Lessons learnt from CBR practice at Hua Don Primary Health Care, Thailand

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Abstract

Purpose – The purpose of this study is to determine the capacity map of professional learning community (PLC) practicing community-based research (CBR) in Ubon Ratchathani Rajabhat University, Thailand, and the implementation of the lessons learnt from the process and essential skills at Hua Don Primary Health Care (PHC).
Design/methodology/approach – Participatory action research (PAR) design was conducted in two phases, one on campus and the other in the PHC. For gathering and validating the data, the snowball sampling technique, focus group, in-depth interviews and the triangulation method were used.
Findings – The PLC capacity map from the first phase provided the essential skills of CBR and the second phase revealed lessons learnt from the implementation in the Hua Don PHC. The shortcut in researching a new target area by a collaboration of the community leader and village health volunteers was prominent. The results could be interpreted in creating collaboration in health care with a new community.
Originality/value – The capacity map is a practical guideline for a beginner or CBR novice researcher, and the lessons learnt help the implementation in the health field, particularly in PHC, succeed smoothly.
Keywords Capacity map, Community-based research, Professional learning community, Primary health care, Health promoting hospital, Thailand
Paper type Research paper

Introduction

Community-based research (CBR) is a research approach involving real practice of addressing community problems and disseminating knowledge [1–3]. To emphasise collaboration through partnerships in urban areas, particularly amongst health professionals, community-based participatory research, which is similar to participatory action research (PAR), is used in community development areas [4–7].

Evidence has been obtained globally on CBR's efficiency and effectiveness in making substantial positive changes for researchers, communities and related organisations in fields such as science, education and health [4, 8–10]. The ultimate goals of the CBR are empowering people to create knowledge collaboratively and thus strengthen their community [11].

It involves equitable relationships and partnerships amongst the community, that is, academics, villagers and developers; individual diversity, and sharing of leadership and resources to solve the community's problems or to develop the community [11–13]. This concept is key to sustainable development of communities [10, 14]. The CBR methodology is flexible: the steps can be reversed or skipped, other processes can be inserted where needed and some can be collapsed into one where appropriate [15].

The advantage of CBR is its natural phenomena; emphasising the contexts of the target community and expertise of partners. However, such natural phenomena also bring about the challenges of high flexibility and an abrupt change. Flexibility and the use of community contexts in solving health problems promote the benefits of PAR by helping eliminate health disparities [13]. To gain genuine data require informal conversations and different methods to build trust and acquaintance and collect data from different groups of informants. The field practices depend on the availability of the communities; therefore, the project timetable is regularly adjusted. Such an unfamiliar CBR method calls for a combination of experience and skills beyond daily practice, and it attracts relatively few mainstream scientific researchers from health-related fields. In the health field, researchers heavily rely on the least statistical error in clinical research for both diagnosis and treatment [16–19]. However, in CBR, the inability to set definite start and end dates of a project disrupts the expected outcome. Besides, the inability to control related factors or rid some factors, as done in clinical research, raises many questions.

The practice of CBR is a must for sustainably solving local health problems. Accordingly, the Ubon Ratchathani Rajabhat University (UBRU) in Thailand has recognised that its core mission is producing graduates for sustainable local development. A critical success factor to achieve this is full support of the university including a coach and mentor team (node) and funding, leading to the development of CBR researchers [20, 21]. The UBRU has continually supported the development of CBR in all its 11 faculties since 2011. However, an operation in each area, especially in the health field, still requires the collaboration of network partners and continual knowledge management of projects in different communities for empowering changes in the same direction at all levels of the sub-district, province and region. This is because both partnership synergy and community involvement influence the intermediate and distal outcomes in the health field [4].

