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Lesson Learnt from Peer Volunteers in a Peer-Led Pain Management Program among Nursing Home Residents

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Abstract

Background: Chronic pain is common among older adults and is associated with adverse physical and psychological outcomes. Given the expected burden and limited healthcare resources, an innovative and cost-effective method to manage chronic pain should be developed. Peer volunteers (PVs) have been used as an affordable alternative to professional services to help patients manage their chronic conditions including pain with success and acceptance. The aim of this paper is to explore the experiences and perceptions of PVs in a peer-led pain management program among nursing home residents.

Methods: This longitudinal study formed part of a wider research study, a clustered randomised controlled trial, which investigates the effectiveness of a 12-week peer-led pain management program (PAP) in relieving chronic pain and enhancing pain self-efficacy among nursing home residents. Quantitative data were collected from questionnaires (demographics, pain situation and pain knowledge) for all PVs. Qualitative data (PVs' experiences in leading the PAP, their perceived benefits, limitations and barriers encountered, its usefulness to the participants and recommendations for improving the PAP) were collected from focus group for a selected sample at baseline (before attending the training) and at week 12 (upon completion of the PAP). Data were analysed using the Statistical Package for Social Sciences and NVivo 8.

Results: A total of 46 PVs were recruited (34 female, 74%), with mean±SD age of 61.0±5.1 years. Thirty-one PVs reported to have chronic pain. Before the training, self-rated pain knowledge was 39.1±20.4 (maximum 100 points). When actual pain knowledge was assessed, a mean pain knowledge score of 86.1±10.6 points was found. There was a significant difference between the self-rated pain knowledge and the pain knowledge score ($p<0.001$). PVs reported to have improvement in their knowledge and skills. No PVs reported

negative comments regarding their role in the PAP, although experienced barriers such as communication, space and privacy were reported.

Conclusions: This study provides further evidence that peer-led pain management program is feasible. Barriers identified may benefit the design and planning of future PAP.

Trial registration: ClincalTrials.gov (NCT03823495), 30 January 2019. (Retrospectively registered).

Keywords: volunteer, peer groups, pain management, nursing homes

Background

Chronic pain is common among older adults, with a prevalence of more than 50% among community-dwelling older adults [1] and 80% among nursing home residents [2]. This may be underreported as some older adults incorrectly believe that pain is a normal process of ageing [3]. The consequences of chronic pain include impaired activities of daily living, mobility, depression and anxiety and an increased burden on healthcare cost [2, 4]. With the populations continue to age, it is expected that the prevalent rates for chronic pain increase. Given the expected burden and limited healthcare resources, an innovative and cost-effective method to manage chronic pain should be developed.

Peer volunteers (PVs) have been used as an affordable alternative to professional services to help patients manage their chronic conditions including pain with success and acceptance [5-8]. Indeed, the success of peer-led program depends upon the feasibility of the PVs' role [9]. Studies examining peer support showed that PVs found their roles as satisfying as they gained valuable new skills [10, 11]. Therefore, it is important to understand why PVs volunteer, their expectations and experiences in a peer-led program. To the best our knowledge, no previous studies have examined PVs' experiences of volunteering in a peer-led pain management program among nursing home populations.

The aim of this paper is to fill the research gap by exploring the experiences and perceptions of PVs in a peer-led pain management program among nursing home residents. It formed part of a wider research study, a clustered randomised controlled trial, which investigates the effectiveness of a peer-led pain management program in relieving chronic pain and enhancing pain self-efficacy among nursing home residents.

Methods

Study design & Samples

This study used a longitudinal design to examine quantitative and qualitative data provided by PVs who delivered a 12-week pain management program (PAP) to nursing home residents living in Hong Kong. Data were collected from questionnaires for all PVs and from focus group for a purposeful sample at baseline (before attending the training) and at week 12 (upon completion of the PAP).

