

# A visual art intervention program for older people with stroke in residential care settings: A feasibility study

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## Abstract

**Introduction:** Stroke poses challenges to the physiological, psychosocial and spiritual well-being of affected individuals. As the impacts of stroke might not be reversible, a shift in focus to providing care is desirable. Visual art interventions using visual and symbolic art can help participants to express their feelings, give them a sense of choice and the feeling that they are retaining a sense of control, promote insights, restructure their sense of cognition and instil hope. There have been few studies on visual art interventions involving older people with stroke and none in residential care homes (RCHs). Theoretical support and rigorous research designs on the subject are lacking. Thus, this study seeks to address this research gap by examining the feasibility of a visual art intervention for older people in RCHs and exploring the impacts on their holistic well-being.

**Methods:** This was a single-blinded, two-arm, randomised controlled feasibility study grounded on Watson's Caring Theory. The Holistic Well-Being Scale and Caring Factor Survey were used in the study, with three assessment time-points: before the intervention (T1), at the mid-point of the intervention (T2) and immediately after the intervention (T3).

**Results:** Sixty-one older people with stroke were recruited from 14 RCHs and randomised into the intervention and control groups. The recruitment rate was 44.53%, and the retention rate for the intervention group was 93.55%. Implementing the programme was affordable (at approximately US\$126/head), the duration was acceptable (721 min) and the feedback from participants and staff of the RCHs was positive.

**Conclusions:** The visual art intervention programme proved to be clinically feasible. This study adds new insights to the development of visual art interventions and to the caring sciences. The efficacy of the programme on holistic well-being has yet to be confirmed.

## KEYWORDS

holistic well-being, older people, residential care homes, stroke, visual art

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## INTRODUCTION

### Stroke and the impacts of stroke on older people

Strokes, known as cerebrovascular accidents, can affect a person's physiological (body), psychosocial (mind) and spiritual well-being (spirit). Gonzalo [1] noted that people struggle to re-balance their body-mind-spirit to meet the changes/challenges that they encounter after a stroke. Thus, there may be a disconnect between their body, mind and spirit. Yeung et al. [2] found that a failure to meet these challenges can lead to distortions in holistic well-being. Holistic well-being refers to the connection between the body, mind and spirit of a person, which are interdependent and interconnected. Moreover, the ageing process may cause a decline in the quality of life and functional abilities of individuals. Individuals become more vulnerable and can have difficulty meeting the changes/challenges that they encounter after a stroke. When they are unable to stay at home, they will need to move into a Residential Care Home (RCH) for older people. RCHs offer a communal living environment where meals, personal care and a limited amount of nursing care are provided. Huang et al. [3] and Lai et al. [4] reported that 36.9% and 48.7% of older people who had relocated to RCHs in Taiwan and Hong Kong, respectively, had experienced a stroke. Huang et al. [3] elaborated that they may perceive a loss of freedom and control, and a loss of relationships, and feel lonely and depressed after relocation. Park and Kim [5] reported that some individuals perceived a loss of meaning in life and even experienced suicidal ideation after relocation. The impacts after a stroke might not be reversible; therefore, it is crucial to provide such individuals with care and support.

### Theoretical framework

Gonzalo [1] described caring as the moment when two or more people come together with actions, choices and opportunities to decide how and what to do in the relationship. Arslan-Özkan et al. [6] elaborated saying that caring emphasises being present, attentive and conscious, with attributes including compassion, loving kindness, consideration, thoughtfulness, concern, empathy and sympathy. Gonzalo [1] stated that caring acts as a kind of transpersonal caring-healing modality to achieve comfort, relieve pain and reduce stress and suffering. Jasemi et al. [7] expressed the view that caring preserves the dignity and humanity of people with stroke, recognising them as unique people, restoring their inner harmony and reconnecting their body-mind-spirit. Gonzalo [1] elucidated

Watson's Caring Theory for people adapting/adjusting to challenges after a stroke, focusing on four conceptual elements: (a) the Caritas Processes, (b) the Transpersonal Caring Relationship, (c) the Caring Moment and (d) Caring-Healing Modalities (Figure 1).

According to Watson [8], the Caritas Processes guide the practice of loving kindness, equanimity and authentic presence for nurses/healthcare practitioners in addressing people's needs and well-being. Through the Caritas Processes, healthcare practitioners are engaged in promoting well-being through a Transpersonal Caring Relationship. Gonzalo [1] illustrated the Transpersonal Caring Relationship as an intersubjective and authentic practitioner-to-person relationship that supports people with positive and negative thoughts about stroke. Thus, practitioners are able to be sensitive and appreciate the relationship in the Caring Moment. Watson [8] elaborated on the Caring Moment as the time when a person is understood, respected and shown empathy and compassion for the hardships that they face in life. Watson [8] further explored Caring-Healing Modalities as types of treatment/interventions in the Caring Moment, which connect practitioners-and-people with a deeper spiritual connection and higher energy flow. Sit et al. [9] explained that through the Caring-Healing Modalities, the unique past-present-and-future of the person are acknowledged. This empowers them to accept, honour and appreciate the life event of stroke.

