Qualitative Research

Collaborative Approaches to Promote Family Caregiving for Thai-Muslim Older Adults

Journal of Holistic Nursing
American Holistic Nurses Association
Volume XX Number X
XXXX 202X 1–13

10.1177/08980101221081228
journals.sagepub.com/home/jhn
SAGE

Pajongsil Perngmark, PhD, MPH, RN
Prince of Songkhla University

Nurma Waebuesa, MN, RN
PaNa Rae Community Health Center

Eleanor Holroyd, PhD, RN
GQ1 *Auckland University of Technology*

GQ2

GQ4 This action research study aimed to develop, implement and evaluate the feasibility of an Islamic-based inter-
GQ5 vention program that included three main Islamic tenets and concept of family collaboration to promote comprehensive homebound care for Thai-Muslim older adults in southern Thailand. Using action research cycles, interviews with five dyads of healthcare recipients (Thai-Muslim older adults and their family primary caregivers) and with seven Thai-Muslim healthcare professionals (five clinical nurses, a physician and a pharmacist) were undertaken alongside participant observations. Inadequate knowledge, insufficient skills, low family involvement, poor negotiation skills, and the need for better integration of Islamic doctrines were identified. Satisfaction was expressed with the program components and activities, with a qualitative audit data revealed that family primary caregivers felt that they had gained more self-confidence, increased their caregiving knowledge and improved their skills. All stakeholders expressed a desire to further engage and maintain this collaborative program. Engaging with Islamic doctrines and concepts of family collaboration support improvements in homebound care for Muslim older adults. Using on core values of Islamic moral belief systems provides an important and culturally sensitized framework for engaging healthcare providers and family members in the Muslim older adults' comprehensive homebound care.

Keywords: *islamic doctrine; family collaboration; Thai-Muslim; homebound care; older adults; action research*

Ageing populations are increasing globally (World Health Organization, 2021), many of whom are living with chronic diseases along with comorbidities (Cheng et al., 2020). These complex health states mean that older adults are prone to impaired functioning in the activities of daily living (ADLs) with an increased in needs for comprehensive care optimally within families and communities (Cheng et al., 2020; Rechel et al., 2013).

In Thailand, hypertension and diabetes are the most common chronic diseases associated with serious comorbidities such as stroke and kidney failure. These two chronic diseases along with associated complications have been found to be increasingly prevalent among Thai-Muslim older adults in rural southern regions (Ministry of Public Health, 2020). Although family support has been documented to be critical as an adjunct to formal healthcare (Ashoorkhani et al., 2018; Ris et al., 2019; Thomas et al., 2017), most of the Thai-Muslim older adults report receiving very limited care from their families attributed to family primary caregivers having inadequate knowledge and caring skills for such complex

Authors' Note: Please address correspondence to Pajongsil Perngmark, Faculty of Nursing, Prince of Songkhla University, Hat Yai, Songkhla 90110, Thailand. Email: pajongsil.p@psu.ac.th

chronic care conditions ("Author, YYY", in press; Wangjhi, 2015).

In general, Islam guides Muslims ways of living through practicing the three main Islamic tenets that encompass *Islam* (means submission, through the Five Pillars of Islamic practice); *Iman* (means trust, faith, or beliefs, through the Six Articles of Islamic beliefs) and *Ihsan* (means perfection or excellence, through Islamic morality). In Muslim culture, caring for the elderly is a given religious practice (Ahmad & Khan, 2015; Young & Shami, 1997). Muslims are expected to treat their older parents with *Ihsan* (in this context, Ihsan means a comprehensive duty to take responsibility for supporting and caring for their older parents), particularly when they become weak and are unable to support themselves. *'Ihsan to one's parents'* is thus a crucial AQ1 Islamic moral practice (MacKinlay, 2016), in order to "do good" and "be a good" Muslim, as stated in the verses: *"Worship Allah and join none with Him (in worship); and do good to parents."* (An-Nisaa' 4:36); And says, *"And your Lord has decreed that you worship none but Him. And that you be dutiful to your parents"* (Al-Israa' 17:23). This has been further assisted with research findings that Muslims act out their duty to care for their older parents, particularly in times of sickness (Bensaid & Grine, 2014; Noumani et al., 2018). One recent study showed that engagement with Islamic doctrine could help promote anti-hypertensive medication adherence among southern Thai-Muslim home dwelling older adults ("Author, YYY", in press). However, Islamic doctrine used by family caregivers, especially during chronic illnesses on Muslim older adults, has not been investigated.

Holistic nursing practice recognizes the human being as a whole. Holistic care encompasses comprehensive care for all dimensions of an individual life - the interconnectedness of body (physical), mind, emotion (psychological), social/cultural, relationship, spirit (spiritual), context and environment ("Holistic Nursing", 2021). Holistic care concepts view each person as a bio-psycho-social- spiritual unity (Thornton, 2019). In keeping with the three tenets of Islamic doctrine (Islam, Iman, and particularly Ihsan), the holistic concepts provide a guiding framework for our research with the main aim to develop and evaluate an Islamic-based intervention program to promote family holistic collaboration in the provision of comprehensive homebound care for older adults with chronic illnesses.

Method

Design

An action research design (AR) (Streubert & Carpenter, 2011) drawing on holistic concepts, Islamic doctrines and collaborative conceptualization were utilized to enhance mutual identification of the research problem, co-develop program strategies, and co-design culturally based resources among allied stakeholders (healthcare providers, healthcare recipients and research team members) to inform family caregiving for homebound Muslim older adults in rural Southern Thailand.

Ethical Considerations

This research was approved by Ethics Committee of Faculty of Nursing, Prince of Songkhla University on July16, 2016 (certified MHESI 68105/2531, November 23, 2020). The Provincial Ministry of Public Health also authorized ethical approval of this research. Prior to data collection, an informed consent document was signed by all participants. To ensure confidentiality, participants were given numbers in order that no names were disclosed, with only the named researchers able to match the real names and identities with research materials.