The Ubon Ratchathani province is located in northeast Thailand. Most residents of this province practice agriculture and live in rural societies located in suburbs outside the city. It ranks fifth in the number of elderly people (276,628, 14.73%) in Thailand [22]. Travelling is a significant obstacle for the elderly because of their health, economic and transportation conditions. Thailand's primary health care (PHC) system including the health promoting hospital (HPH) provides health services at the sub-district level. Hua Don HPH, located in Khuengnai district in Ubon Ratchathani, has a partnership with the academic service areas of UBRU. This hospital is responsible for providing health services to 2,206 people from 547 households. Of these, 501 are older adults aged over 60 years (4.4%): this percentage is relatively low. However, the Hua Don HPH struggles in dealing with elderly patients with dementia, especially because eight village health volunteers (VHVs) are required to serve one dementia patient. Thus, a very high expense, about 8,000 baht monthly, is recorded for each patient.

Hua Don HPH is prepared to establish a rehabilitation centre for the elderly to address this issue. This study aims to do the following: (1) based on the results of a professional learning community (PLC) study supported by UBRU a capacity map is prepared; (2) the lessons and skills learnt from the above research is used to promote this centre for both proactive and reactive practices in physical rehabilitation and dementia screening.

Dementia has been chosen as the study subject because it is counted as a group of degenerative diseases commonly found in geriatric syndromes [23]. Studies on dementia

around the world have shown that the incidence of dementia is once every 7 s, especially in developed countries [24]. Early diagnosis can be conducted through a standardised questionnaire, but it requires 30 min to 1 h approximately. Thus, a short, effective screening is the key to prevention. To promote the centres' services and implement the CBR PLC as part of community development, the change agent and the researchers decided to equip the VHV with essential skills for dementia screening.

The expectation is that the lessons learnt here could encourage university faculties to work hand-in-hand with the PHC and VHV.

Methods

Participants

Participants in the first phase were 240 out of the 583 UBRU instructors, gained through stratified random sampling and the sample size was determined using the Taro Yamane formula. The 240 respondents were willing instructors from 11 faculties of UBRU divided into the three fields of social sciences, sciences and health sciences. The social sciences group included the Faculty of Humanities and Social Sciences, the Faculty of Business Administration and Management, the Faculty of Education and the Faculty of Law. The science group included the Faculty of Agriculture, the Faculty of Sciences, the Faculty of Industrial Technology and the Faculty of Computer Science. The health science group included the Faculty of Thai Traditional and Alternative Medicine, the Faculty of Nurse and the Faculty of Public Health.

The participants responded to semi-constructed questionnaires involving CBR knowledge and value, and 54 of them with experience in conducting CBR volunteered to participate in the interviews and focus group. The confirmation check was done through focus groups with 35 village volunteers from three communities with experience in working with PLC members. The data were used to create a capacity map of the CBR PLC, detailing experienced researchers and the skills essential for conducting a CBR and their lessons learnt.

The second phase was the implementation of the capacity map and the lessons learnt to the target PHC. The population was the director of the Hua Don HPH and 47 VHV, 48 altogether. The selected issue for the target community was screening for dementia in the community by the VHV. The participants in this phase consisted of the director and 10 VHV from Hua Don HPH ($n = 11$). They were invited to participate in the project, informed of their rights and privacy protection verbally and in writing, and requested to sign the consent form.

Procedure

A PAR was conducted from November 2017 to October 2019 in Ubon Ratchathani province, Thailand. The conceptual framework of the study is presented in Figure 1. The study was conducted in two phases: (1) develop the capacity map of the PLC (from November 2017 to December 2018) and (2) identify the lessons learnt (from January to October 2019).

The first phase involved a study about the context and capital of UBRU. The capacity mapping followed the five steps shown in Figure 1. The participants were the chief or head of the CBR project, research-based instructors or those who implemented CBR in teaching, a support mechanism or a coach and mentor team (node) who played the coach and mentor roles, and a supervisor who was highly experienced in CBR to provide consultations to CBR novices.

