Capacity-Building Model for Nurses in Carrying out Family-Based Health Service at Selected Primary Care Units in Northern Thailand

Jitnatee Kaney (Ritchie),[1*] Wilawan Senaratana,[2] Wichit Srisuphan,[2] Yuwayong Juntarawijit,[2] and Bernice J. M. West[3]

[1]McCormick Faculty of Nursing, Payap University,Chiang Mai 50000, Thailand PhD candidate, Faculty of Nursing, Chiang Mai University, Chiang Mai 50200, Thailand

[2]Faculty of Nursing, Chiang Mai University, Chiang Mai 50200, Thailand

[3]West Research Director Hive Design and Consultancy, 69, Jute Street, Aberdeen AB24 3HA, UK

**Corresponding author. E-mail: jitnatee@gmail.com*

ABSTRACT

The process of using a family-based health service is one that can strengthen and develop primary care services. Nurses, as key professionals in primary care services, are expected to provide care that focuses on families in community settings. This study intended to achieve a change in practice in primary care units regarding family-based health service. Participatory action research using an enhancement approach was utilized as the study methodology. Participants were seven nurses from two primary care unit networks, eighteen primary care unit staff, twenty-five volunteers, five community leaders, fifty-three families and public health administrators, public health technical officers, nurses from other units, and local organization administrators. Data were collected through focus group discussions, interviews, participant observation, document survey and keeping a research journal. Throughout research processes, participants were facilitated and encouraged to develop, to implement and to evaluate their nursing practice, based on the evidence gathered during the study. Strategies to empower nurses and maintain a family-based health service were: 1) partnership, 2) commitment, 3) building capacity, 4) debriefing meetings, 5) communication and mutual learning, and 6) participation in community activities. The study suggests that developing family-based health service is a shared responsibility amongst health care providers, local community organizations, communities and families with nurses at the center of this collaboration and the first point of contact.

Keywords: Capacity-building model, Family-based health service, Primary care unit, Participatory action research

INTRODUCTION

Effective primary care services have been characterized by an enhanced role of nurses in primary care centers to incorporate aspects of the family approach through health promotion and primary prevention (Brubaker, 1983; Hanson, 2001; Friedman et al., 2003;). The new model for nursing in primary care service has shifted to greater coordination of care by adopting a strong partnership approach with individuals, caregivers, families and communities (Scottish Executive, 2006).

Several studies illustrate that the family is a primary source of knowledge about health, illness and health behavior, and has influence on determining health problems of its members (Hanson, 2001; Brooks, 2002; Friedman et al., 2003). Dynamic change on the wellness-to-illness continuum affects the whole family (Hanson, 2001). The illness of family members affects the individual who is ill and the other family members and family functions. In turn, the family functions also affect each individual family member. Moreover, families influence not only individual health but also health of communities (Allender and Spradley, 2005). In society, families do not live in isolation from another. This means behavior of one family affects surrounding families. The health and well-being of families directly affects the health of society. For example, if there are families with lack of the resources to manage their own affairs, they may create health hazards for others. In contrast, if the communities have healthy families, these families may influence community health positively.

In Thailand, primary care services have been placed at the forefront of health care provision for many years. The desired primary care service is intended to be a bridge between people and the hospital-based service system and bring health care closer to the clients' settings (Wasi, 2000), being the gateway where patients are first seen and where decisions are made about referral to other providers. Services provided at this level incorporate the principles of primary health care and primary medical care with emphasis on family-focused and community-based practice (Srisuphan et al., 2003).

A number of studies in Thailand funded by the Health Systems Research Institute (HSRI) examined the development of primary care units (PCUs) and indicated that there is a challenge to nursing to expand nursing roles in the primary care setting regarding family-based practice, and an opportunity to shape roles as leaders in primary care delivery (Kongkhamnerd, 2002; Nanthabut, 2003; Senaratana, 2003; Srisuphan et al., 2003; Nanthabut et al., 2004). Nurses as a first point of contact in PCUs are expected to take a leading role in promoting health and preventing illness for the family and its members as well as providing basic treatment for those who are ill. However, several studies have indicated that though nurses in PCUs perform activities in treatment well, they lack confidence and skill in performing activities in the community and providing services related to family nursing approaches (Foigthong, 2002; Nanthabut, 2003; Senaratana, 2003). Anecdotal evidence and a pilot study conducted by the first author in PCUs from March 2005 to June 2005 indicated that there was little clarity in how to work with families in providing care under family nursing concepts and

less understanding of how to extend the knowledge base and apply family-based health services (FBHS) in practice. Thus, this study aimed to develop capacity building model for nurses in carrying out FBHS.