Settings and Recruitment

This AR took place in the chronic care clinics of five community sub-district promoting hospitals (CS-PHs), located in Pana-Rae District of Pattani Province.

To recruit older adult participants, the CS-PHs patient's chronic health record data (of year 2018) was assessed in keeping with ethical requirements, revealing that over 85% of older adults recorded were Thai-Muslims, 54.4% were in age group 65–74 years old, and 33.7% were of ≥75 years old. Approximately one-fifth had chronic hypertension, while about 20% had stable blood pressure (BP). The incidence of serious comorbidities, that is, stroke and kidney failure, had been increasing yearly within the past five years, for those with poorly controlled hypertension (PaNa-Rae District Health, 2018). One-fifth had low educational literacy, were unemployed with low-incomes below the national level of the Thai poverty line (Thai National Statistic Department, 2018) and approximately 5%

were reported frequently missing doctor appointments within the past six months.

Participants

A purposive sampling method was used to draw on family dyads of the identified homebound Thai-Muslim older adults: being diagnosed with a chronic illness with at least one comorbidity within the past 6 months, living at home with their adult children, and diagnosed as homebound (having activity of daily living (ADL) scores < 12, or unable to go outside their home independently due to their health conditions, according to criteria of Thai Ministry of Public Health). The identified family member needed to be primary caregiver who was most engaged in older adult homebound care, and willing to engage in developing the new program.

A total sample of 17 Thai-Muslim participants took part in this AR study. Seven were healthcare providers consisting of five clinical nurses holding the position of older adult care manager in each of the involved CS-PHs, as well as a physician and a pharmacist. Of these health care providers, six were female and one male, with age range of 30–45 years. Most had worked at CS-PHs for at least 5 years and held about 5–10 years experiences in community-based older adult care. All the clinical nurses were registered nurses (RNs), four were married and four had attended workshops for older adult care.

The older adult patients were aged 60 –79 years old, three were female and two male. All were widowed, and unemployed with incomes below the Thai poverty line (≈ 20 US $ per month) as well as co-habituating with their adult children (i.e., family primary caregivers). Three older adults had finished the compulsory level of Muslim-based education, all spoke local-Malay dialect fluently. Four older adults had hypertension for over 10 years together with poor medication adherence, one had diabetes for over 10 years with kidney failure. All had experienced comorbid complications for about 3–10 years, these included strokes, kidney failure, osteoarthritis, and cataracts (near blindness). The family caregivers were aged between 34–50 years old, adult son and daughters, four were female and one male, four were married. All had completed compulsory Thai schooling level. Two were unemployed, while three employed with incomes below the Thai poverty line.

Data Collection

Data were collected during July 2016-December 2017, using a semi-structured guide in-depth interviews, stakeholder co-designed discussions, and observations of participants' responses. A logbook and field-notes taking were used to document the reflections of interview sessions and to note participants' interactions of participant observation sessions. A reciprocal process took place whereby all stakeholders and members of the research team informed each other about the effective problem-solving actions through applicable knowledge components and skill adaptations. All interviews were tape recorded and transcribed. Upon completion of the interviews, the primary researcher reviewed a selection of transcripts with participants and another researcher to confirm accuracy. The logbook was also used during program activity sessions to document the approach and non-verbal feedback for each activity (Streubert & Carpenter, 2011).

The four stages of the program (based on an action research cycle with holistic care, Islamic doctrine and collaborative concepts) are outlined under the results in keeping with the premises of action research. The data analysis below pertains to Stage 1 (assessment) and Stage 4 (evaluation).

Data Analysis

Members of the research team listened to audio tapes, read and verified, then coded and categorized transcript data (in Thai language). Words, phrases and statements that described participant needs, awareness, beliefs, and understandings were identified and highlighted to form themes that reflected participants' responses. A constant comparison approach was further used to develop and refine the themes (Polit & Beck, 2021). The coding and themes were developed manually by the research team and then organized following steps in an AR (Streubert & Carpenter, 2011). An initial phase was followed using selective participant 'member checking' to validate the content together with using 'the transcript excerpts' to illustrate how their statements were coded and categorized. The results of the initial interviews for each stakeholder's groups then served as to inform the subsequent interview, with concurrent data collected and analyzed using the same process. The same coding scheme was applied to all the following interviews and refined to avoid

overlap, ambiguity, and lack of clarity. The reflective field notes and stakeholder discussion items, and memos reported in the logbook were analyzed with content analysis.

Rigor

Lincoln and Guba's (1985) criteria were used to establish the rigor of this study. Credibility was performed through member checking with key project partners and key participants, and through method triangulation. Dependability was ascertained by having another researcher check the accuracy of the emergent themes for each stakeholder group and then across groups. Confirmability was achieved by having all the authors review all data and documents and also creating an inquiry audit throughout the project. Transferability was demonstrated by using detailed descriptions of the context, approaches, and activities of the study (Streubert & Carpenter, 2011).

Results

An action research cycle with four stages employed to co-develop the program was depicted in Figure 1. Details of each stage were presented below.

Stage 1: Assessment (Needs Assessment and Identification of Underlying Issues Present)

This stage aimed to identify the needs for underlying issues of older adult care assistance through interviews with all stakeholders. Each participant (older adults, primary caregivers, health professionals) were interviewed once or twice for about 30 min, in a private room at each clinic, using semi-structured in-depth interviews. The interviews with the healthcare providers (conducted in Thai) focused on routine healthcare services provided, perceived barriers and facilitators to treatments and care, needs for caregiving support (based on holistic care concept) and potential available socio-cultural resources that could be utilized to improve quality of homebound older adult care. In addition, the allied physician's and pharmacist's perspectives were asked to outline their perceptions on medical treatments and drug counseling needed for family caregiver support.

