev & Cohen-Yatziv (2018) that the variability in intervention modalities requires more differentiation on how different art modalities contribute to participants' insights and skills to cope with their challenges after stroke. Such a variability in intervention modalities has made limited the piloting, evaluating and implementation of visual art intervention. For better intervention development, it requires more validation on the intervention modalities to identify evidence and support the choice of intervention, so the intervention is possible to proceed to the next phase of feasibility piloting (Craig, et al., 2019). Based on this review, using of visual art interventions as one kind of complex intervention, the modelling process and outcomes are yet to be developed (O'Cathain, et al., 2019).

Outcomes

Regarding the intervention effects, there was a variable of measurement of outcomes identified and categorised as physical well-being - the "body", psychosocial well-being - the "mind", and /or meaning/quality of life - the "spirit". This review found some evidence of improvements in physiological, psychological, and/or spiritual well-being of the included studies. This echoes with Lo et al., (2018), and Regev & Cohen-Yatziv (2018), that art therapy/art-based interventions offer the potential for enhancement in the "body" - functional restoration; the "mind" - psychological

support, social engagement, and mood enhancement; and the “spirit” - spiritual experience, behavioural changes, improved memory and lucidity. Some of these outcomes originated from the “medical model”, which focus on “treating/curing” symptoms from stroke like depression and/or anxiety. The challenge for people with stroke is unable to revert physiological losses/changes, hence, there are consequences/impacts on psychosocial and spiritual well-being affecting the body-mind-spirit as a whole. A few of the included studies address the need for people with stroke on holistic well-being, like staying as congruent and unique by caring occasion/moment and caring modalities. Meanwhile, the holistic approach focus on caring instead of curing. Caring can be some kind of engagement for the participants in “mind” and “spirit”, which extend focus beyond the “body”. This echoes with Fraser et al., (2014) highlighted that application of participatory art as engagement of participants physically and psychologically at the same time. Besides, caring generates new opportunity for social interaction, and insight/meaning for the adverse life event like stroke. Therefore, caring acts as a mean to optimise the well-being of people with stroke to stay as congruent and unique, meaning to optimise the remaining ability after stroke (Watson, 2017). Visual art intervention bears the kinds of benefits and characteristic, as one kind of caring modalities, engage the participants in a caring occasion through art-making process. Therefore, it is worthwhile to explore the impacts of visual art intervention on holistic well-being for people with stroke, as an alternative.

Theoretical application

There were three studies adopted models of theoretical application explaining how and why a visual art intervention benefits people living with stroke (Sit et al., 2017; Morris et al., 2016 & 2019). Researchers have taken into consideration of theoretical development of complex

intervention needs to articulate with the theoretical advancement (Craig et al., 2019). Similarly, scholars emphasize that it requires a clarity in concepts to illustrate how an intervention brought about certain outcomes (Lecky et al., 2011). Without theoretical advancement, the translation of existing studies into practice is difficult (Fraser & Sayah, 2011). These criticisms share the highlight of this review that theoretical application is important in safeguarding and explaining how and why the interventions provide impacts. Among the three studies which adopted the theoretical application, Sit et al., (2017) had illustrated the application of Watson's Caring Theory to promote holistic well-being using visual art intervention. Therefore, it would be worthwhile to consider applying caring theory as the theoretical advancement to support the use of visual art intervention.

Methodology issues

Another challenge encountered was comparison of participants of diverse age ranges and settings. The fact that only two studies recruited older people with stroke, where they are more desperate and vulnerable. It is even worse once they are relocated there after the stroke, and they are in-need for facilitation on holistic well-being. Surprisingly, none was conducted in residential care settings. In addition, the availability of the small number of studies limited the existence of comparison groups, and difficulties to generalise the studies. This echoes with Fraser et al., (2014) and Lo et al., (2018) that the limitations in the existing knowledge: a limited number of quantitative studies, small sample size, demand for professional therapists input, a lack of consensus on optimal dosage, incomplete information on the attrition process, and/or a lack of long-term follow-up. Additionally, only one study explored feasibility in terms of retention and recruitment, impacts and group participation in the visual art intervention programme, while none attempted to explore effectiveness and/or costing. Without feasibility testing or piloting, the development of visual art

intervention as a complex intervention may not be advanced (Craig, et al., 2019). In such context, there is a need for studies on feasibility testing with vigorous design and comparison groups, validation of the optimal therapeutic dosage, and/or intervention protocol.