METHODS

Design: The aim of this study was to develop a capacity model for nurses in carrying out FBHS, so a participatory action research (PAR) approach was adopted as the method of inquiry. PAR can enhance understanding and stimulate the development of a profession with motivation and power to change (Bellman, 2003). Therefore, to achieve a change in practice in PCUs regarding FBHS and to raise PCU nurses' awareness and challenge them to reconceptualise FBHS in primary care services, a specific design which incorporated a bottom up approach involving a sense of ownership among participants working in their own organizations was needed. In this study, a research team consisting of seven nurses from two PCU networks was stimulated and facilitated to examine collective problems and analyze situations related to FBHS in the units and enhanced to develop practice to improve nursing services in PCUs focusing on collective self-inquiry by all participants through a spiral of steps composing of problem identification, planning, action and reflection on the findings.

Setting: The settings were PCUs located in semi-rural areas in one district of Chiang Mai province. The district has five primary care networks led by a contractor unit or community hospital.

Sample: Participants in this study were selected purposively and were volunteers from four main groups. They were comprised of seven nurses, eighteen multidisciplinary health personnel, four community leaders and twenty-five health volunteers. In addition, fifty-three family members were also involved in the research processes.

Data collection: The data collection of this research project extended over a period of fourteen months from May 2007 to June 2008. The whole process of PAR in the study consisted of three phases: preparation phase, implementation phase, and evaluation phase. A variety of methods of data collection were used in the study to gain accurate understanding of experiences of all participants in carrying out FBHS.

Group meetings using group reflections and participatory dialogue conversations were conducted throughout the action research cycle phases once a month (Bolton, 2005). Additionally, focus group discussions, guided by open-ended questions including unstructured questions, were developed by the researcher. There were two focus group discussions. The first, consisting of twelve nurses, was convened in the preparation phase to explore current practices and factors contributing to those practices. The second focus group discussion consisting of seven nurse participants was conducted in the evaluation phase to identify nursing perceptions concerning FBHS in PCUs.

Participant observation is a method used when the researcher would like to understand the behaviors and experiences of people as they actually occur in

a natural setting (Polit and Hungler, 2000). The researcher took observations in PCUs once a week, depending on available time by participating in routine nursing care at the PCUs and obtaining information in PCU meetings and activities both in the unit and community settings such as family home and schools in order to gain insight into PCU services.

In the implementation phase, interviews were conducted with some of the stakeholders familiar with the PCUs and the communities. These stakeholders were one district health office head, two physicians, two technical health officers, two community leaders, three health volunteers and ten family members, to gain understanding of participant perceptions about FBHS through the time of the research project.

In the evaluation phase, the research team (the researcher and nurses working group) collaborated to study records held at the PCUs regarding the nursing services, including how documents were managed and how FBHS should be implemented in PCUs. The research team also reviewed the PCU policy, mission and objectives. Other records reviewed included standards of practice and guidelines, patient records, nursing records, minutes of the regular meeting summarization and incident reports. The researcher recorded field notes and reflective journal entries in a diary at the end of each day or as soon as possible after the observation throughout the PAR process to describe, explain and help draw conclusions from events, using tape-recordings and photographs as a reminder of particular events, actions, interactions and feelings.

Rigor: To ensure rigor in this study, the researcher used a number of ways for developing an effective evaluation including prolonged engagement with the participants, participant involvement as interpreters and co-researchers in the study, triangulation of information through using different methods of data collection and multiple data sources, congruence of data collection and analysis, member checking and expert consultation. During the analysis, an inquiry audit in which the advisory committee examines both the process and the product of the research for consistency, was used to ensure dependability and confirmability of the study.