For the family dyads (older adult patients, and family primary caregivers), all interviews were conducted in local Malay dialects using open-ended questions such as, 'Can you tell me about the health problems you encountered? please give an example, and 'How do you deal with such problems?' Each family caregiver was further asked to describe their needs (or unmet needs) for caregiving support, and their shared caregivers' roles and responsibilities. For example, 'On a daily basis of caring (for your affected homebound older parents), what are the most pressing concerns you have encountered? How do you manage such issues? Participant observations (of their interactions and responses) were also documented in the logbook.

The collective themes for all stakeholders were as follows: inadequate knowledge and insufficient skills in complex older adult care, low family involvement, and poor negotiation skills about shared caregiver's roles and responsibilities. Forgetfulness, the misunderstanding that 'feeling well' and 'no symptoms meant recovery' and inadequate knowledge about drug side effects and drug care management were reported by family dyads. The older adults often became lost to follow up and infrequently skipped medications were also raised (see Table 1). Additional theme 'the needs to better integrate Islamic doctrines into family support model' was mentioned by clinical nurses, as a means to improve comprehensive homebound older adult care services.

Stage 2: Planning (Action Plans)

This stage involved co-designing the agreed goals, co-plan program interventions (based on stage one analysis), and further discussed at a series of meetings and workshops with the clinical nurses, family caregivers, and researchers (Streubert & Carpenter, 2011). Field observations were also collected during meetings with the aims of integrating Islamic doctrine and family collaboration approaches into the proposed program. The participant observations and discussions gathered at each initial meeting were then categorized and structured by the research team and then further validated by the nurse participants at subsequent meetings or workshops in keeping with interactive and inductive approaches (Strubert & Carpenter, 2011).

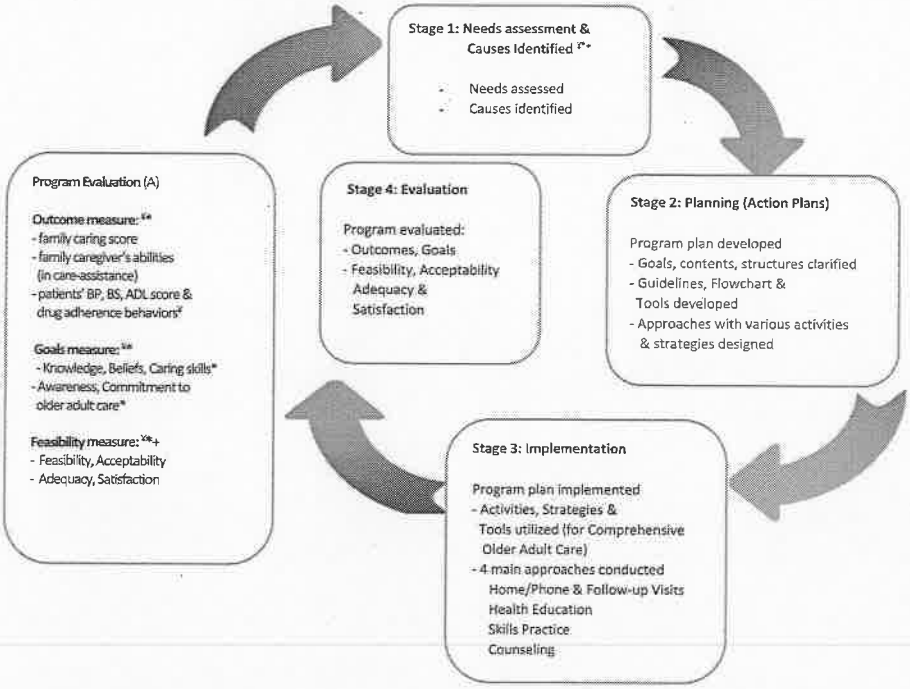

Figure 1. Four stages of the program, based on action research cycle with holistic care and collaborative concepts.

The core program goal was proposed: to develop and evaluate an Islamic-based intervention program that helps promote family caregivers' abilities in comprehensive homebound older adult care. This intervention drew on the *'Amanah' concept* (a subset of the Ihsan principle, central to Islamic moral practice), based on performing one's assigned duty and responsibility perfectly, with implicit trust for family members and healthcare providers to do ones' best effort, as stated in a verse *"And those who respect their trusts and covenants; And those who stand firm in their testimonies; And those who guard (the Sacredness) of their worship; Such will be The honored ones in the Gardens (of Bliss)"* (Al-Ma'arij 70: 32–35). In addition, the first two key Pillars of Islam- *the declaration of faith* "There is no deity except God and Muhammad is the messenger of God", and centrality of *prayer* (a brief prayer or ritual worship five times a day: at dawn, noon, late afternoon, sunset and night) (Syracase University, 2021) were also integrated in the program intervention to dovetail with and stir participants' morale and spirits. Additionally, since Islamic teachings emphasize the importance intertwining of Islamic beliefs and practices, the six major Islamic beliefs (the beliefs in- the Oneness of God, the Angles of God, the Prophets or Messenger of God, the Day of Judgement, and the Divine Decree) (Syracase University, 2021) were also incorporated in the program intervention in the health education and workshop practice sessions to address the particular misbeliefs or misperceptions and to strengthen participants' likelihood of adherence.

The co-designed program intervention proposed to be held weekly over a 5-week period, starting with a pre-assessment phase, followed by the program activity sessions (weekly assessment with critical reflective thoughts analysis, setting mutual goals and co-plans, implementation 'Caring for Allah', process evaluation) and a final evaluation. The agreed overall program plan was presented through a program flowchart (see Table 2). A process evaluation was also conducted each week. The final evaluation session was conducted on week 5 (program ends) to evaluate overall program outcomes. (see Table 2, also Figure 1-Box A).

The program interventions (each drawing on the tenets of Islamic doctrine and holistic care, as outlined above) were developed, comprising key program guidelines, a flowchart of activities, a comprehensive care handbook, and a set of measurement tools. These measurement tool included: ADLs score

Table 1. Baseline Assessment Contents, Needs and Underlying Causes Identified (Based on Four major Aspects of Comprehensive Homebound Older Adult Care).