This study hypothesised that a visual art programme can be used to promote holistic well-being for older people with stroke living in RCHs. This programme was

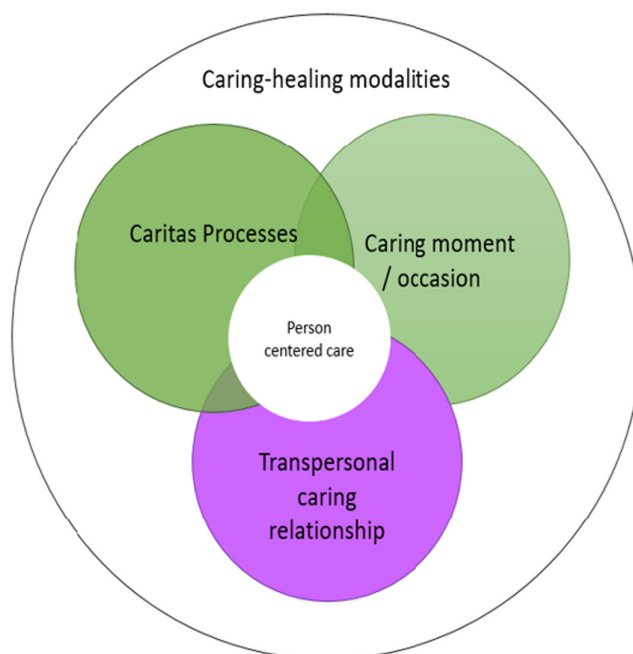


FIGURE 1 Watson's Caring Theory.

grounded in Watson's Caring Theory by applying the Caritas Processes for practitioners to address the needs and well-being of participants; engaging in bonding between the practitioner and participants through the Transpersonal Caring Relationship; using a visual art intervention as the Caring-Healing Modality; and allowing a Caring Moment of showing empathy and compassion. The programme integrated most of the attributes of the Caritas Processes into art-making activities. The attributes include clarifying values, bearing witness, being present, actively listening, milieu therapy, spiritual support, advocacy and information about sensations (Table 1).

## Visual art interventions for people with stroke

Art-based interventions, as a kind of psychotherapy, employ visual and symbolic art to assist participants in expressing hidden or entangled feelings and thoughts. Regev

and Cohen-Yatziv [10] studied the benefits of art-based interventions, which included making choices, retaining a sense of control, fostering self-esteem and self-awareness, promoting insights, enhancing sociability, cultivating emotional resilience, reducing distress and conflicts, clarifying values, restructuring cognition and instilling hope. Visual art is a common and easily accessible form of art that involves employing touch, sense and colour, through activities such as drawing, painting, making pottery, engaging in textile art, making cards, weaving, making lace or making crafts. Well et al. [11] reported that active participation and group-based art-making are commonly employed in a safe and supportive social environment.

Chan et al. [12] conducted a meta-analysis of visual art interventions and showed that they proved to be effective at improving depressive symptoms, activities of daily living and upper limb function for people with stroke. They reported that the quality of the evidence for visual art interventions varied, indicating the need for further rigorous, randomised controlled trials. Pang et al. [13]

**TABLE 1** Description of the MOLACE visual art intervention programme with the session theme, objectives and activities mapped with the Caring Theory.

MOLACE programme session theme	Session objectives	Description of activities mapped with the caring theory
1. Introduction and orientation – ‘Getting to know each other’	Getting to know the others in the group, cultivating a caring and non-judgemental environment for the practice of love, compassion and forgiveness, and getting used to the art-making materials	Values clarification, bearing witness, and presence
2. Filling colour in a body template–‘My body and me’	Using colour, lines and forms to express perceptions of the body	Values clarification, cognitive restructuring, presence and milieu therapy
3. Making clay and colouring on a face mould – ‘A face image’	Providing a non-verbal means of self-introduction and interpersonal exchange	Values clarification, bearing witness, presence, actively listening, milieu therapy and spiritual support
4. Decorating candles and jellies – ‘I can do it’	Stimulating creativity by experimenting with new things	Presence and bearing witness
5. Decorating a photo frame and telling a story about the photo – ‘My memory’	Appreciating a special person or thing.	Presence, actively listening, bearing witness, milieu therapy and spiritual support
6. Drawing a lifeline in three time frames: the past (before the stroke), the present, and the future–‘My lifeline’	Reflecting on how illness affects one’s life and exploring hope for the future	Presence, actively listening, bearing witness, advocacy, milieu therapy and spiritual support
7. Making a gift for you (adjusted) – ‘My gift to you’	Using non-verbal means to show appreciation to a significant person	Presence, bearing witness, advocacy, information about sensations and spiritual support
8. Share with you (adopted) – ‘Share with you’	Displaying the artwork in a public area, inviting family members, caregivers and other residents to come and appraise it; Encouraging visitors, family members and other residents to be present, attending this personal experience and bearing witness to the participant’s increased self-acceptance	Presence, bearing witness, advocacy and milieu therapy

conducted a literature review and found that visual art interventions benefitted people with stroke in terms of improving their physical, psychosocial, and spiritual well-being. There was a knowledge gap in that only two studies were found that focused on older people with stroke, and none that involved older people living in RCHs. Existing studies were found to be heterogeneous in study characteristics, diverse in terms of intervention modalities and outcome measures, and lacking in rigorousness in methodology and clarity in theoretical application. A visual art intervention programme with a more rigorous design is proposed for older people with stroke living in RCHs.