The second phase involved implementation of the essential skills and lessons learnt from the capacity map for practice in PHC at Hua Don HPH. There were three stages of the intervention, including the pre-research, research and conclusion stages (Figure 1).
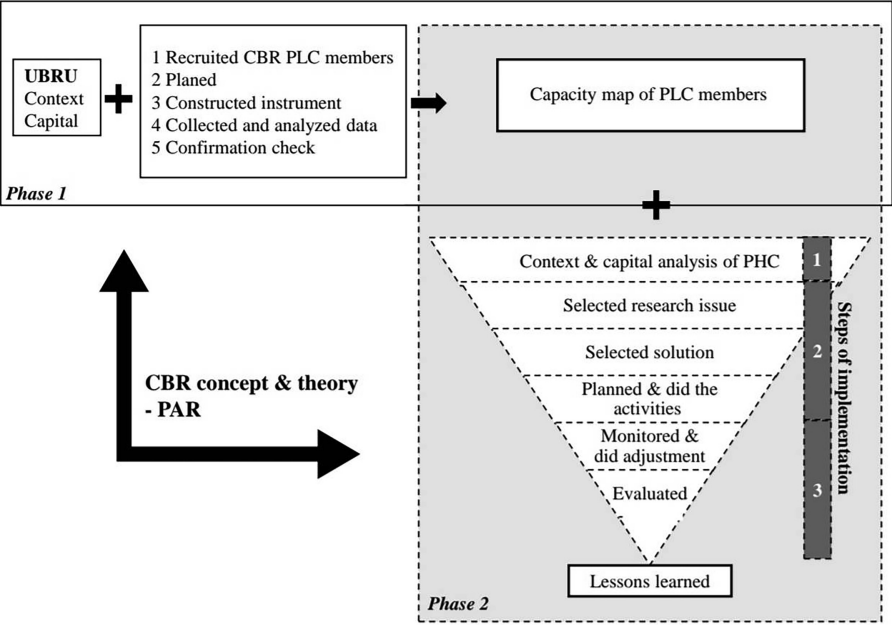
Figure 1.
Conceptual framework

Note(s): CBR = community-based research; PAR = participatory action research;
PLC = professional learning community; PHC = primary health care; UBRU = Ubon
Ratchathani Rajabhat University

Data collection and analysis
For the first phase, the researcher team spent two semesters or one year. The data were collected by the fourth-year English-major students who had been trained in conducting a CBR. Information about the 11 faculties was collected in semester two of the 2017 academic year, by 20 student researcher trainees. The questionnaires, focus groups and in-depth interviews were conducted by 10 student researcher trainees in semester one of the 2018 academic year. Lessons learnt from the CBR PLC members were analysed by the researcher team from January to June 2019.

For the second phase, the context and capital of the target community were investigated and analysed. Then the problems or objectives of the study were set through informal conversations with the change agent and VHV at the Hua Don HPH. Based on the contexts and capital of the community the solution was determined, the intervention was developed and implemented, and it was monitored alongside solving any problems that emerged. Finally, the evaluation of the intervention and the study was arranged. All the activities were conducted collaboratively.

The quantitative data, i.e. demographics and roles of the PLC members, were analysed using the frequency and percentage. Questionnaire data from the first phase were analysed using the mean and standard deviation. The semi-constructed questionnaire, on 7-point Likert scales ranging from 1 to 7, the lowest to the highest agreement, respectively, had an index of congruence of 0.5 or higher for every item, and the Cronbach's alpha coefficient value was 0.91. The qualitative data were grouped, labelled and confirmation checked with the communities through a public panel and reported descriptively.

Such gathering and analysis of the data met the requirements of the triangulation method in validating the findings. That is, this study collected both qualitative and quantitative data from different informants using different instruments. The results were reported in the form of a capacity map of PLC containing their contact and expertise and a booklet of lessons learnt from their experiences.

Ethical issue
The research was approved from the UBRU ethical consideration board, approval no. HE 602007.