Assessment Contents (based on four major aspects of comprehensive homebound older adult care)	Needs Y = fully, N = none Y- = partially	Underlying Causes (from Patient's and Family caregiver's perceptions)
Physical	Y- (overall)	Perceived low abilities in complicated older adult care (Fc)
1. ADLs functions [a] **(overall)**	Y	Inadequate K & Insufficient skills (Fc),
- Oral health care (teeth/gum)	Y-	Teeth problems, difficulty in chewing (high fibers)
- Skin care (pressure sore)	N (potential)	Inadequate K, unaware (Fc)
- Sleep/rest	N (potential)	Unaware (Fc)
- Excretion/urination	Y-	Unaware (Fc)
- Fall prevention		Unaware & inadequate K (of risky home environment)
2. Physical activity & Exercise [b]	y-	Pts' Getting tired easily (with kidney failure (KF)); Pts' Unstable position (with Stroke, Blindness, OA) Inadequate K & Insufficient skills (Fc), Tips & proper techniques for older adults
3. Medication care [b] (+comorbid prevention)	Y	Pts' Uncontrolled chronic disease conditions Pts' Drug non-adherence (due to forgetfulness, perceived symptom-free, misunderstanding, infrequently skip drugs, lost follow-up) Inadequate K & Insufficient skills (Fc)
- HT, Stroke		
- DM, KF, OA		
4. Nutritional care [b]	Y	Stick/used to eat risky food (salty, high fat & sugar, but less fibers), unaware of its harm (Pts) Inadequate K & Insufficient skills (Fc)
Emotional/cognitive		FC's psychological burden (alone caregiver, perceived longtime caregivers & felt exhausted) Pts' stay alone sometime (in day time) due to adult children unavailable, busy at work
Psychological	Y- (Pt & Fc)	
Depression [c]	N (potential)	
Dementia [d]	N (potential)	
Social [b]	Y- (Pts & Fc)	FC's low family involvement & poor negotiation skills upon shared family caregiver's roles and responsibilities (siblings' unconcern in helping older adult care duties)
Spiritual [b]	Y (Pts)	Pts' skipped praying (Namaz & Du'ar) sometime, signified weaken spirits (Routinely, Muslim must pray 5-times a day, every day, no exception)

Note. Tools used: [a] Barthel ADL checklist form & ADL score; [b] Caring Worksheet form (assessed with guideline questions); Screening tools for Depression [c] and Cognitive function [d] (Thai short version, Ministry of Public Health).
HT = hypertension, DM = diabetes, KF = kidney failure, OA = Osteoarthritis, ADL = activities of daily living.
Pts = older adult patients, Fc = family caregivers, K = Knowledge.

record form, family caregiving worksheet form, and caregivers' commitment form (see Table 2). These new tools that incorporated Muslim cultural beliefs about family role beliefs into the program contents were validated by two nurses, who were experts in older adult care and community care and independent from the healthcare team, with minor modifications made. Additionally, revisions of the program contents were also suggested by a Muslim educational instructor with expertise in Islamic teachings.

The assessment sessions aimed to assist and prepare family caregivers to collect older adults' baseline information (about family care needs) and gain family caregivers' reflections on their roles. At each weekly session, family caregivers were encouraged to critically analyze their own assessment data in order to recognize the need patterns and any underlying causes of their caring concerns (see Table 2). The 'Amanah' concept stating that 'Muslims have duties and responsibilities to take care of one's older adult parents, to the best of one's abilities (Al-Ma'arij 70: 32–35; Bensaid and Grine, 2014) was highlighted in all sessions, coined as "Caring for Allah". For example, family caregivers were asked to report any unmet older adult care support needs, to clarify which family member(s) helped in which particular duties in older adult care, and to reflect whether these roles and responsibilities were suitable. When a concern arose, it would then be workshopped in subsequent sessions in more details, and commonly

Table 2. Program Flowchart with Weekly Program Sessions, Program Activities, Approaches and Tools Utilized.

Program sessions	Week 1 Program activities	Week 2 Program activities	Week 3 Program activities	Week 4 Program activities
Pre-assessment **(used New forms)** **1. ADL report** ***1a. ADLs score*** **- Oral health care** **- Skin care** **- Sleep/rest** **- Excretion/urination** **- Fall prevention** ***1b. Physical activity & Exercise*** ***1c. Overview Comprehensive older adult care*** **(4 aspects, including drug care)** ***1d. Fc caring score*** **2. Family commitment** **3. The Handbook (comprehensive Older adult care)**	1. Prepare & practice how to apply new tools - Baseline info (older adults' history, BW, BP, BS, drugs taken, Fc's care assistance, FC's Knowledge & Skills) - *Set 1: ADLs & Exercise* 2. Approaches: HV, Phone-call HE & SP 3. Tools: Set 1a- 1b, and set 1 c- 1 d ['Amanah' concept]	1. Fu visits, Reflect/ Evaluate (last week) 2. Approaches: HV, Phone/Fu HE & SP; 3. Tools: *1) Set 2: Drug reminding tools* - Azan calling time, drug calendar/box - verse, quotes, Islamic teachings 2) The Handbook with illustrations ['Amanah' concept]	1. Fu visits, Reflect/ Evaluate (last week) 2. Approaches: HV, Phone/Fu HE & SP; 3. Tools: *1) Set 3: Nutritional* adapted concepts of Halal & Harom (proper food intake), tips & techniques 2) The Handbook with illustrations ['Amanah' concept]	1. Fu visits, Reflect/ Evaluate (last week) 2. Approaches: HV, Phone/Fu HE & SP; Counseling 3. Tools: *1) Set 4: Emotional/social* applied 'Amanah' concept (Muslim duties in caring for older parent), along with communication & negotiation strategies 2) The Handbook with illustrations ['Amanah' concept]
1. Assessment - Data collection - Critical reflective thoughts, identify & prioritize caring needs	Collect data (1-4), *Set 1 (ADLs & Exercise)* Clarified needs, causes & barriers to older adult care	+ [set 1 ADLs &] *Set 2: Drug care, fall prevention, & rehabilitation (Stroke)*	+ [set 1 & 2] *Set 3: Nutritional care*, plus special care with Kidney Failure	+ [set 1, 2 & 3] *Set 4: Emotional, social & spiritual care*, special with spiritual support
2. Setting mutual goals/ co-plans (Shared goals Hc & Fc/pt)	-Improve caring skills, able to fill ADLs & caring form, signed Fc's caring commitments	- Increase K, skills, and awareness in drug care - Fc's commitments	- Increase K, skills, and awareness in nutritional care - Fc's commitment	- Increase K, skills & management to dealing with emotional, social & spiritual problems Fc's commitments (care)
3. Implementation 'Caring for Allah'	Caring-1 (ADLs & Exercise)	Caring-2 (Drug adherence)	Caring-3 (Nutritional care)	Caring-4 (Psycho/ social/spiritual)
4. Evaluation/reflection	Phone-call visits	Phone/Fu visits	Phone/Fu visits	Phone/Fu visits *Week 5 (program ends)