Data analysis: Data from transcripts of meetings and file notes were analyzed by content analysis. The researcher reflected on the observations made, and transcriptions from audio tape-recordings, as well as the records of the research journal and field notes. The research team and key informants were asked to confirm the researcher's interpretations of the data to ensure accuracy and the findings were distributed for sharing and discussion during group meetings.

Human Subject Protection: Ethical approval to conduct this study was obtained from the Institutional Review Board, Faculty of Nursing, Chiang Mai University. Following that, permission was obtained from the District Public Health Office. Participants were volunteers and provided written and informed consent according to IRB standards. Each participant understood that he/she was not obliged to take part and could withdraw at any time without consequence.

RESULTS

The PAR process aimed to enhance the commitment of nurses to develop FBHS in PCUs and to ensure that change arising from the study would be sensitive to practice in the research setting. The whole process consisted of three components: 1) preparation phase which aimed to gain cooperation, formulate working groups and analyze context situations, 2) implementation phase which was a cyclical processes consisting of promoting competence, enhancing cooperation, and creating rapport, and 3) evaluation phase which included reflection on and recommendations from the study.

Preparation phase

Gaining cooperation and seeking endorsement

Gaining access to the setting and gaining recognition and acceptance by the administrators and PCU staff was the first step of this study. Contracts between the researcher and nurses in the two PCU networks were drawn up in order to develop a trusting relationship.

Recruitment of the research team and working group formulation

Seven nurses from seven PCUs in the two networks expressed willingness to participate in the study. These seven nurses were invited to join the FBHS development project as the research team. A consent form was distributed and commitment obtained, with participants agreeing to lead the change in nursing practice. The roles and responsibilities of the research team were summarized as shown in Table 1.

Table 1. Roles and responsibilities of the research team.

Researcher's roles and responsibilities	The research team's roles and responsibilities
- Creating a transformative milieu in the groups - Respect the opinions of the members - Shared responsibility/ planning/decision-making - Working with participants to provide resources needed, helping to develop strategies - Treat all discussion and disclosures with confidentiality	- Recognizing ability to be leader - Willingness to ask questions and listen to answers - Respect the opinions of the members - Shared responsibility/ planning/decision-making - Active involvement in the study including attending meetings and providing feedback - Creating a plan to develop family nursing practice for the PCUs - Keeping meetings within a time limit of not longer than one hour at any one time

Analyzing current situation and reviewing organizational context

The researcher visited the PCUs to gain knowledge about organizational contexts including the history of organization, culture, current health care services

and strengths and problem areas using three data assessment methods, namely participatory observation, document survey and informal interviews. The results were discussed and suggestions given from the research team until a consensus was reached. These activities not only helped the researcher gain understanding, but also helped develop trusting relationships between the researcher and PCU staff.

After that, the first focus group discussion was scheduled to analyze initial current situations and nurses' perceptions about FBHS. The research team shared information about their current practice, and described their roles in the process, including the services offered, reporting requirements, performance indicators and gaps in services.

Implementation phase

The research team and PCU staff worked collaboratively through the spiral of action research that was organized with the aim of attaining a family nursing model appropriate and acceptable to the participants. The participants were then encouraged to discuss and share their understanding of the FBHS current situation and identify potential strategies for promoting FBHS in PCUs. The researcher acted as the consultant and facilitator for research team. There were three cycles as shown in Figure 1.

The first cycle: building capacity

The research team discussed and commented on the plan for enhancing PCU staff to practise family nursing. The initial implementation took two months consisting of two main strategies: 1) education of health care team and 2) designing a delivery trial.

1. Education of health care team: The research team delivered workshops in order to share knowledge about PAR and the concept of FBHS. The workshops were delivered over three sessions; 1) the first workshop was organized for nursing staff, 2) the second workshop was organized for PCU staff who were not nursing staff, and 3) the third workshop included all PCU staff - nurses and non-nurses together - to reflect on the lessons learned from the previous two workshops.

2. Design service delivery trial: The research team proposed to use family visits as a preliminary implementation strategy in providing FNP in PCUs. The strategies used to develop FBHS in this step were: literature searches and sharing experiences, family visit guide development and family visit trials. After two months of trial family visiting, a meeting with the multidisciplinary team including the researcher was organized to reflect on problems from the implementation of family visit practice, and the plan was revised.

