Evaluation of a nurse-led dementia education and knowledge translation programme in primary care: A cluster randomized controlled trial

Yao Wang, Lily Dongxia Xiao, Shahid Ullah, Guo-Ping He, Anita De Bellis

Aims: To determine the effectiveness of a nurse-led dementia education and knowledge translation programme for health professionals in primary care: participants’ satisfaction with the programme; and to understand participants’ perceptions of and experiences in the programme.

Design: A cluster randomized controlled trial was used as the main methodology to evaluate health professionals’ knowledge, attitudes and care approach. Focus groups were used at the end of the project to understand health professionals’ perceptions of and experiences in the programme.

Methods: A train-the-trainer model was used to implement a dementia education and knowledge translation programme. Outcome variables were measured at baseline, on the completion of the programme and at 3-month follow-up. A mixed effect linear regression model was applied to compare the significant differences of outcome measures over time between the two groups. Focus groups were guided by four semi-structured questions and analysed using content analysis.

Results: Findings revealed significant effects of the education and knowledge translation programme on participants’ knowledge, attitudes and a person-centred care approach. Focus groups confirmed that the programme had a positive impact on dementia care practice.

Conclusions: A dementia education and knowledge translation programme for health professionals in primary care has positive effects on their knowledge, attitudes, care approach and care practice.
2. Background

China has the largest number of people with dementia in the world (Alzheimer’s Disease International, 2015). In China, filial piety places the duty of care of older people on families and consequently the long-term aged care system is undeveloped. These social and demographic features suggest a higher level of demand for health professionals in primary care to provide competent dementia care services. However, a number of studies have identified undeveloped practice in dementia diagnosis, management and caregiver support in primary care in China (Liu and Wang, 2013; Wang et al., 2014). Barriers attributed to the undeveloped dementia care included poor human and material resources to support service development and a lack of opportunities for health professionals to engage in dementia care education (Wang et al., 2014; Wang et al., 2015a, 2015b).

An effective dementia care education programme should target health professionals’ learning needs (Dreier et al., 2016; Iliffe et al., 2012). In a study by Iliffe et al. (2012) an assessment tool was developed to identify learning needs for enhancing early diagnosis of and responding to dementia in primary care. However, the tool assumed that the learners had experience in established dementia services. Therefore, it was difficult to apply this tool directly to countries with undeveloped dementia services. In another study by Dreier et al. (2016) questionnaire-based interviews were used to identify learning needs in a revised Dementia Care Management qualification programme for community nurses and the majority of participants were lecturers, rather than practitioners who provide direct care. Additionally, the learning needs assessment was specific to nurses and did not reflect the interprofessional approach to dementia care.

A commonly used approach in identifying the learning needs is the nominal group technique (NGT) (Potter et al., 2004). This method includes five steps when discussing learning needs with representatives of participants namely: (1) introduction and explanation; (2) silent generation of ideas; (3) sharing ideas as a round robin; (4) group discussion and clarification; and (5) voting and ranking (Potter et al., 2004). This method has advantages in engaging participants in reflecting on their practice, and enabling group discussions and a democratic process to rank the learning priorities.

Translating knowledge into practice should be the ultimate goal of education programmes to address the know-do gap and sustain changes in practice (Iliffe et al., 2012; Lee et al., 2013; Straus et al., 2009). The train-the-trainer model, which is based on adult learning theory, has been widely employed to enhance the capacity of programme delivery and knowledge translation at the point of care through an education programme. It is argued that the best learning resources are from the trainer who works with peers and supports them to adopt new knowledge into practice (Pearce et al., 2012; Straus et al., 2009). Trainers are viewed as champions to facilitate changes and organizational support in their workplace during the education delivery (Pearce et al., 2012; Straus et al., 2009).

Most of the previous studies examined the impact of a dementia education programme on participants’ knowledge, attitudes and care approach (Featherstone et al., 2004; Perry et al., 2008). However, these components alone may not be persuasive enough for evaluating whether the programme has an impact on changes in practice (Lee et al., 2013; Straus et al., 2009). Focus groups have advantages to understand the impact of programme in an organizational context (Fealy et al., 2015). This approach was successfully implemented in a large national-wide leadership programme by Fealy et al. (2015).