Note. 1) Tools used: The Handbook (comprehensive older adult care); Set 1 (ADLs & exercise): ADLs form, family caring-task work sheet, assessment questions in the handbook; Set 2 (drug care & drug adherence): drug reminding tools: sound reminders, drug calendar, drug box; Set 3 (Halal, Harom): nutritional care; Set 4: emotional/spiritual care.
2) ADLs = activities of daily living; Fu = follow-up; Hc = healthcare providers; Fc = family caregivers; Pt = patients.
3) Approaches: HV = home visits; HE = health education; SP = skills practice.
4) Baseline information: BW = body weight; BP = blood pressure; BS = blood sugar.
* Week 5: Overall Evaluation (program ends).

added to the emotional/social/spiritual care session in the latter weeks.

The setting 'mutual goals' and 'co-plans' sessions aimed to support family caregivers and to set priorities and find new ways to develop caregiving capacity. The 'mutual goals' and co-plans could be further modified to accommodate unique family needs as they arose by developing a clear plan for family caregiving in each week. The implementation 'Caring for Allah' sessions were conducted based upon the identified weekly mutual goals and co-plans. It started from set-1 (ADLs & Exercise activities, in week 1), followed by set-2 (medication care), set-3 (nutritional care), and set-4 (emotional/social/spiritual care), in

week 2–4 respectively, on top of previous week activities.

The program was structured under four main approaches: a core home- visits approach (including family's phone-call and follow-up visits), health education, skill practices, and counseling approaches. These approaches were applied altogether within the four program activity sessions. Counseling was utilized in the particular activity, under the emotional/social/spiritual care session. (See Table 2).

A home-visits approach was used to build trust and rapport to support older adult care activities, along with the phone-call visits and follow-up visit sessions. These activities altogether provided an observational overview of family care assistance and help ascertain whether family caregivers could provide older adult care effectively. Reflection/evaluation sub-strategy was also incorporated. Additional supports and positive reinforcement were provided to family participants as necessary.

Health Education approach was designed to address problems of the inadequate knowledge and misunderstandings that have led to ineffective treatment. A comprehensive older adult care handbook (written in Thai) was co-developed as a primary source of information to underscore all program sessions. This handbook described four aspects of homebound older adult care together with illustrations. This included preparation of specific foods for patients with kidney failure, exercises for older adults and rehabilitation techniques. Each workshop drew on the centrality of Islamic faith (for health and illness). For example, "God (Allah, Subhavala-SWT) brings illness to test us whether we could endure such hardship" (Baqara 2:155–156) and 'Allah definitely brings drugs as a treatment for our illness' (adapted verse 3578, Hadith Ahmad), emphasizing that medication compliance is important. In addition, Islamic concepts and practices were strategically integrated in older adult care activities. For instance, a 'sound reminder' tool, captioned 'Azan-calling time" – using the pretext of Azan calling time for Na-maz as a simple reminder for the time of drug uptake daily ("Adhan", 2021), to help prevent forgetfulness (in medication care). 'Na-maz' (routine praying practice) was also adapted as a substitute exercise for older adults, consigning of daily gentle exercise over 15-min/round.

The modified 'Halal & Harom' guide (based on concepts of good or poor /risky food) recommended or prohibited by Allah (SWT) was utilized for nutritional care, aiming to reduce unhealthy food-taking habits (i.e., preference for salty, oily, and sweetened foods). Lists of Halal/Harom (i.e., good/bad food), including tips of how to choose healthier ingredients, prepare, cook, and determine proper amounts to eat were also identified.

Skills practice approach was co-designed to accord with Muslim cultural beliefs and was applied throughout. To promote family caregivers' caring skills, the family caregivers were trained on how to utilize specific program tools and strategies such as the 'drug-reminding calendar/box for Allah' (using familiar Muslim's symbols presenting periods of time, alongside verse of Allah's teachings). Draft commitments to drug adherence form and family caring form were co-designed and signed by the family caregivers in the presence of eyewitnesses as well as a specific training session of clear communication/negotiation skills was conducted for each participating family.

Counseling approach was applied to support the family dyads upon emotional, social, or spiritual care, particularly for family caregivers who expressed emotional burden from long-time older adult care (often due to being the sole sibling, or in the case of family caregivers whose family members were ignorant in 'shared' roles of older adult care assistance). The 'Amanah' concept and specific verses inferred from the Prophetic traditional where 'un-dutifulness to one's parents was considered to be a major sin' (Bensaid & Grine, 2014) were carefully addressed. Additional social support, such as support from community health volunteers, was offered.

