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Brief Report

Laughter yoga activities for older people living in residential aged care homes: A feasibility study

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Objective: *To evaluate the effects of a laughter yoga activities (LY) program for older people living in residential aged care homes (RACHs).*

Methods: *A 6-week LY program was implemented at three RACHs with twenty-eight residents. A pre–post design was used to measure positive and negative affect, happiness, blood pressure and pulse.*

Results: *Post-session mean scores for positive mood, and happiness were significantly higher than pre-session scores in weeks 1, 3 and 6, and the post-session mean negative mood scores were significantly lower than pre-session scores in weeks 3 and 6. Post-session readings for mean systolic blood pressure were significantly lower than pre-session readings in weeks 1 and 6.*

Conclusion: *This study demonstrates the potential for using LY to improve mood and lower blood pressure of older people living in RACHs.*

Policy Impact: Laughter yoga should be considered by Management and Lifestyle coordinators/activities staff in residential aged care homes to be included in their regular activities program for residents. By incorporating LY into the culture of the RACHs, a sense of fun and happiness will be achieved for both residents and staff.

Practice Impact: Laughter yoga improves happiness and positive mood and decreases negative mood in older people living in residential aged care homes, and has the potential to lower blood pressure. It also provides opportunities for residents to exercise, have fun and enjoy themselves, so should be incorporated into lifestyle programs.

Key words: *happiness, laughter therapy, laughter yoga, nursing homes, older people.*

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Introduction

Older people in residential aged care are at elevated risk of depression [1–3]. A range of therapies have been implemented to reduce depression and anxiety and improve emotional well-being [4]. One such therapy is laughter yoga (LY), which combines simulated laughter exercises with deep breathing and clapping. It is conducted in a group setting which helps break down barriers between people, as it is believed that people are more likely to laugh in groups than when alone and that laughter is contagious, so in a group if one person laughs others will follow [5].

A growing body of evidence indicates the health benefits of laughter. These include reducing stress [6,7], blood pressure and stress hormones; increasing muscle flexion and triggering the release of endorphins – the body's natural painkilling chemicals that produce a general sense of well-being [7]. Laughter yoga is an aerobic activity, providing benefits such as stimulating circulation and pulmonary ventilation [8,9].

Research literature indicates that LY can improve the quality of life of older people and result in physiological and psychological health-related benefits [3]. Small but significant effects of laughter on sleep quality and depression have been demonstrated for older persons [10]. Laughter yoga combined with exercise has been associated with improved self-rated health, higher bone density levels and increased activity in older people [11]. The positive impacts of LY on well-being of older people with depression have also been reported. Studies with older adults have shown improvements in quality of life, mood and depression scores, and in their activities of daily living [12–14].

Research indicates an association between affect (including apathy) and activity participation among nursing home residents [3,15,16] and between engagement in therapeutic activities and improvements in apathy, suggesting that it is worthwhile to encourage residents with high apathy to engage in more activities to reduce apathy. Involving residents in active participation is good for both their mental and physical health. Despite evidence indicating the measurable benefits of laughter for older people, activity programs in residential aged care have rarely incorporated LY [3,10–14].

The aim of this study was to identify the effects of a LY program on the well-being of older people living in

residential aged care homes (RACHs). The study tested the hypotheses that LY can improve participants' mood, blood pressure and pulse.

Methods

Sampling

Residents from a convenience sample of three RACHs participated in this study. A LY session was conducted for the activities staff at the three RACHs to promote support for the program. These staff were asked to identify residents who met three inclusion criteria, namely, being capable of providing informed consent, actively participating in the LY program and answering follow-up questions. Of the 302 residents in the three selected homes, activities' staff identified 60 eligible residents. The first author visited these residents, explained the project, provided the participant information statement and collected signed consent forms. Twenty-eight residents agreed to participate in the study (a response rate of 47%) – six in Group 1, ten in Group 2 and twelve in Group 3.