Results
First phase
The demographic data of 240 instructors are presented in Table 1. The two topics in the questionnaire enquired about the knowledge and value of CBR. The questions were, for example, "The significance of CBR is empowering people to be self-reliable in solving problems and developing their community" and "The after action review (AAR) and lessons learned to make everyone aware of changes from CBR, respectively". Results revealed that the means and standard deviations about CBR knowledge and value were 1.83 ± 0.41 and 6.15 ± 0.82, respectively.

From amongst UBRU's 11 faculties, 14 males and 30 females were recruited from the list of the PLC in Table 1.

Table 2 presents the list of PLC members from the three fields of social sciences, sciences and health sciences in UBRU. A further look into the percentage of PLC in the UBRU highlights the need to develop CBR-related capacity in health sciences, which is currently quite limited.

Analysis of the capacity map of the PLC in UBRU resulted in three groups of CBR tasks: context study, partnership building process and intervention. For each capacity, the essential skills were reported, as shown in Table 3.

Lessons learnt from obstacles reported by the PLC members were grouped and summarised as follows.

(1) Community collaboration: Many interviewees shared that the number one obstacle was seeking the right man to perform CBR.

		Number	Percentage
Gender	Male	98	40.83
	Female	142	59.17
Education level	Bachelor's degree	23	9.58
	Master's degree	179	74.58
	Doctoral degree	38	15.84
Role in CBR	Researcher	109	45.42
	Target group	125	52.08
	None	6	2.50
CBR involvement (number of projects)	1	50	20.83
	2	24	10.00
	3	18	7.50
	4	12	5.00
	5	11	4.58
	>5	23	9.58

Note(s): CBR = community-based research; UBRU = Ubon Ratchathani Rajabhat University

Table 1.
Demographic data of instructors in UBRU ($N = 240$)

Fields	Chief	Co-researcher	Number (%) Research-based instructor	Supervisor for novices	Node	Total[a]
Social science	14 (25.93)	21 (38.89)	4 (7.41)	5 (9.26)	2 (3.70)	24 (44.44)
Science	19 (35.18)	21 (38.89)	4 (7.41)	7 (12.96)	3 (3.56)	21 (38.89)
Health science	7 (12.96)	8 (14.81)	0 (0.00)	0 (0.00)	0 (0.00)	9 (16.67)
Total	40 (74.07)	50 (92.59)	8 (14.81)	12 (22.22)	5 (9.26)	54 (100.00)

Note(s): [a]Several instructors are counted, and some possess > 1 capacity. PLC = professional learning community; UBRU = Ubon Ratchathani Rajabhat University

	Capacity	Essential skill
Context study	Community context and capital analysis	Geosocial mapping; Community organisation; History timeline; Community calendar; Community capital framework[a]; Population pyramid
	Community collaboration enhancement	Search for a change agent; Appreciation influence control (AIC)[b]; Knowledge of the connection; Snowball technique; Enhancement of community pride; Making of acquaintances with a villager and a leader; Building of good rapport; Recruitment of a team with a common value
Partnership building process	Self-reflection	Before action review[c]; After action review[d]; Self-evaluation; Record of the summary of an activity; Written and oral progress reports
	Team management and teamwork	Team admiration "On-sorn Kun[e]"; Lessons learnt; Review of the objective and monitoring of progress; Appointment of the responsibility on a voluntary basis; Work on a participation basis
	Facilitation	Advanced preparation; Active listening and show of respect to each other; Giving everyone a team voice; Clear communication; Decision-making based on information; Sharing of resources; Provision of required assistance; Expansion of connections by inviting other stakeholders to participate in the activities
	Inspiration and participation	SWOT[f]; Mountain analysis; AIC; In-depth interview; Focus group; Use of the local community belief and value, that is, Yarn Moo Dai Luen[g] Presenting of a challenge and reward/punishment; Provision of support and consultation
Intervention	Community empowerment	Participation in public panels locally, nationally and internationally; Expert visitation; Training on knowledge and strategies required for completion of the project; Encouragement to employ soft and hard skills; Sharing of a common goal