Regarding spiritual care, some older adults reported that they frequently skipped daily routine worship practice (see Table 1). Various reasons were given: due to fatigue and tiredness (in two cases with kidney failure), poor balance control made it impossible to complete the full set of Namaz movements (one with stroke, another with arthritis), and the seeming loss of visual capacity (near blindness concern). In these cases, adaptation to Islamic faith (Allah Subhavala-SWT) practices needed to be made. Counseling approaches were also conducted, to help restore spiritual beliefs and faith for 'weaken-mind' older adults and their exhausted family members.

Stage 3: Implementation and Process Evaluation

The third phase was the five-week implementation conducting by asking family caregivers and the older adults after each session to evaluate the utility

of the sessions content, structure and adequacy of the program with respect to their needs. Minor details in program were subsequently adjusted to address participants and project partners' suggestions. There was no attrition from the family caregivers, older adults, clinical nurses and allied health providers who continued their involvement throughout the program intervention.

Stage 4: Outcome Evaluation

After program completion, three data collection methods were used to evaluate the program outcomes: a) an informal group discussion seeking feedback concerning the whole program, b) semi-structured in-depth interviews with all participants, and c) participant observations of each activity session and analysis of the semi-structured logbook. The program feasibility, acceptability, adequacy and satisfaction were gathered by way of in-depth interviews. In addition, patients' BP, blood glucose, ADLs score, drug adherence behaviors, family caring scores and their further caring commitments, including family caregivers' abilities (in care-assistance) were measured. Suggestions and comments for program improvement were also explored.

The adequacy of the co-designed program contents was assessed through participant observation. A content analysis of the informal group discussion session data and of the intervention process data was concurrently performed, while a thematic analysis of the interview transcripts was undertaken to provide in-depth participant data on the overall program. Triangulation of the three data sources was also used to modify and refine the final program (Streubert & Carpenter, 2011).

The program overall was well received. All participants reported that the program met all their needs. Four themes of feasibility, adequacy, acceptability and satisfaction were identified. The program was evaluated as feasible and useful. It was also viewed as appropriate, applicable and realistic for future community clinical practice, through the clear and easy to follow program guidelines and the flowchart.

"This program is helpful and fits with their needs (family caregivers). It should be used to cover more Muslim older adults out there" (Clinical nurse 1, 34 years old).

"Yeah I like it... the idea of using 'Azan calling time' as a (drug) sound reminder. This is good, though it's simple, yet it works out well cz most of these older adults are familiar with it." (a pharmacist, 30 years old).

The program goals and its positive impact were achieved. The program activities and new tools that integrated Islamic faith, practice and morality besides quotes from The Qur'an were seen to fit well with Muslim cultural practices. The comprehensive care handbook (in Thai, with illustrations) was reported by the family dyads as helpful- in obtaining more knowledge, awareness and better understanding of family caregiving. The modified Islamic-based concepts regarding nutrition, exercise and drug care management components were highlighted, in particular.

"...Mah (mom) has kidney problem. Kah use this (the handbook) to check what kinds of food Mah can eat. With pictures inside, this made Kah easy to follow and understand (exercise, drug & food care). Thank you Mor-Sae" (Caregiver-2, 42 years old).

The family caregivers reported that they had gained more knowledge and awareness of complex older adult care. Through critical reflective thoughts, skill practice and engaging in counseling sessions (using the 'Amanah' concept), these family caregivers felt that they had improved in their self-confidence, obtained a clearer understanding of sharing the caregiver's roles, and received helpful negotiation skills to discuss with their siblings.

'Kah did this (elder care) for over 3 years, as a youngest daughter, without help (from siblings). Umh..., good to talk about 'Amanah.' It's right, Amanah is everyone's responsibility in Mah's care. Kah felt okay now and will go talk with them (siblings). It's time, they should give hands in Mah's care." (Caregiver-3, 37 years old).

The core program aims appeared to have been meet, with BP and blood sugar (BS) kept within normal levels, while ADLs score, screening scores for depression and quick screening for dementia (Mini-Cog) remained the same. Family caring scores and drug adherence behaviors had been improved (See Table 3). The family caregivers had also committed to assist in the comprehensive care. These findings should be viewed with cautions since many other influential variables were not assessed and could have contributed to these changes. However, the reported improvements in self-confidence and caring skills helped confirm the success of this program. In respect to the handbook, all clinical nurses agreed that using bilingual handbook (Thai & Arabic) might better serve low-literate participants in the future.

Table 3. Selective Measurement Indices of Program Implementation at Baseline and After Pilot (to Demonstrate Improvements).

Measurement indices	At baseline	After pilot
Blood Pressure (level)	155/99 mmHg (2 cases) 160/100-179/109 mmHg (3 cases)	120/90 mmHg (2 cases) 140/90mmHg (3 cases)
Blood Sugar (level)	130 mg% (1 case) 90-100 mg% (4 cases)	120 mg% (1 case) 90-100 mg% (4 cases)
Barthel ADLs score[1]	Score = 7 (2 cases) Score = 10-11 (3 cases)	Score = 7 (2 cases) Score = 10-11 (3 cases)
Family caregiving score[2]	Score = 9 (3 cases) Score = 10-12 (2 cases)	Score = 1 (1 case) Score = 15 (1 case) Score = 16-17 (3 cases)
Drug adherence behaviors (score)[3]	Score = 30-35 (5 cases)	Score = 40 (1 case) Score = 45-48 (4 cases)
Screening for depression (2Q)[4]	Score = 0 Normal (5 cases)	Score = 0 Normal (5 cases)
Quick screening for dementia[5] **(Mini-Cog)**	Score = 3 Normal (5 cases)	Score = 3 Normal (5 cases)

Note. 1) Barthel ADLs score, maximum = 20, 5-11 means partially dependent.
2) Family caregiving score, maximum = 20, 11-15 means partially successful, 16-20 = successful in caring.
3) Drug adherence behaviors (score), maximum = 60, 15-30 means low, 31-45 = moderate, 45-60 = high.
4) Screening for depression (2Q), maximum = 2, 0 means normal, no depression, ≥1 = at risk for depression.
5) Quick screening for dementia (Mini-Cog), maximum = 5, < 3 means cognitive impairment, ≥3 = normal.