## Aim

The objective was to examine the feasibility of a visual art intervention programme for older people with stroke living in RCHs and to explore its preliminary efficacy on their holistic well-being.

## METHODS

### Design

This was a single blinded, two-arm, randomised controlled study that compared the intervention and control groups at three assessment time-points: before the intervention (T1), at the mid-point (T2) and immediately after the intervention (T3).

### Sample

The participants were people aged 60 years or above who had experienced an episode of stroke (from 6 months to 5 years previously), had been living in an RCH for more than 3 months and were able to follow instructions in Cantonese. Exclusion criteria were those with moderate or severe cognitive decline, who were unable to participate using at least one hand, had a severe pre-morbid psychiatric disease and had severe sensory/communicative deficits. The settings were sub-vented and private RCHs for older people with a capacity of 50 or more in Hong Kong. This study employed a convenience-sampling approach conducted in two stages: (a) sending invitations to colleagues with networks among RCHs and (b) sending invitation letters to shortlisted RCHs. Recruitment strategies echoed with Ferreira et al. [14] including circulation of physical flyers or posters in residential homes, referrals from the in-charges of the residential homes and other healthcare providers, dissemination

of the study through organisations operating RCHs, in-person approaches and advertisement on a gerontology-related electronic platform.

For pilot/feasibility studies, Sim and Lewis [15] and Julious [16] suggested a sample size of 24 to 50, while Billingham et al. [17] recommended a median sample size ranging from 25 to 33. Based on Lancaster et al. [18] and Whitehead et al. [19] this study employed a sample size of 30. In accordance with Lorenz et al. [20], randomisation was performed at the RCH level to avoid possible contamination of participants in the same home. Using a computer-generated method, each participating RCH was assigned a number and was randomised into either the intervention or control group.

### The visual art intervention

The description of the visual art intervention programme was based on Hoffmann et al.'s [21] Template for Intervention Description and Replication checklist. The brief name of the visual art intervention was the MOLACE programme (Modified Leisure Art Creative Engagement visual art intervention programme). The theoretical framework that was employed to support the MOLACE programme was Watson's Caring Theory. The Caritas Processes abstracted to address the needs and well-being of the participants, using a visual art intervention as the Caring-Healing Modalities, engaging practitioner-participants in bonding through a Transpersonal Caring Relationship and allowing for moments of attention and empathy in the Caring Moment (Table 1). The MOLACE programme consisted of a group-based art-making intervention held once a week over 8 weeks. The first to seventh sessions of the programme were derived from Sit et al.'s [9] 'the Leisure Art Creative Engagement program' with minor modifications. The eighth session incorporated the approach of Morris et al. [22] of holding art shows of pieces made by the participants living in RCHs. The materials used included colouring pens, collage materials, decorative pieces, face moulds, jelly wax, glass bottles, wooden boxes, photo frames and display boards for supporting art-making activities. Equipment was made available for left-handed people, and precautions were taken and the participants closely observed when using the sharp tools that they were given. The programme was conducted once a week for 150 min/session over 8 weeks. The participants were welcomed/greeted in the beginning (25 min), then given an introduction to designated art-making activities and materials, allowed to make the art pieces at their own pace (50 min), and encouraged to share their pieces of art in a supportive social environment (50 min). This was followed by a brief introduction to what was coming next, and then by the saying of good-byes

(25 min). The programme was conducted in the format of face-to-face group-based activities held in the activity rooms of RCHs, which had tables and chairs. The sessions were held in the morning or afternoon, to fit the daily schedule of the participants. There was no tailoring or modification of the MOLACE programme during the trial period. The delivery of the visual art programme was planned after a discussion with the in-charge of the RCHs. If any unexpected event were to arise, it would be communicated to the in-charge of RCHs, who would devise strategies to ensure that the study was conducted. Meanwhile, narrative feedback was collected by the PI by interviewing the staff and participants. The interventionist was a nurse with experience in gerontological settings and trained to facilitate group-based and art-making activities.

Meanwhile, the participants in the wait-listed control group received the usual conventional group-based activities, using materials that included the daily newspaper, television, card games, board games (Bingo, Monopoly and chess) and tea and refreshments. After the completion of the data collection process, an identical MOLACE programme would be conducted among the control group of participants.

## Data collection

The characteristics of the participants were collected at baseline to determine whether any statistical adjustments needed to be made, including on gender, age, years (first onset) of stroke, medical diagnoses, number of medications taken and any previous experience with visual art. According to Bowen et al. [23], key parameters for a feasibility evaluation include recruitment, retention, demand and implementation. Recruitment involved examining the rate of invited residents who responded and consented to take part in the study over the total capacity of participating RCHs. Retention was about examining the rate of participants who had completed the programme and data collection process. Demand was about perceived demand, expressed interest and actual use by the participants. Implementation involved inspecting the extent of the programme, including the degree of execution (speed/duration), resources, quality and ease and difficulties of implementation. Quality of implementation was about exploring process indicators through the Caring Factor Survey (CFS) and through narrative feedback from interviews. The CFS (Chinese) was validated by Cheong and Lao [24] in a Cantonese-speaking health-care setting. It is a 10-statement measurement tool grounded in the Caritas Processes with a content validity index score of 0.86 ( $>0.78$ ) and a Cronbach's alpha of 0.87 ( $>0.70$ ). Each statement rated on a 7-point Likert scale (from 1 to 7). The higher the

score, the greater the degree of agreement with the statement about the perception of caring. Preliminary efficacy was determined by employing the Holistic Well-Being Scale (HWBS) developed by Chan et al. [25], which measures holistic well-being using two subscales on 'affliction' and 'equanimity', as based on Eastern philosophies and religions. The HWBS was validated among people with general fatigue and had a high Cronbach's  $\alpha$  ranging from 0.670 to 0.892 ( $>0.70$ ). The HWBS is composed of 30 statements, each rated on a 10-point Likert scale (from 1 to 10). The higher the score, the greater the extent of agreement with the statement. A semi-structured interview was conducted to collect narrative feedback from the participants and staff of different RCHs.