3. Methods

3.1. Aims

The aims were to determine the effectiveness of a nurse-led dementia education and knowledge translation programme for health professionals in primary care; participants’ satisfaction with the programme; and to understand participants’ perceptions of and experiences in the programme. The following research questions were formulated:

- What is the impact of the programme on health professionals’ knowledge, attitudes and care approach?
- Are the health professionals satisfied with the programme?
- What are health professionals’ perceptions of and experiences in the programme?

3.2. Design

A cluster randomized controlled trial (RCT) was used as the main methodology to address research question one. A satisfaction survey questionnaire was used in the intervention group to answer the research question two. Focus groups were also used to address research question three in order to complement the programme evaluation and understand the impact of programme on participants’ practice. The study design was inspired by Kirkpatrick’s programme evaluation model, but revised to reflect the aims and research questions specific to this project (Kirkpatrick and Kirkpatrick, 2006; Lee et al., 2013).

3.3. Ethical Consideration

Ethical approval was granted from a university Research Ethics Committee in China (Project Number 20137801). Written consent was obtained from the organization concerned and the participants prior to data collection. The focus groups and participants were given codes in transcripts and reports to ensure anonymity and confidentiality.

3.4. Participants

The sample size in the cluster RCT was based on the primary outcome, the improved dementia care knowledge using the Alzheimer’s Disease Knowledge Scale (ADKS) (Wang et al., 2015a, 2015b). Randomization was done by community health service centres (clusters). As there was no cluster RCT study design applied to the dementia education intervention using a similar scale, an earlier RCT that demonstrated a significant improvement of knowledge (mean change = 4.92 and SD = 3.45) between education and control groups was analysed and used as a reference for sample size calculation (Hébert et al., 1994; Sullivan and O’conor, 2001). Assuming an alpha error of 0.05 and a beta error of 10%, a sample of 40 participants was required for each group to achieve 90% power at a 0.05 alpha level in the present study. The sample size was adjusted to reflect the cluster RCT design. The adjustment considered a higher intra-class correlation coefficient of 0.16 with a design effect of 2.44. In this calculation, seven centres with an average number of 10 participants in each centre were required for the intervention group and control group respectively. Considering an attrition rate of 20%, at least 84 participants in each group were needed.

Invitation letters were sent to the 30 community health service centres to participate in a 3-day dementia education workshop for trainers. Fourteen centres agreed to participate in the study. Health professionals were invited if they met the criteria, including: (1) general practitioners (GPs) and registered nurses (RNs); and (2) a willingness to participate in this study. In total 182 eligible health professionals agreed to participate. After baseline data collection, the 14 centres were allocated to either the intervention group or the control group, using a computer-generated random number with the ratio of 1:1. Eighty-five participants in each group completed the whole project (Fig. 1). Participants in the intervention group were asked whether they were willing to share their experiences in the programme by participating in a focus group and indicated their willingness in the follow-up survey questionnaire.
3.5. The Dementia Education and Knowledge Translation Programme

3.5.1. Designing a Tailored Programme to Target Health Professionals’ Learning Needs

The 5-step Nominal Group Technique (NGT) protocol was used to identify participants’ learning needs (Potter et al., 2004). The ideal group size for NGT is 6–12 people. Therefore, ten GPs and ten RNs were invited to discuss and rank the topics that they felt were needed through a GP group discussion and a RN group discussion. The inclusion criteria for NGT participants were: (1) care experience with people with dementia; and (2) at least five years’ work experience in community health service centres. Preliminary topics that reflected participants’ perceptions of learning needs were identified through the NGT.

The project team was led by a nursing academic member and included nine academic members from nursing and medicine who specialized in dementia care from a university in Australia and a university in China. A 3-day workshop was conducted to allow the team members to review and discuss the preliminary topics suggested by potential programme participants. The final programme considered participants’ perceptions of learning needs, the research evidence and experts’ knowledge in dementia care. The education programme in the present study consisted of 10 modules with a total of 20 hours and each module included pre-reading, a short lecture and an unfolding case study (Appendix 1). Group discussion and group presentation were used as strategies to facilitate learning.

3.5.2. Using the Train-the-Trainer Model to Implement the Programme

Each community health service centre appointed a RN and a GP as trainers in the programme. The project team delivered 10 modules to these trainers in a 3-day face-to-face education workshop. Teaching and learning resources for the trainers included a workbook and four DVDs. The project team provided ongoing support for the trainers through email, telephone and site visits during the programme implementation phase.

Trainers in the intervention group delivered the education programme to their peers in their centres using weekly in-service education hours. Participants were also required to undertake self-study to complete the required readings. The trainers provided learning support to reinforce knowledge and skills using newsletters and messages on the notice board. The trainers in the control group agreed to deliver the education programme after the data collection.