Recruitment and training of peer volunteers

PVs were recruited from the Institute of Active Aging (IAA) hosted by the Faculty of Health and Social Sciences of the Hong Kong Polytechnic University. They were mostly retired, highly educated and willing to volunteer to contribute to the community. Criteria for being PVs: (i) aged 55 years or older; (ii) scored >6 in the Abbreviated Mental Test to designate their mental/cognitive capacity as older PVs; (iii) able to attend training workshops and biweekly meetings with the research team for case reviews, discussions, and to reinforce strategies on pain management education; (iv) passed an exit test, including a knowledge test on pain management, demonstrating various non-pharmacological practices, and using the teaching manual. The principal investigator (MMYY) and one of the co-investigator were the assessors and supplementary classes were given to those PVs who did not pass the exit test; and (v) willing to lead the PAP in a nursing home. Fifty-eight individuals expressed interest in the study: 46 PVs attended the training and completed the self-administered questionnaire, 29 of them completed the training workshops.

PVs attended four training workshops over two weeks, and each workshop lasted for 2 hours. Topics for the training workshops: (i) discuss what a peer is; (ii) communication skills; (iii) client safety and confidentiality; (iv) managing crises and emergencies; (v)

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motivational strategies to enhance the compliance of the clients; (vi) demonstrations on the use of the teaching manual (i.e. “I can do it”) and various non-pharmacological practices. Training was conducted in small groups with the use of the following teaching methods: dialectic lecturing (group), small group discussion, case sharing, demonstration and return-demonstration (individual) on non-pharmacological pain management. The instructional model was group-based but the research team was also available for individual consultations. Return-demonstration was designed as individualized coaching to ensure skill mastery.

Data collection

Demographic information

Questionnaire was completed by PVs to obtain their demographic information including sex, age, marital status, educational level, occupation, medical history and voluntary experience.

Pain situation

PVs were asked if they have any chronic pain and pain intensity in the previous 24 hours was assessed using the Chinese version of the Brief Pain Inventory [12]. PVs were asked to rate the pain on a scale of 0 (no pain) to 10 (worst pain).

Pain knowledge

Self-rated pain knowledge was reported by the PVs before the training and at week 12, upon completion of the nursing home work, in a 100-point Likert scale with higher point indicating higher self-rated pain knowledge. Actual pain knowledge was assessed by completing a pain knowledge questionnaire before the training and at week 12. It consists of 14 items about common myths on pain management methods (Appendix 1). One point was given for each correct answer. Higher point (maximum 100 points) indicates higher pain knowledge.

143 *Qualitative data*

144 Around 15% of PVs were invited for focus group interview conducted by the research
145 assistant. Field notes were taken during the focus group and were included in the analysis.
146 The interview included open-ended questions in areas related to PVs' experiences in leading
147 the PAP, their perceived benefits, limitations and barriers encountered, its usefulness to the
148 participants and recommendations for improving the PAP.

149

150 *Data analysis*

151 Data were analysed using the Statistical Package for Social Sciences (SPSS). Quantitative
152 data was summarized using means (standard deviations) for continuous variables and
153 proportions (n) for categorical variables. Paired sample t tests was used to assess the
154 difference in self-rated pain knowledge and pain knowledge score (two-tailed $p<0.05$). For
155 the qualitative part of the study, 9 PVs provided qualitative data on their experience in
156 leading the PAP, perceived benefits and barriers encountered and suggestions on how to
157 improve the program. Written logs were examined. The transcribed data from focus groups
158 with PVs were analysed using NVivo 8.

159

160 *Ethical considerations*

161 Ethical approval was obtained from the Human Subjects Ethics Sub-committee of Hong
162 Kong Polytechnic University (approval ID: HSEARS20171218005) and all participants gave
163 their written informed consent prior to data collection.

Results

Characteristic of peer volunteers

Table 1 shows the characteristics of the PVs. A total of 46 PVs were recruited (34 female, 74%), with mean±SD age of 61.0±5.1 years. Majority of them are married, with a university degree and had a technical job. Almost all PVs had previous voluntary experience. Most of the PVs were invited by others to volunteer. Twelve PVs have chronic diseases with hypertension as the most common one.

Pain

Thirty-one PVs reported to have chronic pain, with a mean±SD pain score of 2.4±2.0 out of 10. Before the training, self-rated pain knowledge was 39.1±20.4. When actual pain knowledge was assessed, a mean pain knowledge score of 86.1±10.6 points was found. Questions that were incorrectly answered by most of the PVs include "Pain is unavoidable and need to be tolerated in elderly", "Visual stimulation does not have any effect in relieving pain" and "Oral analgesic should be taken according to the severity of the chronic pain". There was a significant difference between the self-rated pain knowledge and the pain knowledge score ($p<0.001$).