## Data analysis

With regard to the key parameters for testing the feasibility of the study, the quantitative data were analysed using descriptive statistics generated by the IBM SPSS Software (version 25). The concept of Intention-to-treat (ITT) was adopted in accordance with Suchmacher and Geller [26]. This is a 'catch-all' measure that includes all randomised subjects, regardless of their adherence to the entry criteria, or deviation or withdrawal from the intervention. In addition, a generalised estimating equation (GEE) approach was used to estimate changes in the preliminary efficacy of the HWBS at  $p < 0.05$ , as the GEE is suited to the small sample sizes often found in clinical trials and does not require the imputation of missing values, as noted by Bell et al. [27]. Narrative feedback was received from semi-structured interviews conducted by the Principal Investigator (PI) with two social workers and three participants. The qualitative narrative data from the interviews were analysed through the approach of content analysis using the JMP® Statistical Software (John's Macintosh Project).

## RESULTS

This study examined the recruitment and retention of participants, and the demand and implementation, in accordance with Bowen et al.'s [16] model for feasibility studies.

## Participants

The recruitment of participants lasted for 4 months. Fourteen RCHs with a total capacity of 1452 residents agreed to participate. One hundred thirty-seven residents indicated an interest in participating and screened by

RCH staff. One hundred fifteen residents were invited to be assessed for eligibility, 61 of whom consented to take part in the study and were randomised into the intervention group ( $n=31$ ) or control group ( $n=30$ ). Fifty-four participants completed the study (88.53%), 29 of whom were in the intervention group and 25 in the control group (Figure 2).

No statistical significance found in the characteristics of the participants at baseline after testing the equivalence of the intervention and control groups (Table 2).

## Demand

According to Bowen et al. [23], demand refers to perceived demand, expressed interest and actual use. Perceived demand was reflected by 137 invited and screened residents out of a population of 1452 residents in the 14 participating RCHs (9.44%). Expressed interest involved calculating the 115 residents invited to verify their eligibility to participate out of the 1452 residents in the RCHs (7.92%). Actual use was revealed to consist of the 61 participants who consented to participate out of the initial 137 residents (44.53%). Seventy-six residents expressed an interest in participating in the study, but declined or were excluded before/after undergoing verification for eligibility,

for the following reasons: (a) 41 were ineligible (53.95%); (b) 22 were invited but declined to undergo verification (28.95%); and (c) 13 were eligible but did not consent to participate (17.11%).

## Implementation

According to Bowen et al. [23], implementation is about examining the degree of execution (cost and duration) and the ease, difficulties and quality of the execution. Evaluating the degree to which the implementation has been executed meant looking at the duration of the sessions, which was 112.21 min (SD=32.07) out of a pre-set duration of 150 min. Meanwhile, looking into the resources involved examining expenditures, including on materials, refreshments, insurance and the salary for the assistants, which was HK\$956.54/head (~USD122/head; Table 3). The ease of implementation was about evaluating the supportive attitude and assistance provided by the RCHs, such as escorting participants to and from the venues, and sending invitations to family members/caregivers to attend the art shows. The materials used were those that were easily available, and no extra cost and effort were required in arranging and transporting participants and in rental payments. Difficulties encountered included finding it