Note(s): [a]A method that illustrates the assets of the community and, conversely, the deficits that may keep it from being healthy
[b]A creatively engaged meeting technique where brainstorming provides an understanding of the limit conditions. The meeting contents come from everyone's ideas
[c]A technique of used to conduct a review before performing the work, such as highlighting a common goal
[d]A review to understand how both successes and problems arise. The aim is to exchange work experience and solve problems
[e]A locally cultural practice promoting respect to each other
[f]An analysis of strengths, weaknesses, opportunities and threats
[g]A local value used to promote the inner drive so one can compete with others

(2) Trust-building: Many shared that, "We did not get but give... Once the village leader saw that we were there to help them, they would agree to work with us". Finally, they shared, "When they benefitted from us, they were more collaborative".

(3) Different points of view of the target community and a variety of organisations: An experienced researcher solved this problem by "being more delicate at work" and sharing that "being community-based means the common goal of every stakeholder" should be the team scripture.

(4) Ending time: A highly experienced CBR (supervisor and node for novice) noted, "Doing such research is non-ending" and "...by the time we left the community, we ensured that it is strengthened, and the people can be self-reliant".

In conclusion, results from the first phase were the capacity map with the essential skills of PLC members and a guideline with lessons learnt for novice CBR researchers and those who want to launch a PHC project in particular.

Second phase
Problems of the community involving dementia were a burden to VHV and costly work. The primary issue was how to screen for dementia risk. The initial goal was assisting VHV to be able to examine villagers with a tendency towards cognitive impairment or dementia. Initially, screening questionnaires in Google Forms were adopted for screening. VHV participants, together with the research team planned, designated zoning and assigned the data collector for each zone. The VHVs were then trained in Google Forms usage and data storage twice. The first training was conducted and practiced under supervision. The second training was on processing the data in Google Forms after real use with a target group. The obstacle of language was identified because academic terms had been used by the research team. Such language was not understandable by the VHV and elderly farmers with primary school education. Accordingly, the questionnaires were adjusted, and unfamiliar words were clarified. More suitable words were replaced by the director of the HPH, who was a villager and familiar with the VHV. The last activity in this stage was an evaluation of the collaboration in promoting the VHV to conduct community screening tests for dementia. Results of the four-month implementation of the lessons learnt from the PLC capacity mapping at Hua Don HPH are shown in Table 4.

Discussion
The success of the target community collaboration in screening dementia required only four months of working in the field. The time spent was less than that done by previous research, which spent six to seven months in only building a good rapport before being able to run the later processes [25]. Such short time spent could be attributed to the charisma of the change agent (director of HPH) and availability of essential skills for each capacity required for running the CBR in the map gained from the first phase. The author who self-rated as not having significant expertise in CBR reflected the effective use of the map as guidance as it contained learning from experienced PLC members from genuine communities that required various essential skills in each step. Thus, the capacity map in this study is not only proven effective as a guideline for novice researchers, particularly in the health field, but also provides a shortcut to conduct CBR in a new community. With less support from the node and supervisor, the lessons learnt helped pave a smooth pathway for novice CBR researchers [20, 21].

Throughout the project, skills such as AAR, confirmation of the findings and self-evaluation helped the research team recognise the success or failure of the project and their