The second cycle: enhancing cooperation

The findings of the first cycle of the study were fed back to the research team and discussed. The research team agreed that the group would continue the project to increase cooperative work from stakeholders, including family members and community members. The focus question of the second cycle was therefore

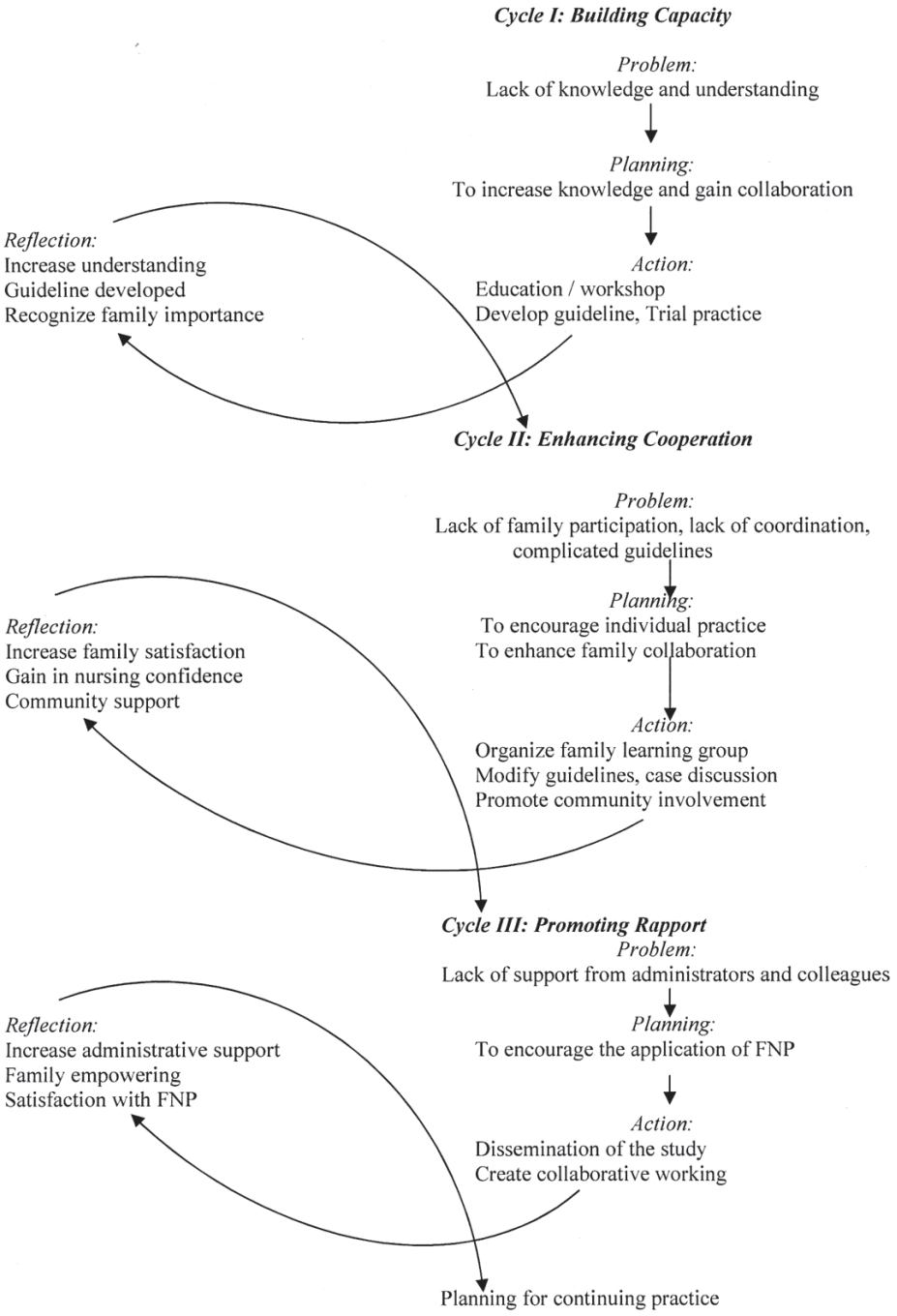

Figure 1. Three cycles of the development of FBHS in PCUs.