3.6. Cluster RCT Evaluate Instruments

Demographic information of the participants was collected. The Alzheimer’s Disease Knowledge Scale (ADKS) was used to assess the dementia knowledge of the participants (Wang et al., 2015a, 2015b). The Dementia Care Attitude Scale (DCAS) scored on a 5-point Likert scale (‘1 = strongly disagree’ to ‘5 = strongly agree’) was used to assess the participants’ attitudes towards people with dementia. Two factors were labelled as ‘Heartfelt’ and ‘Heartsink’. The total scores of each factor ranged from 4 to 20. A higher score of ‘Heartfelt’ factor indicated more positive attitudes and a higher score of ‘Heartsink’ factor indicated more negative attitudes (Wang et al., 2015a, 2015b). The Approach to Advanced Dementia Care Questionnaire (ADCQ) was used to assess participants’ tendency to employ a person-centred dementia care approach (Lin et al., 2012). A satisfaction survey (Appendix 2) using a 7-Likert scale (‘1 = strongly disagree’ to ‘7 = strongly agree’) was conducted to measure participants’ satisfaction with the programme.

3.7. Data Collection

Data were collected between July 2013 and May 2014 (Fig.1). For the cluster RCT, baseline data were collected before the randomized allocation of participating centres, post-test on the completion of the programme, and follow-up test in 3 months after the programme. The control group was evaluated at baseline and post-test. It was assumed that the outcomes would be very similar between post-test and follow-up test for the control group. A decision was made not to collect follow-up test data for the control group to avoid undue burden on participants. The participants’ satisfaction with the programme in the intervention group was collected via a survey questionnaire on the completion of the programme (Appendix 2). Data from focus group were collected using semi-structured questions (Table 1). Data from focus groups were recorded and transcribed verbatim for data analysis.

3.8. Data Analysis

Data from the cluster RCT were analysed using SPSS software version 22.0 and STATA software version 14.0. A Chi-square test, an independent sample t-test and Mann-Whitney U test were used to determine significant differences of demographic characteristics and baseline data of the outcomes between the groups. A mixed effect linear regression model used the ‘xtmixed’ command to fit linear mixed models of the outcomes. A maximum likelihood estimation procedure was applied to compare the significant differences of scores over time and between groups. The two sided tests were performed for all analysis and the level

Table 1

Four semi-structured questions used to guide the focus groups.

<table>
<thead>
<tr>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have you applied any part of dementia knowledge and skills to your practice? If yes, could you please give some examples and the outcomes of the application?</td>
</tr>
<tr>
<td>2. If you have not applied any knowledge and skills to your practice, what factors affecting the application? Please give some examples.</td>
</tr>
<tr>
<td>3. Has the programme met your learning needs in caring for people with dementia? If yes, please give some examples.</td>
</tr>
<tr>
<td>4. If the programme has not met your learning needs in dementia care, please suggest the content and learning activities that need to be included in future programmes.</td>
</tr>
</tbody>
</table>

Fig. 1. Flow chart of sample frame and data collection (HPs = Health professionals).
of significance was set at \( p < 0.05 \). Where appropriate, a 95% CI was also reported along with the \( p \) values.

Inductive content analysis described by Elo and Kyngäs (2008) was applied to the focus group data analysis. Initial data analysis was undertaken by the first author. During the preliminary analysis, the transcripts of focus groups were read and meaningful words or descriptions that were relevant to participants’ perceptions of and experiences in the programme were coded. These open codes were then compared across all focus groups and grouped by meaning. The grouped codes were reviewed in order to identify categories. The categories were based on the study objectives and the researcher’s reflection. The summary of data analysis along with transcripts was sent to the team to review on a regular basis. Team meetings were also scheduled to discuss findings and to make decisions on how to present the findings to represent the participants’ satisfaction, perceptions and experiences in the programme.

4. Results

4.1. Participants’ Characteristics

A total of 170 participants comprised the final study sample. The majority was female (82.9%) and more than half participants were GPs (60.0%). Participants were aged between 18 and 61 years (mean = 30.9 years, SD = 8.3), and the average work experience was 9.6 years (range 1–41 years). No significant differences were identified between the intervention and control groups for all demographic characteristics (\( p > 0.05 \)) (Table 2).