Participants

Most participants were women (23 women, 5 men). The mean age was 84 years, and the age range was 61 to 96 years with eight residents in their 90s. Thirteen of the participants had a diagnosis of dementia.

Intervention

Six weekly LY sessions of 30 minutes duration were conducted at each site by a trained laughter therapist (second author). Residents were seated in a circle to maximise eye contact with each other and with the LY facilitator. Each session began with 10 minutes of breathing and stretching exercises: deep belly breathing; body stretching, gentle neck and shoulder stretches, and smiling to loosen up face muscles. This was followed by fifteen minutes of LY, which consisted of a physical activity and chanting ho, ho, ho, ha, ha, ha. An example is the 'Tapping body laugh' where participants use the left hand to tap five times from the shoulder to the wrist on the right side and repeat for left side and tap five times down both legs. As the participants tap, they repeat the chanting, which progressively becomes quicker. These exercises included a variety of laughs to stimulate vocal skills, fine and gross motor skills and a sense of play. Each session followed the same format. The final five minutes consisted of body relaxation, smiling and deep breathing.

Measures

The Positive and Negative Affect Schedule (PANAS) [17] was used to measure mood (or self-rated affect), and The General Happiness Scale (GHS) [18] was used to measure levels of happiness. Both measures have been tested for validity and reliability [17,18]. Data were collected before and after the LY session at three time points during the 6-week period: in weeks 1, 3 and 6. Each participant's blood pressure and pulse were measured just before and immediately after each session by the first author (a nurse researcher). At the end of each LY session, participants were asked the following: Did you enjoy the laughter group session? If yes, what aspects did you enjoy? If no, tell me why? Their comments were written down verbatim by the researcher.

Data analysis

Data were analysed using SPSS Version 22. The impact of the intervention was assessed by (i) comparing mood, happiness, blood pressure and pulse measures before and after the sessions in weeks 1, 3, and 6; and (ii) comparing preprogram scores for mood, happiness, blood pressure and pulse measures (measured at baseline before the first session), with postprogram scores (measured after the final session in week 6). Paired-sample *t*-tests were used to test statistical significance. Residents' feedback on the experience of participating in LY was collated.

Ethics

Ethics approval for this study was obtained from a University Human Research Ethics Committee (approval number UHEC 11-090) following organisational approvals from the participating RACHs.

Results

Mean score increased on the GHS in weeks 3 and 6 and on the positive aspects of the PANAS in weeks 1 and 3 (Table 1). Postprogram mean scores on the GHS and the positive aspects of PANAS were significantly higher than the baseline scores, and negative aspects of the PANAS were significantly lower at the end of the six-week program. Mean readings decreased slightly between baseline and the end of the LY program for systolic blood pressure (from 137.5 preprogram to 133.4 postprogram) (Table 2).

Most participants indicated that they enjoyed participating in the LY program, and 24 stated that they would like to do it again. Participants identified the following benefits of the program: relaxation, socialising, being happy and laughing at oneself, as illustrated by the following comments: 'It was fun to laugh and see others laugh', 'It was nice having everyone laughing', 'The whole place feels joyful', 'It makes me feel good, 'Everyone is happy and me too', and 'It relaxes me'. Aspects of the program that participants reported enjoying the most were the breathing, exercises and interactions with others. Only one resident indicated that he did not enjoy the activity and did not return. Four residents stated it was 'childlike', but attended all sessions and did join in the laughter.