Qualitative data

The PAP helped PVs to increase their knowledge and skills about pain management methods. PVs described their experience in leading the PAP as "meaningful" ("I was appreciated by nursing home residents", "Nursing home residents were touched and said they never expect us to be so nice to them").

Perceived benefits reported by the PVs included helping themselves ("My pain is gone after volunteer in the program", "I feel happy by helping others"), helping others ("I can

see that the participants are happier and feel less lonely", "this program effectively relieve pain of the participants") and boosting their sense of self-worth ("My family and friends recognized my achievement and were proud of me to be a volunteer", "I am satisfied to give something back to the society and provide support to the participants").

When discussing the barriers encountered in leading the PAP, PVs reported that some nursing home residents had hearing impairment that it was challenging to communicate with them effectively. Some nursing home residents were too frail and required more assistance in completing the activities in each session. PVs also reported that "the space in the nursing home is limited" and "protecting privacy of each nursing home residents is difficult".

Regarding the content of the PAP, PVs like it in general. They also gave some suggestions on how to improve the PAP. For example, PVs suggested to remove the pharmacological management as part of the PAP since it is not appropriate to teach nursing home residents as all the medications are kept and managed by the nursing staff. Therefore, PVs focused on reminding residents to take the medications once given by the nursing staff and not to store up the medication.

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Discussion

To the best of our knowledge, this is the first study to explore the experiences and perceptions of PVs in a peer-led pain management program among nursing home residents. Consistent with findings from other peer-led programs [13, 14], PVs in this study reported to have improvement in their knowledge and skills. However, analysis of the changes in self-rated pain knowledge or actual pain knowledge score between study entry and at week 12 was not feasible at this stage due to the small sample size (n=5). No PVs reported negative comments regarding their role in the PAP, although experienced barriers such as communication, space and privacy were reported. These challenges need to be taken into consideration when planning and implementing future peer-led PAP in nursing homes.

PVs perceived their role to boost their "sense of self-worth", which has been regarded as a powerful alleviator of stress and hopelessness [15]. A "sense of self-worth" also helps people to have a more positive interpretation of their own health [16] and better cope with chronic disease [17]. Future research can explore the changes in physical and psychological health outcomes such as pain intensity, quality of life and happiness level among PVs who lead the pain management program.

There are several limitations in this study. First, findings relate specifically to one peer-led PAP among nursing home residents in Hong Kong, and may not be generalizable to other peer-led PAP in other settings or other countries. Second, PVs may have overemphasised the benefits for themselves because of the time and emotional investment in the role. They may also have concerns about giving negative comments to the role. However, most of them were open to report barriers experienced. Nonetheless, findings of this study are useful for future work on implementation of the peer-led PAP. For example, the benefits reported by the PVs can be used in PVs recruitment in future peer-led PAP.

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Conclusions

This study provides further evidence that peer-led pain management program is feasible. Perceived benefits of PVs included self-reported increase in pain management knowledge and skills. No adverse event was reported, rather some barriers during the implementation of the PAP in nursing home were encountered. These barriers identified may benefit the design and planning of future PAP.

List of abbreviations

IAA Institute of Active Aging; **PV** peer volunteers; **PAP** Pain management program; **SPSS** Statistical Package for Social Sciences

Declarations

Ethical approval and consent to participate

Ethical approval was obtained from the Human Subjects Ethics Sub-committee of Hong Kong Polytechnic University and all participants gave their written informed consent prior to data collection.

Consent for publication

Not applicable.

Availability of data and material

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

MMYT is the overall principal investigator of the study, and the person who designed the study, arranged and participated in meetings with the staff of the Institute of Active Ageing,

designed the content for training the volunteers, and participated in designing the manuscript as well as revising it for important intellectual content. SSMN participated in designing the study, designed the content for training the volunteers, provided advice on the exercise component of the program, and revised the manuscript for important intellectual content. XB, PHL and RL participated in designing the study and revised the manuscript for important intellectual content. JKCL collected, analysed and interpreted the data and revised the manuscript for important intellectual content. SSYY participated in designing the study and drafted the manuscript. All of the authors read and approved the final manuscript.

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