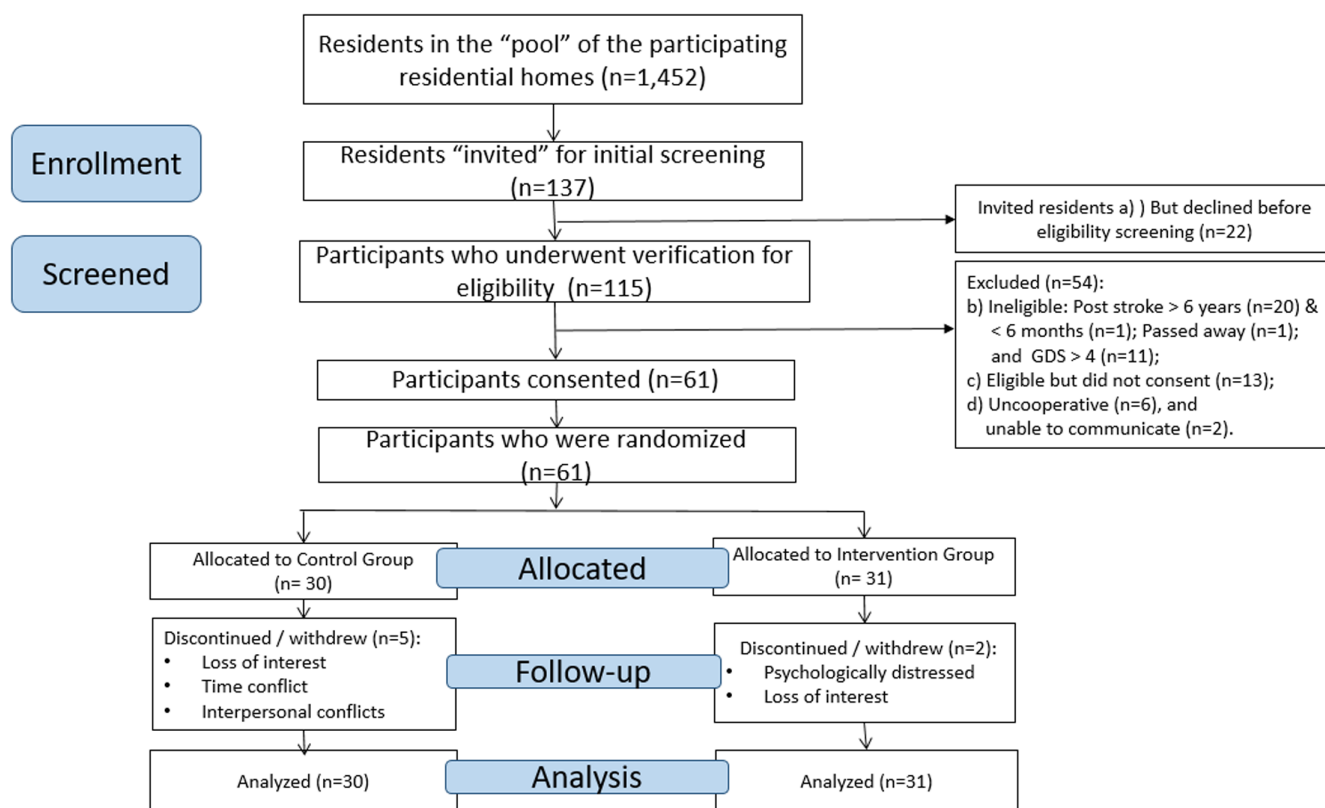


FIGURE 2 Participant flow diagram.

**TABLE 2** Characteristics of the participants at baseline.

Participant characteristics	Intervention group (n = 31)		Control group (n = 30)		p value
Age					
Mean (SD)	83.61 (8.39)		80.03 (9.32)		0.187 <sup>a</sup>
Range	65–96		60–100		
	n	%	n	%	
Gender					
Female	18	58.10	15	50.00	0.611 <sup>b</sup>
Male	13	41.90	15	50.00	
Experience with visual art					
Yes	8	25.81	11	36.67	0.368 <sup>a</sup>
No	23	74.19	19	63.33	
	Mean (SD)		Mean (SD)		
Years since stroke (first onset)	3.26 (1.53)		3.03 (1.79)		0.599 <sup>a</sup>
Number of medical diagnoses	5.97 (1.62)		5.70 (2.10)		0.579 <sup>a</sup>
Number of medications taken	8.84 (2.68)		7.73 (2.70)		0.114 <sup>a</sup>
Caring Factor Survey (CFS)	52.07 (10.53)		50.93 (14.14)		0.110 <sup>b</sup>
Holistic Well-Being Scale (HWBS) – <i>Affliction (Factors 1, 2 &amp; 3)</i>					
Emotional vulnerability (Factor 1)	24.79 (10.27)		25.55 (11.25)		0.121 <sup>a</sup>
Bodily irritability (Factor 2)	27.58 (11.17)		25.35 (11.76)		0.094 <sup>a</sup>
Spiritual disorientation (Factor 3)	18.42 (6.88)		26.00 (7.10)		0.158 <sup>a</sup>
Holistic Well-Being Scale (HWBS) – <i>Equanimity (Factors 4, 5, 6 &amp; 7)</i>					
Non-attachment (Factor 4)	35.04 (10.89)		34.87 (8.71)		0.811 <sup>a</sup>
Mindful awareness (Factor 5)	26.63 (7.78)		24.84 (8.48)		0.503 <sup>a</sup>
General vitality (Factor 6)	25.58 (7.47)		23.19 (9.54)		0.975 <sup>a</sup>
Spiritual self-care (Factor 7)	18.29 (6.27)		17.94 (7.25)		0.514 <sup>a</sup>

Abbreviation: SD, standard deviation.

<sup>a</sup>Independent *t*-test.

<sup>b</sup>Fisher's Exact Test.

**TABLE 3** Comparison of the duration and cost of the programme sessions between the intervention and control groups.

	Overall, n = 61	Intervention group, n = 31	Control group, n = 30	
Duration	Mean (SD)	Mean (SD)	Mean (SD)	p-value <sup>a</sup>
Total duration (min)	734.52 (270.57)	721.29 (214.48)	749.83 (327.28)	0.015*
Average duration (min)	112.21 (32.07)	102.55 (24.90)	122.70 (36.36)	0.015*
Costing				
Art materials	\$4445.00	\$3946.10	\$498.90	
Insurance	\$11,834	\$6014.00	\$5820.00	
Refreshments	\$490.20	\$163.00	\$327.20	
Salary for assistants	\$41,580.00	\$20,580.00	\$21,000.00	
Total	\$58,349.20	\$30,703.10	\$27,646.10	
Average	\$956.54	\$990.42	\$921.54	

<sup>a</sup>Independent *t*-test.