"how does the nurse work toward mutual goal setting with families?" This was addressed by the following means:

1. Revising the family visit guide: The research team organized a meeting with PCU staff to seek agreement about the plan for family visiting and made comments on the family visit guide and family assessment tool. These were then revised based on supporting evidence from literature, their experiences and nursing forum discussions.

2. Enhancing family participation by organizing family learning group forums: Two learning group forums or self help groups were set up to help participants voice their ideas and to enhance family participation in designing care plans and promoting family strengths. The first was a group of families with pre-school children named "the toddler family group". The second group was set up for families taking care of members with chronic illness and was called "the health promotion group".

3. Encouraging community involvement: Two strategies, collaborative meetings and a training session were used to encourage community involvement. At the research team meeting, the team raised concerns about other providers who might be involved in care for people in the community, for instance, other health care providers, community leaders, local administrators and volunteers. The team therefore decided to share this project with other stakeholders to ask for their cooperation. The research team volunteered to explain the project to the local administrators and community leaders. This decision could be seen as an indicator that the team now had gained knowledge and become confident enough to communicate with people in other disciplines on issues related to their nursing practice.

The researcher helped conduct a workshop which brought together four parties to whom the team planned to offer information: four nurses from the research team, four other health professionals, five delegated family members and three volunteers, to brainstorm on FBHS situations and suggestions and strategies for developing the current practice of the PCU staff related to FBHS. Collaboration between the researcher and participants assisted the research team to achieve the research outcomes which neither agent could achieve alone. It promoted an attitude of mutual benefit. Nurses stated that:

> "This is valuable. It is win-win research. Both you and we can develop our practice as professionals."

The third cycle: promoting rapport

Suggestions from the participants in the second cycle were brought up to solve the existing problems and to ensure the continuance of FBHS in the PCUs. The research team proposed that factors hindering the effective provision of family nursing practice were mainly lack of planning and preparation in family visits and the problems of inadequate support from administrative and health care teams. Three main strategies to be enacted in the third cycle to promote rapport were:

1. Dissemination of family nursing practice: The research team secretary took responsibility to summarize the progress of the study at the district health office monthly meetings and other occasions throughout the research process. An example of this was in the staff seminar entitled "From Health Care Organization to Community Health through Human Centeredness" which was held on 7-8 February, 2008 with 60 PCU staff from the networks participating in the seminar. The research team took this opportunity to promote understanding about and raise an awareness of FBHS among PCU staff.

2. Modify family visit guide: The research team collaborated with PCU staff to modify the collaborative family visit guide to ensure planning and preparation.

3. Implementing collaborative working ñ the community joins in action: To promote FBHS in the community and gain collaboration for the implementation phase, the research team set a meeting with health care providers, family member representatives, community leaders and local organization administrators to improve knowledge, understanding and awareness about FBHS. There were five health care providers, three family members, two local administrators, three community leaders and two district health volunteers in the meeting. This meeting brought together all parties to build a family care network.

Evaluation phase

In the evaluation phase, the research team worked collaboratively to analyze and summarize the study, and to evaluate what new practice was being implemented and what changes were occurring. Family nursing forums were organized to facilitate reflection, sharing and discussion among the research team regarding insight into the implementation, factors influencing implementation and changes arising from the implementation. Some nurses articulated their experiences:

> "Throughout the study, I felt comfortable that we are peers. I felt free to present my opinion and perceived that the group listened to me."
> "The researcher treated me as her colleague. So I was at ease to participate in the research processes."

For seeking support and maintaining sustainable practice of the development of FBHS in PCUs, the research team presented the findings and processes of the project to the PCU staff monthly meeting and to the communities' forum. One of families recommended that these tasks need the close collaboration between care providers and families to work together.

> "Don't just assign us to do our plan - we need information exchange and to have good relationships with all nurses and the health care team."

We conclude that the strategies to initiate and facilitate positive changes in FBHS in primary care units were the capacity building strategies which covered four groups: nurses, administrators and health care team, community and families.

The capacity building model for nurses in carrying out FBHS in PCUs is presented in Figure 2.