All clinical nurses admitted that it is difficult for them (as the non-trained in spiritual care) to dealing with the needs for 'weakened spirits', particularly in the 'loss of hope' older adults. Moreover, adjusting for the older adults' food preference was also challenging.

"Eating veggies is hard for Mah (female older adult) to bite and chew cz Mah's teeth are not so strong as before. Mah don't like eating the boiled veggie either." (older adult-3, 65 years old with hypertension problem)

"Pah (male older adult) couldn't eat without 'Budu' (local Muslim fish sauce). Pah like 'Budu' very much, it helps made the dish better yummy." (older adult-1, 74 years old with kidney failure problem)

Discussion

Our co-designed interventions adapted the 'Amanah 'concept- a subset of the crucial Islamic morality beliefs (Ihsan principle) to advocate for all Muslim family members in taking care of their older parents, particularly in times of sickness (Al-Ma'arij 70: 32–35; Bensaid and Grine, 2014). Upon completion of the program activities, the primary caregivers felt better prepared to deal with 'sharing roles and duties' for older adult care within their family. Of note is that previous findings stated that having family members involved in caring for older adults yields better long- term health outcomes (Ashoorkhani et al., 2018; "Author, YYY", in press; Thomas et al., 2017). However, most of our family primary caregivers reported the low family (members) involvement in care for their older parents, a novel finding in Thailand to date. Lack of negotiation skills and lack of support from other family members (either those living nearby or those co- residential family members (in closed/extended family) that has been traditionally associated with rural Muslim communities, and lack of awareness of their potential roles and responsibilities in caring support were seen as salient barriers to this holistic family care provision of the homebound older adults.

Inconsistent medication adherence was highlighted in the homebound older adults with forgetfulness seen as the most common cause (see Table 1), similar to findings in several international studies (Gavrilova et al., 2019; Vrjens et al., 2017). The modified sound reminders and drug reminding tools incorporating "Allah (SWT)" were seen as powerful enabler to support assisting older adults' drug-takings behaviors, congruent to previous findings (Noumani

et al., 2018, "Author, YYY", in press). Our findings revealed that teeth problems and difficulty in chewing high fibers food seem to be additionally significant barriers in intervening 'the preferred risky food intake patterns.' To our knowledge, addressing feelings of "weaken spirits" and the 'loss of hope' homebound Muslim older adults were also challenging, another new finding in Thailand, and elsewhere.

In our study, we co-created the comprehensive older adult care handbook (in Thai) with picture illustrations, for rural Thai Muslims with lower -literacy levels than the national average. Consequently, older adult patients and their family caregivers appreciated this handbook, reporting that they better understood the core knowledge addressed. Our findings supported that provision of materials targeted to identified needs could foster family caregivers' knowledge acquisition (Wilson, 2011) and could enhance family confidence in older adult care. Incorporating Islamic doctrines, through applying activities and tools that draw on 'trust in Allah (SWT)', 'doing your best for older adult parents', and 'using self-efficacy principle' could serve to promote family Thai Muslim caregivers' self-confidence in caring practices (Noumani et al., 2018).

Our findings demonstrated that staff training for AR implementation was necessary. In this study, clinical nurses were educated on the program goals and how to apply new tools that integrated Islamic doctrines. This process led to ascertain that the nurses when supported into such program are better able to maintain a sense of control and develop partnerships with the family dyads effectively (Holloway & Wheeler, 2010).

Limitations

This AR study had some limitations including the small number of co-design participants, and inherent social desirability biases. Nevertheless, the baseline of audit data collection and the stakeholders' rotational engagement throughout helped confirm credibility and transferability. There was also possibility for potential role conflict. To address this concern, the field researcher declared her multiple roles and responsibilities at the beginning of the research process (as a director, healthcare provider, and field researcher). In addition, regular dialogue was held with core project partners (clinical nurses) and close supervision monitored by the research supervisor, who was independent from CS-PHs served to diminish this potential role conflict.

Implications

Our findings suggest that developing and applying a family-based care program for Muslim older adults drawing on holistic care concepts, Islamic doctrines and Thai-Muslim family collaboration can enhance family caregivers' abilities in assisting with complex homebound older adult care (bio-psycho-social and spiritual care). Our findings also emphasize that working with religious and cultural belief systems is an important step in engaging families to help improving community-based care for the homebound older adults as well as their family caregivers.

We recommend that multidisciplinary teams be incorporated into the new interventions programs which include regional healthcare providers, such as Islamic clinical consultants, dentists, along with nutritionists. Importantly, role(s) created for nurse specialists with spiritual and palliative care knowledgeable skills should be incorporated into the future program. A bi-lingual handbook should also be adapted to better serve family caregivers ongoing needs.

Conclusion

Identifying shared goals and engaging healthcare recipients, allied community healthcare providers and researchers in practical interventions can bring about improved clinical outcomes. These novel findings set new priorities for future research with Muslim families, that is, to incorporate Islamic teachings and the familial cultural beliefs as core components into the community-based, comprehensive homebound older adult care interventions.

Author's Contributions

PP and NW conceived the study, designed and analyzed the data. NW collected the data. PP, NW and EH wrote the manuscript. All authors provided critical thoughts of the paper, read and approved the manuscript.

Acknowledgments

We would like to thank homebound older adult patients and their family caregivers for providing their time participating in this study. We thank all clinical nurses for being key project partners and collaborators, staffs, a physician and a pharmacist, including community health volunteers for facilitating in the process of data

collection. Lastly, we thank Associate Professor Usanee Pethratachart for assisting in checking the accuracy of the study findings.