4.2. Participants’ Satisfaction

Participants in the intervention group were satisfied with the programme evidenced by a relatively high mean score between 6.0 and 6.6 (a maximum score of 7) in the satisfaction survey.

Table 2

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Total (n = 170)</th>
<th>Control group (n = 85)</th>
<th>Intervention group (n = 85)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years), mean (SD)</td>
<td>30.9 (8.3)</td>
<td>31.3 (8.9)</td>
<td>30.55 (7.7)</td>
</tr>
<tr>
<td>Work experience (years), mean (SD)</td>
<td>9.6 (8.3)</td>
<td>10.2 (8.9)</td>
<td>8.96 (7.6)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>141 (82.9%)</td>
<td>71 (83.5%)</td>
<td>70 (82.4%)</td>
</tr>
<tr>
<td>Male</td>
<td>29 (17.1%)</td>
<td>14 (16.5%)</td>
<td>15 (83.5%)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>106 (62.4%)</td>
<td>54 (63.5%)</td>
<td>52 (61.2%)</td>
</tr>
<tr>
<td>Single/divorced/widowed</td>
<td>64 (37.6%)</td>
<td>31 (36.5%)</td>
<td>33 (38.8%)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>116 (68.2%)</td>
<td>59 (69.4%)</td>
<td>57 (67.1%)</td>
</tr>
<tr>
<td>Bachelor and above</td>
<td>54 (31.8%)</td>
<td>26 (30.6%)</td>
<td>28 (32.9%)</td>
</tr>
<tr>
<td>Professionals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General practitioners</td>
<td>102 (60.0%)</td>
<td>50 (58.8%)</td>
<td>52 (61.2%)</td>
</tr>
<tr>
<td>Registered nurses</td>
<td>68 (40.0%)</td>
<td>35 (41.2%)</td>
<td>33 (38.8%)</td>
</tr>
<tr>
<td>Experience in caring for people with dementia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>59 (34.7%)</td>
<td>30 (35.3%)</td>
<td>29 (34.1%)</td>
</tr>
<tr>
<td>No</td>
<td>111 (65.3%)</td>
<td>55 (64.7%)</td>
<td>56 (65.9%)</td>
</tr>
<tr>
<td>Experience in caring for family members with dementia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>42 (24.7%)</td>
<td>20 (23.5%)</td>
<td>22 (25.9%)</td>
</tr>
<tr>
<td>No</td>
<td>128 (75.3%)</td>
<td>65 (76.3%)</td>
<td>63 (74.1%)</td>
</tr>
<tr>
<td>Codes used for quotes in focus groups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NA</td>
<td></td>
<td>F1-5</td>
<td>P1-30</td>
</tr>
</tbody>
</table>

Data presented as number (%), unless indicated otherwise.

\( p \) value was based on independent two-sample \( t \)-test for interval scale data.

\( p \) value was based on Chi-square test for nominal scale data.

NA = not applicable.

Codes used for quotes: F1-5 = focus group 1 to 5; P1-30 = participants 1 to 30.

4.3. Findings from the Baseline Assessment

Prior to the randomization, participants as a whole demonstrated a relatively low mean score in dementia knowledge (ADKS mean = 19.33) and a person-centred dementia care approach (ADCQ mean = 5.22) compared with Smyth et al. (2013) and Lin et al. (2012). They also demonstrated a relatively higher mean score of negative attitudes (DCAS-Heartfelt mean = 11.62) compared with Turner et al. (2004). No significant differences were identified between the groups for the outcome measures in the baseline assessment (\( p > 0.05 \)).

4.4. Effect on Knowledge

A significant education effect on knowledge was identified evidenced by the increased mean ADKS score at post-test (+ 3.86 adjusted mean scores, 95% CI 2.98–4.74, \( p < 0.001 \)), and also at follow-up (+ 4.53 adjusted mean scores, 95% CI 3.65–5.41, \( p < 0.001 \)) in the intervention group compared to the control group. The increments were higher in follow-up than post-test. A significant overall interaction effect was also identified for participants’ mean ADKS scores in the intervention group compared to the control group for the three time points (Table 3).