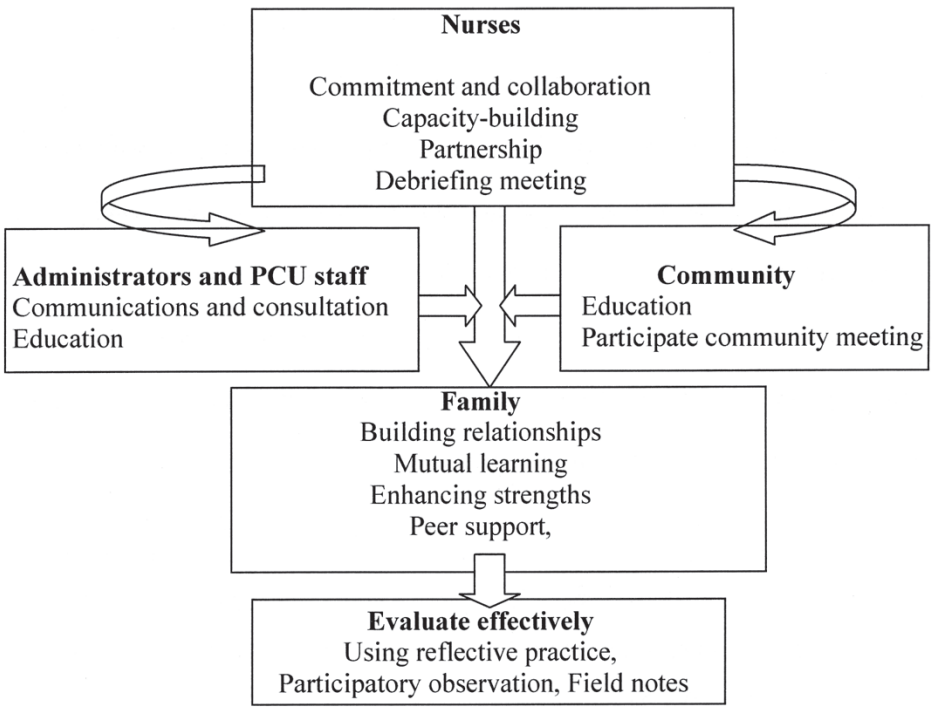

Figure 2. Capacity building model for nurses in carrying out FBHS in PCUs.

DISCUSSION

The capacity building model for nurses in carrying out FBHS in PCUs covered four groups: 1) nurses, 2) administrators and health care team, 3) community leader, and 4) families. Accomplishment of FBHS in PCUs requires the collaboration of all significant stakeholders: nurses, PCU staff and administrators and communities. The implementation of FBHS was not restricted to one discipline (e.g. nurses) due to the culture of the PCU where practice is maintained by a multidisciplinary team and the characteristics of communities where families are influenced by the communities in which they participate (Smith, 2004). To promote effective FBHS, nurses and PCU staff shared information, supported knowledge and consulted with other stakeholders. Effective team practice in family visits consisted of collaboration between team members and community, support and cooperation from team leaders and administrators, sharing information and experiences, open communication and respect for each others' roles and responsibilities (Poulton and West, 1993).

Regarding the analysis and synthesis of community care innovation in Thailand, one of the strategies to promote family health is collaboration and support from community organizations such as community groups, local organizations

and health care organizations (Nanthabut, 2007). At primary care level, nurses developed collaborative working partnerships not only with clients and families but also with other disciplines including community organizations and volunteers, to work towards meeting clients' needs (Reutter and Ford, 1998). At the community level, collaboration can achieve policy changes in multiple practice organizations that encourage links with family intervention, particularly in home visits (Margolis et al., 2001). Not only in primary care service, collaboration in multidisciplinary teams in intensive care units has resulted in a quality improvement and focus on family centered care orientation (Moore et al., 2003). In addition, collaboration with administrators is crucial for nursing practice. Administrative support is important for developing nursing practice. Important functions of administrators are to provide practical resources and support necessary to perform nursing services (Bellman, 2003).