	Benefit	Challenges	Lessons learnt
Context study 1. Seeking a proper community using the snowball technique 2. Seeking a change agent in the target community 3. Encouraging the community leader and villagers to talk about their community	R: Using the partner network effectively C: Recognising resources and capital of the community	Availability of the selected community	(1) Making a list of different communities that meet the criteria (2) Sending letters asking for approval to enter and work with the HPH to every authority of the HPH
Partnership building process 1. Making use of in-depth interviews and focus group 2. Always arranging BAR and AAR 3. Encouraging self-evaluation where appropriate	R: Asking research questions on the community's needs; respecting diversity; having good attitude and rapport C: Feeling of partnership; learning about common dreams, experiencing pride; practicing democracy	(1) Ensuring the research questions ask the communities' genuine needs (2) Encouraging people to express their thoughts (3) Using academic terms or jargon (4) Using formal language of the research team	(1) Sincerely enquiring about the needs of the community (2) Being a good listener (3) Preparing thorough questions beforehand (4) Genuinely respecting others (5) Accepting the team decision (6) Regular monitoring to prevent loss and enhancing team efficiency (7) Clarifying academic terms or jargon
Intervention 1. Sharing a common goal 2. Considering tasks to achieve the goal 3. Appointing responsibility on a voluntary basis 4. Deciding the time frame of the tasks	R: Developing a strategic plan and sharing resources C: Practicing collaborative planning	(1) Occasionally adjusting the plan due to availability of the participants (2) Managing overwhelming data	(1) Being flexible (2) Scheduling at the community's convenience (3) Regularly checking findings with the research questions

Table 4.
Lessons learnt from the process and essential skills at Hua Don HPH

Note(s): R = research benefit; C = community benefit; HPH = health promoting hospital. BAR = before action review; AAR = after action review

factors and to enhance community pride. Regular arrangement of the AAR and self-evaluation provided a flux of information, which was another challenge for the research team in grouping and labelling them and selecting those relevant to later processes. Additionally, the snowball technique was the primary skill that found success in many steps of CBR. This study also found no need to implement all the skills because the director of the HPH practiced some of these. For example, inspiration for participation was regularly provided via the Line smartphone app of the VHV group, and many positive stories were shared. Other important success factor in CBR was a good rapport between the academic researcher and community [26]. Additional skills such as flexibility, sincerity and morals required for working with people were also promoted through the community's involvement. Such processes and skills are widely acknowledged in sustainable development that emphasises the development of people in jobs, organisations and communities [20, 27].

The lessons learnt in this study were relevant to the components of CBR, including context, individual dynamics and relational dynamics [7]. The implementation of such lessons learnt confirms that community collaboration or participation can lead to social justice and integration of academic and reciprocal knowledge [28]. Although the practice of community participation in health sciences is in line with a previous study that indicated a strong association between intermediate community changes and distal health outcomes [5], the target community of this study needs further practice to make such a phenomenon more evident.

A significant finding of this study is that the VHV are genuine volunteers. They possess an attitude of public and social responsibility, which helps the primary health promotion succeed. Such participants' qualifications resonate with the conceptual model of CBR according to the theory of communicative action [7]. To promote success, a novice researcher should thoroughly select and study the target community's context from the beginning in order to prevent obstacles. If HPH staff members and VHV work well together, it is easy to start a research project. One should avoid selecting participants who are ordered to work with the research team as they would have inadequate motivation to see the project to the end.

Conclusion

The capacity map based on the lessons learnt by experienced CBR PLC members of the UBRU is used as a shortcut guideline for novices or those with limited skills in working with a community. People's skills, challenges and creation differ according to the context and capital of the community. Such factors help promote equitable partnerships, which are a key to success in CBR in a PHC. The essential skills and lessons learnt in this study indicated that guidelines, nodes and good rapport were significant for practicing CBR in a PHC.

Strengths and limitations

Creating the capacity map was useful for both the community and personnel. The process helped change implicit knowledge to explicit knowledge through elaborative investigation. Then, the knowledge was scaffolder and deepened by oneself or with others (expansion) and transferred to other people, the community and society (internalisation). The lessons learnt were relevant for a research on PHC by both experts and chief researchers of CBR. Such data and experiences in organisation management of the researcher and change agent ensured that the initial stage of the implementation was rapid and smooth. This study is thus useful for novices who are interested in conducting CBR, particularly in a PHC.

The limitations of this study involve an implementation without a formal node and expertise of the university to provide support. If novices entered a community alone without such a bridge person, they could face difficulty in later stages. Moreover, this article reported only intermediate outcomes of the early stage of the implementation, not the entire process. In future research, guidelines for implementation in health communities should be developed to achieve the distal results.

Conflict of Interest: None

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