\*Significant \$ – Hong Kong Dollar.

difficult to recruit participants because residents had little interest in art-based activities and their schedules clashed with other activities during the implementation.

The quality of the implementation was assessed using the Caring Factor Survey (CFS) and the narrative feedback collected from the semi-structured interviews. No

statistically significant differences were found using the CFS. However, over time changes of a greater magnitude were found in the intervention group than in the control group: Change 1 (T2–T1) at 1.50 (SD=1.28), Change 2 (T3–T2) at 2.53 (SD=0.83) and Change 3 (T3–T1) at 4.03 (SD=2.11; Table 4). These changes might imply that the participants appreciated the care that they received during the course of the intervention.

To collect narrative feedback on the programme, semi-structured interviews were conducted individually with two social workers (CC and ZS) and three participants from different RCHs.

## About the programme and the overall feedback

I like to have dim sum for breakfast every morning...; however, I try to return in time to participate in the subsequent sessions.

(Participant A, aged 82)

The participants found a sense of freshness, with each session being comprised of a variety of different activities. They had the free will to choose, and the activities fit those with less ability after a stroke.

(Staff CC)

## Changes, observed changes and feelings after the programme

I am delighted that I made the ‘treasure box’ as ‘my gift to you’ today. I want to have it ... I can send it to my granddaughter for the family gathering.

(Participant B, aged 90)

The participants felt satisfied and proud of their achievement, especially the art piece for the ‘my gift for you’.

(Staff CC)

Upon completion, they realized that accomplishing art-making processes was not difficult; they found that it made them happy and was fun to participate in....

(Staff ZS)

**TABLE 4** Comparisons of changes in measurements from the Caring Factor Survey (CFS).

	Baseline (T1)	Mid-point (T2)	After (T3)	Change 1 (T2–T1)	Change 2 (T3–T2)	Change 3 (T3–T1)	Group-by-time interaction effect <sup>a</sup> , p-value
Intervention group (n = 31)	52.07 (10.53)	53.57 (11.81)	56.10 (12.64)	1.50 (1.28)	2.53 (0.83)	4.03 (2.11)	0.809
Control group (n = 30)	50.93 (14.14)	51.83 (11.87)	52.93 (10.02)	0.90 (2.27)	1.10 (1.85)	2.00 (4.12)	

<sup>a</sup>Greenhouse–Geisser correction.



## Strength of the intervention programme

Participating in the art-making and sharing has given me opportunities to relieve negative emotions.

(Participant A, aged 82)

The participants realized that they still had the ability to create art.

(Staff CC)

The MOLACE program was tailored to the needs of older people with stroke (in RCHs), as some of them had physical weaknesses. This meant that they could not stand for long or could only use a single hand. They finished the art pieces with minimal assistance or facilitation.

(Staff ZS)

## Areas to be improved and other suggestions

I was a Cantonese Chinese opera actor (大佬官) and before the stroke I was good at drawing my own face for performances. Now I cannot even draw the face mold as well as before.

(Participant C, aged 67)

It was difficult to recruit those who lacked interest in making art and had communication problems.

(Staff C)

Both staff members CC and ZS indicated that it would be good to attend training workshops (train-the-trainer), if available, to sustain the MOLACE programme, if available.

## Preliminary efficacy

No statistically significant difference was found in the HWBS. Instead, changes of an observable magnitude were noted on the factors of emotional vulnerability, bodily irritability, non-attachment and mindful awareness. It was noticed that at change 3 (T3–T1) there was a mean increase in emotional vulnerability of 2.13 (SD=1.04) in the intervention group and 4.23 (SD=0.27) in the control

group. With regard to bodily irritability at change 3 (T3–T1), there was a mean increase of 1.80 (SD=1.71) in the intervention group and 3.44 (SD=0.55) in the control group. For non-attachment, there was a mean increase of 3.04 (SD=0.17) in the intervention group and 0.30 (SD=0.42) in the control group. For mindful awareness, there was a mean increase of 0.93 (SD=0.09) in the intervention group and a mean decrease of –0.67 (SD=0.93) in the control group (Table 5).

## DISCUSSION

### Feasibility

The MOLACE programme was found to be clinically feasible in terms of recruitment, retention, demand and implementation for older people with stroke in RCHs, with positive feedback.

This study showed a recruitment rate at 44.53%, compared to Ellis-Hill et al. [28] at 14.14% and Morris et al. [22] at 28.52%. Chan et al. [12] suggested that qualified or trained facilitators should deliver visual arts-based interventions for people with stroke. The interventionist had experience with providing training in group-based and art-making facilitation in gerontological settings. The retention rate in the intervention group was 93.55%, which was higher than that in Morris et al. [22] at 73.17% and Ellis-Hill et al. [28] at 86.21%. Chan et al. [12] and McCaffrey [29] reported better participation in face-to-face and group-based visual art interventions for people with stroke, perhaps contributing to higher retention. McGull et al. [30] reported that Asians are more willing to take part in clinical studies. Shoesmith et al. [31] noted that participants who volunteered to participate were more motivated and engaged than non-volunteers. The PI met every 'invited and responded' resident, which matched with the observation by McGull et al. [30] that it was better to involve a single recruiter. Nevertheless, Morris et al. [22] indicated that the drop-out rate correlated with the feeling that it was burdensome, time-consuming and frustrating to fill out long and repetitive outcome measurements. This study employed two measurement tools (HWBS and CSF), which consisted of only 40 questions. That might have helped to reduce cases of dropping out.