In the current study, the result shows that although staff and family members endorsed a family nursing approach, they found its implementation very challenging. One challenge is working in partnership with health care providers and family members (Starble et al., 2005). In FBHS, nurses and families establish relationships with shared responsibility and accountability to reach family goals (Bomar and McNeely, 1996; Wright and Leahey, 2000; Friedman et al., 2003). Based on family nursing approaches, nurses and staff develop working partnerships to facilitate caring for clients in a way that is suitable to their resources and responsive to their family needs. This is relevant to study of community nursing practice in which relationships with the community could have an impact on the program being delivered (Diekemper et al., 1999). Understanding of the meaning of family participation is important for both nurse and family (Pottaya, 2001), enabling nurses and families to set appropriate goals mutually. If family involvement increases, the readiness for effective family participation increases. Family participation in delivery care is beneficial because families and nurses can learn from each other and effective communication and good relationships between families and health care staff can develop (Attharos, 2003).

CONCLUSION AND RECOMMENDATION

Empowering strategies used to develop FBHS in PCUs have to cover various stakeholders who influence the health of families. These stakeholder groups are nurses and other health care providers, health care administrators, community organizations as well as families themselves. The strategies to empower nurses and maintain FBHS in PCUs in this study comprised of commitment, building capacity, partnership, debriefing meetings, communication and collaboration, education and participation in community activities. The course of action to enhance family participation was building relationships, mutual learning, enhancing family strengths and organizing peer support groups. The family visit guide developed in this study needs to be tested and evaluated for its effectiveness and outcomes. Further research in specific intervention to increase family participation is required.

LIMITATION

This study focused on enhancing nurses to develop FBHS and the results of the study were reflected by human perceptions. Thus, the changes reported in this study are inevitably limited by the nature of the research instruments which assessed perceptions. No attempt was made in the study to evaluate outcomes in terms of, for example, health status or cost-effectiveness.

ACKNOWLEDGEMENTS

The authors acknowledge the nurses in the PCUs and PCU staff, contact persons and families who participated so graciously in this study. Gratitude is also extended to the Graduate School, Chiang Mai University, and the Thai Nursing Council, as well as Payap University for providing grants which supported this study.

REFERENCES

Allender, J. A., and B.W. Spradley. 2005. Community health nursing: Promoting and protecting the public's health (6th ed). Philadelphia: Lippincott Williams & Wilkins.

Attharos, T. 2003. Development of a family centered care model for the children with cancer in a pediatric cancer unit. Unpublished doctoral dissertation, Mahidol University, Bangkok, Thailand.

Bellman, L. 2003. Nurse-led change and development in clinical practice. London: Whurr.

Bolton, G. 2005. Reflective practice: Writing and professional development (2nd ed). London: SAGE.

Bomar, P. J. (Ed). 2004. Promoting health in families: Applying family research and theory to nursing practice (3rd ed). Philadelphia: Saunders/Elsevier.

Bomar, P. J., and G. McNeely. 1996. Family health nursing role: Past, present, and future. P. 3-21. In P. J. Bomar (ed), Nurses and family health promotion: Concepts, assessment, and intervention (2nd ed). Philadelphia: W.B. Saunders.

Brooks, E. M. 2002. Family assessment and cultural diversity: Concepts and tools. p. 171-222. In S. Clemen-Stone, S. L. McGuire, and D. G. Eigsti (eds) Comprehensive community health nursing: Family, aggregate & community practice (6th ed). St. Louis: Mosby.

Brubaker, B. H. 1983. Health promotion: A linguistic analysis. Advances in Nursing Science 5(3): 1-14.

Diekemper, M., L. SmithBattle, and M.A. Drake. 1999. Bringing the population into focus: A natural development in community health nursing practice part I. Public Health Nursing 16: 3-10.

Friedman, M. M., V. R. Bowden, and E.G. Jones, 2003. Family nursing: Research, theory, and practice (5th ed). New Jersey: Prentice Hall.

Glasson, J. B., E. M. L. Chang, and J. W. Bidewell. 2008. The value of participatory action research in clinical nursing practice. International Journal of Nursing Practice 14: 34-39.

Hampshire, A., M. Blair, N. Crown, N. Avery, and I. Williams. 1999. Action research: A useful method of promoting changes in primary care? Family Practice 16: 305-311.

Hanson, S. M. H. 2001. Family health care nursing: Theory, practice, and research (2nd ed). Philadelphia: F.A Davis.