Table 1: Mean GHS and PANAS scores before and after three LY sessions ($n = 28$)

Session and measure	Mean	SD	*t*	df	Sig
General Happiness Scale					
Pre-session 1	5.2	0.973	−2.905	27	0.007
Post-session 1	5.6	0.685			
Pre-session 3	5.4	0.907	−3.827	27	0.001**
Post-session 3	5.8	0.621			
Pre-session 6	5.4	0.848	−3.356	27	0.002**
Post-session 6	5.9	0.744			
Pre-session 1 and post-session 6 GHS mean scores			−3.682	27	0.001**
Positive and Negative Affect Scale					
Positive pre-session 1	27.36	7.597	−4.338	27	0.000***
Positive post-session 1	30.32	7.799			
Negative pre-session 1	14.54	4.686	1.730	27	0.095
Negative post-session 1	13.89	3.775			
Positive pre-session 3	27.64	7.319	−4.453	27	0.000***
Positive post-session 3	31.14	7.783			
Negative pre-session 3	14.32	4.092	2.954	27	0.006
Negative post-session 3	12.89	3.326			
Positive pre-session 6	28.14	6.422	−2.897	27	0.007
Positive post-session 6	31.39	7.908			
Negative pre-session 6	14.14	4.034	2.555	27	0.017
Negative post-session 6	12.93	3.126			
Pre-session 1 and post-session 6 PANAS mean scores – Positive			−3.576	27	0.001**
Pre-session 1 and post-session 6 PANAS mean scores – Negative			2.259	27	0.032*

*$P < 0.05$, **$P < 0.001$, ***$P < 0.001$. GHS, General Happiness Scale; LY, laughter yoga; PANAS, Positive and Negative Affect Schedule.

Table 2: Mean systolic blood pressure and pulse rate readings before and after three LY sessions and pre–post LY program ($n = 28$)

Session and measure	Mean	SD	*t*	df	Sig
Blood pressure					
Pre-session 1	137.5	21.4	2.334	27	0.027*
Post-session 1	128.4	18.1			
Pre-session 3	142.0	23.5	1.432	27	NS
Post-session 3	136.4	19.8			
Pre-session 6	140.5	23.5	2.469	27	0.020*
Post-session 6	133.4	18.1			
Pulse					
Pre-session 1	71.2	9.5	2.897	27	0.007*
Post-session 1	69	7.8			
Pre-session 3	72	10.7	1.089	27	NS
Post-session 3	70	9.9			
Pre-session 6	72	11.3	0.902	27	NS
Post-session 6	71	8.5			
Blood pressure					
Pre-session 1 – BP	137.5	21.4	2.334	27	0.027*
Post-session 6 – BP	133.4	18.1			
Pulse					
Pre-session 1 – Pulse	71.2	9.5	0.902	27	NS
Post-session 6 – Pulse	71	8.5			

*$P < 0.05$. BP, blood pressure; LY, laughter yoga; NS, not significant; SD, standard deviation.

Discussion

Consistent with previous research that showed the positive impacts of LY on patients' mood [19], this pilot study indicates that a LY program has health and emotional well-being benefits for older people living in RACHs. The program resulted in measurable improvements in happiness scores, positive and negative mood scores, and in blood pressure. The drop in blood pressure was an expected result of the physical activity [8]. Most residents enjoyed the LY as it induced a sense of well-being and helped them feel connected with each other. These findings support research evidence [7] that indicates LY can result in a sense of well-being brought on by the release of endorphins.

The main limitations of this study were the use of a convenience sample, the small sample size, the non-experimental design and potential for gatekeeper bias to affect recruitment of participants. Including a comparison group in the study design was beyond the scope of this pilot project. Activities staff in this study could have denied access to some residents who might have been willing to take part, as nursing home staff members can be protective towards those they care for and sometimes block access to researchers [20]. Finally, attention given to the participants from the Laughter Therapist and the Nurse Researcher may have contributed to the participants increase in positive mood and happiness levels.

Conclusion

Despite its limitations, this pilot study contributes to a growing body of evidence that indicates that LY has physical, social and emotional health benefits for older people living in RACHs. Future research using an experimental design would enable researchers to (i) test Meeks et al.'s (2007) hypothesis that positive affect is linked to activity participation; and (ii) separate the effects of activity from the effects of LY. Laughter yoga provides opportunities for residents to have fun, enjoy themselves and to be involved in low-intensity physical aerobic activity in a safe and accessible way.

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