The perceived demand was found to be 9.44%, reflecting the level of acceptance of visual art, which indicates that the intervention is still in the stage of development. However, it provided a possible alternative in terms of interventions. Expressed interest involved setting out the reasons why invited residents declined or were excluded from participating, with 53.95% indicating that they lacked eligibility, 28.95% declining before their eligibility

**TABLE 5** Comparison of changes in measurements from the HWBS in the intervention and control groups.

	Intervention group ( <i>n</i> = 31)					Control group ( <i>n</i> = 30)					Group-by-time effects <sup>a</sup>	<i>p</i> value		
	Baseline (T1)	Midst (T2)	After (T3)	Change 1 (T2–T1)	Change 2 (T3–T2)	Change 3 (T3–T1)	Baseline (T1)	Midst (T2)	After (T3)	Change 1 (T2–T1)			Change 2 (T3–T2)	Change 3 (T3–T1)
	Mean (SD)					Cohen's <i>d</i>								
Affliction (Factors 1, 2 and 3)														
Emotional vulnerability	21.35 (10.05)	21.94 (9.00)	23.48 (11.90)	0.59 (1.05)	1.54 (2.9)	2.13 (1.04)	0.20	25.07 (11.56)	23.18 (10.89)	29.30 (11.83)	1.89 (0.67)	4.23 (0.94)	4.23 (0.27)	0.672
Bodily irritability	23.80 (10.81)	25.70 (9.92)	25.60 (12.52)	1.90 (0.89)	−0.10 (2.6)	1.80 (1.71)	0.15	25.13 (12.37)	26.87 (11.36)	28.57 (11.82)	1.10 (0.46)	1.70 (0.46)	3.44 (0.55)	0.829
Spiritual disorientation	21.55 (9.02)	19.94 (8.90)	21.48 (9.26)	−1.61 (0.12)	1.54 (0.36)	−0.07 (0.24)	0.01	24.80 (8.46)	24.60 (9.13)	24.53 (7.71)	−0.20 (0.67)	−0.07 (1.42)	−0.27 (0.75)	0.668
Equanimity (Factors 4, 5, 6 and 7)														
Non-attachment	32.83 (10.99)	36.66 (9.05)	35.87 (11.16)	3.83 (1.94)	−0.79 (2.11)	3.04 (0.17)	0.27	34.83 (10.74)	35.30 (11.63)	35.13 (11.16)	0.47 (0.89)	−0.17 (0.47)	0.30 (0.42)	0.366
Mindful awareness	25.67 (8.68)	25.80 (9.25)	26.60 (8.59)	0.13 (0.57)	0.8 (0.66)	0.93 (0.09)	0.11	24.67 (10.19)	25.73 (8.27)	24.00 (9.26)	1.06 (1.92)	−1.73 (0.99)	−0.67 (0.93)	0.513
General vitality	25.73 (8.33)	26.33 (7.84)	25.50 (8.83)	0.6 (0.49)	−0.83 (0.49)	−0.23 (0.50)	0.03	25.83 (10.35)	23.33 (10.55)	24.67 (9.27)	−2.50 (0.2)	1.34 (1.28)	−1.16 (1.08)	0.365
Spiritual self-care	19.53 (5.82)	19.40 (5.67)	18.90 (6.93)	0.07 (0.15)	−0.5 (1.26)	−0.63 (1.11)	0.10	18.43 (7.68)	19.03 (7.79)	19.04 (6.36)	0.60 (0.11)	0.01 (6.25)	0.61 (1.32)	0.583

<sup>a</sup>Greenhouse–Geisser correction.

was verified, and 17.11% who were eligible but did not consent to participate. Ellis-Hill et al. [28] reported that the reasons that people declined to take part in visual art activities included difficulty in communicating, health reasons and a lack of interest. Lo et al. [32] argued that participants might perceive art-based activities as cognitively demanding and fear triggering sad/bad memories. Older people aged 75 years or above had experienced the war in the 1940s and had limited opportunities for schooling and exposure to art-making activities. Morris et al. [22] suggested that offering an 'art-making taster session' might help people to overcome perceptions of unfamiliarity and uncertainty.

The duration of the implementation of the MOLACE programme was 721.29 min, whereas Ellis-Hill et al. [28] suggested that a duration of 2 h per session was acceptable. Pedisic et al. [33] argued that 'more is better', contributing to greater benefits. The cost of the MOLACE programme was affordable at HK\$920-990/head (~ USD117-126/head), while Ellis-Hill et al. [28] spent £327-657/head (~ USD445 94/head). This study benefited from having no extra costs in terms of transportation or rental payments. Regarding ease of implementation, the materials used were easily available, while staff reflected that the MOLACE programme could tailor to the needs of people with stroke who were able to make art pieces with a single hand and were not required to stand for long periods. Chan et al. [12] described a face-to-face group-based visual art intervention that benefited people with stroke in terms of self-efficacy and social participation. Sit et al. [9] said that creativity in art-based activities enhanced people's sense of enjoyment, creativity, self-expression, and connectedness in body-mind-spirit. The challenges encountered included difficulties in recruiting residents, who expressed a lack of interest in making art, indicating visual art interventions might be sensitive to culture and education. Shoemith et al. [31] said that giving participants a choice is essential to success in a visual art intervention. People with stroke, who have limitations in physical activities, might encounter difficulties in art-making activities, thus, inducing negative emotions. However, Lo et al. [32] argued that the triggering of sad/bad emotions might be part of the therapeutic process in terms of gaining insights and learning to cope.