Hanson, S. M. H. 2005. Family health care nursing: An introduction. p. 3-38. In S. M. H. Hanson, V. Gedaly-Duff, and J. R. Kaakinen (eds), Family health care nursing: Theory, practice, and research (3rd ed). Philadelphia: F.A Davis.

Kelly, J. P. 2005. Practical suggestions for community intervention using participatory action research. Public Health Nursing 22: 65-73.

Kemmis, S., and R. McTaggart. 1988. The action research planner (3rd ed) Geelong: Deakin University Press.

Kongkhamnerd, R. 2002. The role and structure of primary care service system: in the context of health professional and health services: Case study of community hospital in Southern area. Nonthaburi: Health System Research Institute, Thailand.

Margolis, P. A., R. Stevens, C. W. Bordley, J. Stuart, C. Harlan, and L. Keyes-Elstein. 2001. From concept to application: The impact of a community-wide intervention to improve the delivery of preventive services to children. E-journal of Pediatric, 108(3). Retrieved from http://www.pediatrics.org/cgi/content/full/108/3/e42.html

Moore, K. A. C., K. Coker, A. B. DuBuisson, B. Swett, and W. H. Edwards. 2003. Implementing potentially better practices for improving family-centered care in neonatal intensive care units: successes and challenges. E-Journal of Pediatrics, 111(4). Retrieved July 20, 2008, from http://www.pediatrics.org/cgi/content/full/111/4/e450.html

Nanthabut, K. 2003. Development of primary care model: A case study of community, Northeast region of Thailand. Khon Kaen: Faculty of Nursing, Khon Kean University.

Nanthabut, K. 2007. Synthesis of innovation: Strategies to community health systems. Nonthaburi: Institution of Community Based Health Care Research and development, Thailand.

Nanthabut, K., K. Chokbumrung, B. Nakhasateire, B. Theerasophon, and C. Leelakhaiwan. 2004. The idea of setting up practical primary care system researcher. Nonthaburi: Health System Research Institute, Thailand.

Naylor, P., J. Wharf-Higgins, L. Blair, L. Green, and B. O'Connor. 2002. Evaluating the participatory process in a community-based heart health project. Social Science and Medicine 55: 1173-1187.

Polit, D. F., and B. P. Hungler. 2000. Essential of nursing research: Methods, appraisal and utilization (5th ed). Philadelphia: Lippincott Williams & Wilkins.

Polit, D. F., and C. T. Beck. 2004. Nursing research: Principle and methods (7th ed). Philadelphia: Lippincott Williams & Wilkins.

Pottaya, S. 2001. Model for family caregivers participation in caring for traumatic brain injured patients. Unpublished doctoral thesis, Mahidol University, Bangkok, Thailand.

Poulton, B. C., and M. A. West. 1993. Effective multidisciplinary teamwork in primary health care. Journal of Advanced Nursing 18: 918-925.

Reutter, L. I., and J. S. Ford. 1998. Perceptions of changes in public health nursing practice: A Canadian perspective. International of Nursing Studies 35: 85-94.

Scottish Executive. 2006. The WHO Europe family health nursing pilot in Scotland final report (Astron B47942 11/06). Edinburgh: Blackwell.

Senaratana, W. 2003. Development of a primary care model: A case study of Nhong Tong primary care unit. Health Systems Research Institute, Nonthaburi.

Smith, M. A. 2004. Health visiting: The public health role. Journal of Advanced Nursing 45: 17-25.

Srisuphan, W., W. Khasikhoson, K. Hanuchururnkul, S. Theinpichet, and W. Senaratana. 2003. Nurses and the health service system at primary care level. Nonthaburi: Health System Research Institute.

Starble, A., T. Hutchins, M. A. Favro, P. Prelock, and B. Bitner. 2005. Family-centered intervention and satisfaction with AAC device training. Communication Disorders Quarterly 27(1): 47-54.

Wasi, P. 2000. Triangle that moves the mountain and health systems reform movement in Thailand. Human Resources for Health Development 4: 106-110.

Wright, L. M., and M. Leahey. 2000. Nurses and families: A guide to family assessment and intervention (4th ed). Philadelphia: FA Davis.