4.5. Effect on Attitudes

A significant education effect on improved ‘Heartfelt’ was evidenced by the increased mean score at post-test (+ 1.19 adjusted mean scores, 95% CI 0.68–1.69, \( p < 0.001 \)), and also at follow-up (+ 1.73 adjusted mean scores, 95% CI 1.23–2.23, \( p < 0.001 \)) in the intervention group compared to the control group. The increments were higher in follow-up than post-test. A significant education effect on improved ‘Heartsink’ was identified evidenced by the decreased mean score at post-test (− 2.15 adjusted mean scores, 95% CI − 2.87–−1.44, \( p < 0.001 \)), and also at follow-up (− 3.55 adjusted mean scores, 95% CI − 4.27–−2.84, \( p < 0.001 \)) in the intervention group compared to the control group. The decrements were higher in follow-up than post-test. A significant overall interaction effect was identified for both ‘Heartfelt’ and ‘Heartsink’ mean scores in the intervention group compared to the control group for the three time points (Table 3).

4.6. Effect on Care Approach

A significant education effect on an improved care approach was identified evidenced by the increased ADCQ mean score at post-test (+ 4.46 adjusted mean scores, 95% CI 3.56–5.36, \( p < 0.001 \)), and also at follow-up (+ 2.82 adjusted mean scores, 95% CI 1.93–3.72, \( p < 0.001 \)) in the intervention group compared to the control group. However, the increments were lower in follow-up than post-test. Similarly, there was a significant overall interaction effect on participants’ mean ADCQ scores (Table 3).

4.7. Findings from Focus Groups

Thirty participants attended 5 focus groups comprising 5–7 people in each group. Four categories were identified from focus group data analysis. Excerpts from focus groups were used to support the findings.

4.7.1. Changes of Care Practice

A number of participants described that the programme had a positive impact on their practice. For example, they commenced cognitive screening for older people with memory complaints and referred older people with cognitive impairment to the memory clinics in tertiary hospitals. Team collaboration in dementia care was also enhanced, as one doctor noted: “Before the programme, I only focused on the treatment and medicine. After the programme, I realised the importance of care and..."
now I am working together with nurses to develop an individual care plan for each patient” [F4 P21].

4.7.2. Education for Caregivers

Participants made a great effort to develop education resources in dementia care. These resources included dementia care booklets for family caregivers and they used the booklet as a means of coaching family caregivers and they used the booklet as a means of coaching family caregivers during home visits. Peer support for family caregivers was also used to enhance education: “We invited the caregivers to our centre and shared their experiences in caring people with dementia on a regular basis. These activities help the experienced caregivers to support these who are new to the role” [F2 P12]. The peer support enhanced the dementia education in the community.

4.7.3. Experiences in Dementia Education Programme

Most participants reported positive experiences in the education programme and they were also satisfied with the learning support provided by the research team, as a participant stated:

The contents met my learning needs in dementia care practice and I benefited a lot from the case study. We talked about the cases in small groups and the researchers answered our questions and gave us very detailed support [F3 P17].

The other positive aspect of the programme perceived by participants was messages sent to participants through QQ (mobile phone text messaging) by the research team on a regular basis that reinforced the learning: “Education manuals helped us revisit main points we learned from the programme” [F4 P25].

4.7.4. Suggestions for Future Dementia Education Programmes

Although the education programme was well received, participants suggested that they would like to learn more about dementia in the future, as a participant stated:

We encountered people with dementia quite often. However, most of my colleagues were unable to identify the stages of dementia, the treatment and how to support caregivers to manage dementia and behavioural problems at home. Regular education programmes for health professionals should be provided [F1 P4].

The most frequently mentioned barriers to participate in dementia education and training were the low staffing level that prevented them from attending programmes and the lack of relevant learning resources. Participants also suggested that government’s further commitments to dementia care service were essential in order to facilitate the development of dementia care services in primary care, for example, including dementia in the national chronic diseases’ management list and providing resources to support dementia care services.

5. Discussion

The findings demonstrate that a nurse-led education and knowledge translation programme in primary care has a positive impact on health professionals’ knowledge, attitudes and ability to use a person-centred approach in dementia care. The retention of knowledge and the sustainability of improved attitudes in the follow-up were also evidenced although the increments of the person-centred approach scores were lower in follow-up. The focus groups confirmed that the programme had a positive impact on dementia care practice. This study also explored that the train-the-trainer model demonstrated advantages in knowledge translation and in-service development in resource-poor settings.

The continuous improvement of knowledge and attitudes in the intervention group at the two post-intervention data collection points was evidence of good knowledge retention and a number of factors may have contributed to this. First, the programme was relevant to participants’ practice through its rigorous design using the NGT that targeted their real learning needs. Second, the unfolding case studies were built on the collection of real cases in care settings and simulated the actual sort of challenges participants faced in their workplace. Therefore, they were motivated to learn and to apply knowledge to similar situations in their practice.