Declaration of Conflicting Interests

GQ3 The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article:
AQ2 This work was supported by the Prince of Songkla University, (grant number graduate school/2016).

ORCID iD

GQ6 Pajongsil Perngmark https://orcid.org/0000-0003-2075-8719

References

Adhan (2021, May 14). In *Wikipedia*. https://en.wikipedia.
AQ3 org/wiki/Adhan

Ahmad, M., & Khan, S. (2015). A model of spirituality for ageing muslims. *Journal of Religion and Health*, 55(3).
AQ4 https://doi.org/10.1007/s10943-015-0039-0

Ashoorkhani, M., Majdzadeh, R., Gholami, J., Eftekhar, H., & Bozorgi, A. (2018). Understanding non-adherence to treatment in hypertension: A qualitative study. *International Journal of Community Based Nursing and Midwifery*,
AQ5 6(4), 314-323.

Bensaid, N., & Grine, F. (2014). Old age and elderly care: An Islamic perspective. *Cultural: International Journal of Philosophy of Culture and Axiology*, *11*(1), 141-163. https://doi.org/10.5840/cultura20141119.

Cheng, J. M., Batten, G. P., Cornwell, T., & Yao, N. (2020). A qualitative study of health-care experiences and challenges faced by ageing homebound adults. *Health Expectations*,
AQ6 23, 934-942. https://doi.org/10.1111/hex.13072

Gavrilova, A., Bandere, D., Rutkovska, I., Smits, D., Maurina, B., Poplavska, E., & Urtane, I. (2019). Knowledge about disease, medication therapy, and related medication adherence levels among patients with hypertension. *Medicina (Kaunas)*, 55(11), 715. https://doi.org/10.3390/medicina55110715

Holistic Nursing (2021, November 13). In *Wikipedia*. https://en.wikipedia.org/wiki/Holistic_nursing

Holloway, I., & Wheeler, S. (2010). *Qualitative research in nursing and health care* (3rd ed.). Wiley-Blackwell, A John Wiley & Sons, Ltd., Publication.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage Publications.

MacKinlay, E. (2016). Ageing and spirituality across faiths and cultures. In M. Johnson, & J. Walker (Eds.), *Spirituality dimensions of ageing* (pp. 32-50). Cambridge University Press. https://doi.org/10.1017/9781316136157.004

Ministry of Public Health (2020, December). Standard Reports of Non-Communicable Diseases: year 2016–2020, Health Data Center. https://hdcservice.moph.go.th/hdc/reports/report.php. (in Thai).

Noumani, H. A., Wu, J.-R., Barksdale, D., Knafl, G., AlKhasawneh, E., & Sherwood, G. (2018). Health beliefs and medication adherence in Omanis with hypertension. *The Journal of Cardiovascular Nursing*, 33(6), 518-526. https://doi.org/0.1097/JCN.0000000000000511

PaNa-Rae District Health (2018). *Chronic health record data: Year 2014–2018*. Community Sub-district Promoting Hospitals, Pattani: PaNa-Rae District. (in Thai).

"Author, YYY" (in press). Family participation to promote medication adherence among Thai-Muslim older adults with hypertension: Action research study. *Journal of Transcultural Nursing*. AQ7

Polit, D. F., & Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for nursing practice* (11th ed.). Wolters Kluwer.

Rechel, B., Grundy, E., Robine, J.-M., Cylus, J., Mackenbach, J. P., Knai, C., & Mckee, M. (2013). Ageing in the European Union. *The Lancet*, *381*(9874), 1312-1322. https://doi.org/10.1016/S0140-6736(12)62087-X

Ris, I., Schnepp, W., & Imhof, R. M. (2019). An integrative review on family caregivers' involvement in care of home-dwelling elderly. *Health and Social Care in the Community*, 27, e95-e111. https://doi.org/10.111/hsc.12663

Streubert, H. J., & Carpenter, D. R. (2011). *Qualitative research in nursing: Advancing the humanistic imperative* (5th ed.). Wolters Kluwer Health/Lippincott Williams & Wilkins.

Syracuse University (2021, February). *Islam-diversity and inclusion: Understanding basic principles of Islam*. https://diveristy.syr.edu/undestaning-islam/

Thai National Statistic Department (2018). *Reports of social and economic household survey: Year 1998–2018*. Social National Economic Statistic Department. http://social.nesdc.go.th/SocialStat/StatReport.pdf

The Holy Qur'an: text, translation and commentary (A. Yusuf Ali, Trans.) (1978). (2nd ed.). McGregor & Werner, Inc. AQ8

Thomas, P., Liu, H., & Umberson, D. (2017). Family relationships and well-being. *Innovation in Aging*, *1*(3), 1-11. https//doi.org/10.1093/geroni/igx025

Thornton, L. (2019). A brief history and overview of holistic nursing. *Integration Medicine: A Clinician's Journal*, *18*(4), 32-33.

Vrjens, B., Antoniou, S., Burnier, M., de la Sierra, A., & Volpe, M. (2017). Current situation of medication adherence in

hypertension. *Frontier in Pharmacology*, 8, 100. https://doi.org/10.3389/fphar.2017.00100

Wangjhi, N. (2015). *Effects of behavioral modification program on medical adherence and blood pressure for Muslim elderly with uncontrolled hypertension* [Master Thesis]. Prince of Songkla University. http://kb.psu.ac.th/psukb/handle/2016/11186 (In Thai).

Wilson, L. D. (2011). Developing low-literacy health education materials for women. *The American Journal of Maternal/Child Nursing*, 36(4), 246-251. https://doi.org/10.1097/NMC.0b013e3182183bbd

World Health Organization (2021, February). *Fact sheets: Aging and health*. https://www.who.int/news-room/fact-sheets/detail/ageing-and-health

Young, W. C., & Shami, S. (1997). Anthropological approaches to the Arab family: An introduction. *Journal of Comparative Family Studies*, 28(2), 1-13. https://doi.org/10.3138/jcfs.28.2.1