Quality appraisal

Regarding quality appraisal, there are limitations of included quantitative studies in aspects of assignment for block to minimise potential bias and blinding, consideration of statistical analysis of missing data; flow of participants for eligibility checks/follow-up of lost participants; testing of null or negative findings as primary and secondary outcomes; summary of adverse events, and/or source of potential bias. Additionally, the clinical outcomes in exploring other relevant information need to be highlighted in existing study with randomized controlled trial design, as this affected the decision on the results. For qualitative studies, the clarity of recruitment process, saturation of data/contradictory data, and researchers' responses need to be identified. These factors contribute to quality of the studies, thus, need to be put into consideration so as to make the studies more transferrable and translatable in the future.

In summary, this review found some evidence using visual art interventions with a great variety of outcomes covering a wide age ranges for people with stroke in diverse population. Researches using art-based interventions to help people with stroke, as a complex intervention, is still developing. Visual art intervention is a common and easily accessible form of art intervention, which is more suitable for people with stroke. There are some evidence that visual art intervention can benefit the “body”, the “mind” and/or the “spirit” for people with stroke. Besides, there is a

lack of consensus on intervention modalities, less vigorous research design, lack of clarity in theoretical application, and little known on the impacts on holistic well-being. Majority of the included studies were conducted in rehabilitation/community settings, whereas, the need for older people with stroke in residential homes have not been studied. For future studies, the implication need to be more focus on: a) vigorous research design with randomized controlled trials and comparison groups; b) modelled intervention modalities with specified art forms, protocol, duration, and frequency; c) theoretical application, especially on caring or holistic approach; and d) focus outcome measures on enhancement of holistic well-being. Ultimately, these are essential elements for knowledge transfer and translation on using of visual art intervention to enhance holistic well-being for people with stroke.

Any implication to nursing?

Limitations of this review

In reality, there are limitations in this review. There was a challenge in making a decision to adopt terms such as “art* therapy” and “visual art” as a search strategy, assuming that most salient papers in this area would be captured. Besides, the search for participants aged 60 and older had generated a limited number of studies. A refinement of search strategy had to make. Furthermore, the decision on the inclusion criteria, search strategies, data abstraction, and analysis may not be ideal. The small number of articles generated, variation in contexts and diverse outcomes may not have allowed us to conduct a formal systematic review, nor a meta-analysis. The problems of only including articles published in English could have limited the retrieval of papers using visual art interventions written in languages other than English. Additionally, the analytical methodology may have a limited outlook due to the complexity of the diverse outcome measures, as the

outcomes were categorised physiological well-being as the “body”, psychosocial well-being as the “mind” and spiritual well-being as the “spirit” accordingly. Moreover, the limitations of the reviewers’ experiences and insights may have blocked their overall view of the analysis of findings. The small number of included studies was generally insufficient to draw a firm conclusion. Some of these issues are inevitable, while others can be eliminated by cautious procedures, consideration, and/or a team approach.

Conclusion

This review was conducted and highlighted some evidence that visual art interventions benefit to people with stroke on physical, psychosocial or spiritual well-being. It was found that there was variability in intervention modalities, less vigorous research design, a lack of clarity in theoretical application, and diverse outcome measures. Meanwhile, little was done in terms of exploring the impact on holistic well-being. Most significantly, none of the studies employed a visual art intervention to address the need for older people with stroke in residential care homes. This critical review helps to identify the knowledge gap that merits further exploration in testing the feasibility of visual art intervention with theoretical application to promote holistic well-being of older people with stroke in residential care settings.

Knowledge development

- Older people with stroke in residential care settings are more desperate and vulnerable
- Holistic well-being of people with stroke need to be enhanced
- Visual art intervention serve as a kind of non-pharmacological intervention

Disclosing statement

The authors report no conflict of interest.

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