A number of factors might have contributed to the drop of mean scores of a person-centred approach in follow-up. First, although the increments of the person-centred approach scores were lower in follow-up the focus groups confirmed that the programme had a positive impact on dementia care practice. This study also explored that the train-the-trainer model demonstrated advantages in knowledge translation and in-service development in resource-poor settings.

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dementia care including person-centred care. Addressing this issue requires a comprehensive set of person-centred care standards for healthcare organizations (Chenoweth et al., 2009; Skaalvik et al., 2010). This study confirmed previous studies that basic knowledge and positive attitudes may not ensure health professionals' demonstration of a person-centred approach in dementia care (Lin et al., 2012; Normann et al., 1999).

Findings supported previous studies that the train-the-trainer model was an effective method for education interventions for health professionals in resource-poor settings (Pearce et al., 2012; Straus et al., 2009). In this study, as the trainers were recognized team leaders by their peers and familiar with dementia care practices, they were in an ideal position to facilitate their peers to adopt the knowledge to the local practice text. Moreover, the interactivities between the trainers and trainees during the education delivery allowed them to reflect on their current care practice, any gaps in practice, actions to address the gaps and the course of action that would be most effective and overcome barriers in their practice (Pearce et al., 2012; Straus et al., 2009). Changes through a collective approach facilitated by the trainers were more likely to be realistic, smooth and sustained in the organization (Pearce et al., 2012; Straus et al., 2009).

It has been discussed in previous studies that the use of a self-administered questionnaire survey in programme evaluation can introduce potential bias on intervention findings resulting in inaccurate reports on changes in practice (Lee et al., 2013; Liu et al., 2010). The present study used focus groups to minimize this potential bias and to complement the programme evaluation. Focus groups allowed individual participants to reflect their engagement in the programme and how they made changes in their practice resulting in a new understanding of dementia care in a collective way with confirmation from their peers (Fealy et al., 2015). In addition, changes in practice described by participants were small scale in nature and may be overlooked in surveys. For example, participants described how they changed their behaviours in improving cognitive screening for old people with memory complaints and referring those with cognitive impairment to specialists. These characteristics of change addressed small gaps in practice and targeted practical issues in quality improvement in dementia care that were needed in primary care to achieve a timely diagnoses of dementia.

A number of limitations were identified. First, the findings may not be generalized as a small proportion of community health service centres participated in the cluster RCT in one province in China. However, the findings may be transferrable to community health service centres that have similar functions and resources to those in the study. Second, the changes of practice had not been measured using dementia care quality indicators. Third, the patient outcomes or the caregivers were not included in the programme evaluation due to time limitations and practice issues.

6. Conclusion

This study revealed that a nurse-led dementia education and knowledge translation programme had a positive effect on health professionals' knowledge, attitudes, care approach, and practice in primary care. The study also demonstrated a systematic approach to developing, delivering and evaluating an education programme in dementia care for health professionals. This systematic approach facilitated the application of education theories and research evidence in dementia care to clinical practice. Additionally, this was the first dementia education and knowledge translation programme that targeted health professionals' learning needs in primary care in China, a country with underdeveloped dementia care services. Therefore, it raised the awareness of dementia care among health professionals, especially a timely diagnosis and early interventions. Further follow-up after this programme is needed to monitor the sustainability of this programme initiative.

Based on the findings, it is strongly recommended that education institutions need to incorporate dementia care education into the curricula for health professionals in their formal education programmes and continuing professional development programmes to ensure a competent workforce to meet the care needs of people living with dementia and their caregivers. Moreover, strong commitment from the government on the development of the dementia workforce in primary care through policy and financing are much needed in order to respond to an increased population living with dementia in the community setting.

Conflict of Interest

No conflict of interest has been declared by the authors.

Funding

The project ‘Strengthening professionals’ collaboration in dementia education and research via the provision and evaluation of a dementia train the trainer programme’ was funded by the Commonwealth through the Australia-China Council Grant 2012–13 of the Department of Foreign Affairs and Trade (Grant number: ACC00431), and Hunan Provincial Innovation Foundation for Postgraduate, China (Grant number: CX2013B103).

Appendix A. Supplementary data

Supplementary data to this article can be found online at http://dx.doi.org/10.1016/j.nedt.2016.10.016.

References