Narrative feedback collected through interviews and the CFS gave an indication of the quality of the implementation. Both staff and participants revealed that, overall, they welcomed the MOLACE programme and that it catered to the needs of participants with impaired functional abilities, mobility, and sociability. They reflected that the programme was composed of a variety of activities that induced feelings of creativity, freshness, flexibility, freedom of choice and the sharing of thoughts and feelings.

They concurred that the programme was fun and delightful, and that they felt happy, playful, proud, free, keen and satisfied, so that it served as a Caring-Healing Modality. The tailor-made art-making activities and sharing gave them the space and opportunities as the Caring Moment to express their feelings, engage in interpersonal communication, sustain their abilities and autonomy and to feel a sense of completion and achievement. Moreover, changes of greater magnitude over time in the intervention group, as seen in the CFS, might indicate appreciation of the Transpersonal Caring Relationship in preserving personhood, dignity and connections with humanity.

### Preliminary efficacy on holistic well-being

No statistical significance was found in the HWBS. Page et al. [34] recommended that reporting non-significance was crucial to reduce selective reporting bias. Bragdstad et al. [35] argued that non-significant impacts might indicate that the participants were not getting worse. Self-reported measurements might serve as opportunities for reflection and adjustment for people with stroke. Putting loving and heart-centred caring practice into action was the theoretical framework for the MOLACE programme. Participants appreciated art-making activities and sharing to accomplish a deeper spiritual connection with others. The interventionist reflected that it was delightful to witness the participants' achievement and enjoyment, thus reinforcing the significance of the Transpersonal Caring Relationship. Such an authentic relationship might honour the participants' needs, wishes, routines and rituals. Hence, this helped them to embrace their unique past, present, and future. The gradual changes in magnitude over time in the CFS indicated that the participants were enlightened during the Caring Moment of the programme, which enhanced their ability to understand, accept, support and honour human-to-human interactions in the life event of stroke. According to Bragdstad et al. [35], a visual art intervention led to feelings of comfort, positivity, and enjoyment with attention and sharing. The programme employed the senses, touch and colour to express feelings and experiences, acting as a kind of Caring-Healing Modality. Thus, the MOLACE programme engaged the participants' 'body' in art-making activities, stimulated their 'mind' when sharing, and refreshed their 'spirit' through the seeking of meaning. These might help to reconnect them with their body-mind-spirit. Most importantly, the participants saw that their abilities and achievement were sustained upon completing the art pieces. Thus, this might give them new insights, especially after experiencing a stroke and being relocated to an RCH.

## CONCLUSION AND FUTURE RESEARCH

The MOLACE programme was clinically feasible in terms of recruitment and retention, demand (duration and cost), and implementation. This study contributed to the development with feasibility testing of an interventionist-led structured visual art programme, thus, adding to the body of knowledge on research in the Caring Sciences. In the future, a larger sample size needs to be considered. The therapeutic dosage of MOLACE programme was from seven to eight sessions, and the new elements that were introduced require further validation. Employing a health-related sensitive tool for populations of older people and/or people with stroke may help to support the findings. Older people with stroke living in RCHs are vulnerable. The impacts on their body-mind-spirit after a stroke are not likely to be reversed/cured; therefore, shifting to 'caring' can be an alternative. The MOLACE programme is grounded in a Caring Theory applying the Caritas Processes, and using visual art as a kind of Caring-Healing Modality. The perception of care was confirmed by positive feedback from both staff and participants, while the participants' enjoyment of the programme revealed the Caring Moment. The supportive social environment acted as the Transpersonal Caring Relationship.

## AUTHOR CONTRIBUTIONS

All authors have read and approved the final manuscript. PP (Dr Phyllis Chui Ping Pang), VC (Dr Vico Chung Lim Chiang) and DC (Dr Daphne Sze Ki Cheung) were involved in the conception and the design of the study. PP conducted the trial and monitored the data collection. PP conducted the data analysis and drafted the article. VC and DC critically review the article for important intellectual content.

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## CONFLICT OF INTEREST STATEMENT

There are no conflicts of interest to report.

## DATA AVAILABILITY STATEMENT

Data of this study would be available upon reasonable request to corresponding author.

## ETHICS STATEMENT

This study has granted ethical approval from the Human Subjects Ethics Sub-committee of the Hong Kong Polytechnic University. All ethical considerations and data management complied and followed the University guideline.

## PATIENT CONSENT STATEMENT

All participants in this study had given their consent upon recruitment.

## PERMISSION TO REPRODUCE MATERIAL FROM OTHER SOURCES

Permission to reproduce material from other sources granted for this study.

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